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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

In re ZF-TRW Airbag Control Units Products Liability Litigation ALL CASES	MDL No. 2905 Case No. 2:19-ml-02905-JAK-FFM **VOLUME ONE OF CONSOLIDATED AMENDED CLASS ACTION COMPLAINT (FACTUAL ALLEGATIONS)**

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For their complaint against Defendants,[1] Plaintiffs,[2] individually and on behalf of all others similarly situated, allege as follows:

I. NATURE OF THE ACTION

1. Motor vehicles are a fixture of modern life in the United States. Every day, millions of Americans drive automobiles. They drive their children to school, they drive themselves to work, they drive to purchase essentials like food and medicine, and they sometimes drive just to enjoy a sunny day.

2. For most Americans, the purchase or lease of a motor vehicle is their second largest financial investment, following only the purchase or lease of a home.

3. While cars are a common feature of our daily lives, they also are potentially dangerous. Car crashes kill tens of thousands of people every year. Many more suffer serious injuries.

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[1] Defendants are ZF Active Safety and Electronics US LLC; ZF Passive Safety Systems US Inc.; ZF Automotive USA; ZF TRW Corp.; ZF Friedrichshafen AG; STMicroelectronics, S.r.l.; STMicroelectronics SDN BHD; STMicroelectronics Inc.; Hyundai Motor Co., Ltd.; Hyundai Motor America, Inc.; Hyundai Mobis Co., Ltd.; Kia Corporation; Kia Corp.; FCA US LLC; Toyota Motor North America Inc., Toyota Motor Engineering & Manufacturing North America, Inc.; Toyota Motor Sales, U.S.A., Inc.; Honda Motor Co., Ltd.; American Honda Motor Co., Inc.; Honda Development and Manufacturing of America, LLC; Mitsubishi Motors Corporation; and Mitsubishi Motors North America, Inc.

[2] Plaintiffs are Alejandra Renteria; Amanda Swanson; Angela Bowens; Bobbi Jo Birk-LaBarge; Bonnie Dellatorre; Brent DeRouen; Brian Chaiken; Brian Collins; Burton Reckles; Carl Paul Maurilus; Constanza Gonzalez; Dan Sutterfield; Danny Hunt; Dee Roberts; Desiree Meyer; Diana King; Dylan DeMoranville; Eric Fishon; Evan Green; Fredericka McPherson; Gary Samouris; Gaylynn Sanchez; Gersen Damens; James Dean; James Kneup; John Colbert; John Sancomb; Joseph Fuller; Joy Davis; Kenneth Ogorek; Kevin Burns; Kinyata Jones; Larae Angel; Lawrence Graziano; Lore Van Houten; Mark Altier; Maximillian Accetta; Michael Hernandez; Michael Hines; Michael Nearing; Moises Senti; Paul Huitzil; Ravichandran Namakkal; Remigiusz Rundzio; Richard Kintzel; Samuel Choc; Sigfredo Rubio; Steve Keister; Steve Laveaux; Tatiana Gales; Tiffany Ecklor; Tina Fuller; Tonya McNeely.

4. Because of these dangers, every automobile in the United States must include passive restraint systems with several important features. The two most recognized safety features are seatbelts and airbags. When a car crashes, these life-saving pieces of equipment should automatically restrain drivers and passengers (the seatbelts) and buffer against impact with hard surfaces in the vehicle (the airbags). Properly functioning airbags and seatbelts have been an absolute, minimum safety requirement for new vehicles in the United States since 1997. *See* 49 U.S.C. § 30127. And 49 out of 50 states have laws that require drivers to wear seatbelts.

5. While these passenger safety features are required, they also reflect a basic and commonly understood fact: consumers care deeply about automotive safety. All automakers and suppliers know this. As ZF Automotive US Inc. ("ZF Automotive USA")—one of the key safety system supplier defendants in this case—admitted in a written presentation from 2008: "Safety is important to . . . consumers[.] . . . J.D. Power lists safety as *the most desired aspect* of vehicle features," and "consumers regularly look for vehicle safety information before making their purchase decision." (emphasis added). The same presentation confirms that all automakers know about, and regularly aim to capitalize on, consumers' desire for safe vehicles. As ZF Automotive USA explained: "safety products and features help differentiate vehicles" in a competitive market, and "advertising and marketing heavily focus[] on safety." All participants in the automotive industry (including suppliers) know that advertisements that stress automobile safety are ubiquitous.

6. The ZF Defendants—ZF Friedrichshafen AG ("ZF Germany"), ZF TRW Automotive Holdings Corp. ("ZF TRW Corp."), ZF Automotive USA, ZF Active Safety and Electronics US LLC ("ZF Electronics USA"), and ZF Passive Safety Systems US Inc. ("ZF Passive Safety USA")—make Airbag Control Units, or "ACUs," for motor vehicles. ACUs are effectively computers that control the

car's safety systems. To do so, ACUs constantly receive and interpret signals from crash sensors in the front of the vehicle. When the sensors detect a moderate or severe crash, they notify the ACU, and the ACU directs the safety system to deploy the airbags and tighten the seatbelts. When an ACU malfunctions, the airbags and seatbelts (even if buckled) can fail to perform their core function to restrain and protect drivers and passengers.

7. This case concerns one of the ZF Defendants' most widely distributed products: an ACU with a unique application-specific integrated circuit ("ASIC") called the DS84. Upon information and belief, Defendants STMicroelectronics, Inc. ("ST USA") and STMicroelectronics, S.r.l. ("ST Italy") designed the DS84 chip with input from ZF Electronics USA and ZF Passive Safety USA. Defendant STMicroelectronics SDN BHD ("ST Malaysia") then made millions of DS84 ASICs in Malaysia and shipped them to ST USA in Los Angeles, California. ST USA then sold and shipped them to ZF Electronics USA in Illinois, where ZF Electronics USA made the ACUs that contain the DS84 ASIC ("the DS84 ACUs"). The particularities of these companies' respective roles are explained in Sections IV.C.

8. Plaintiffs estimate that at least 30 million vehicles across the globe have these DS84 ACUs. At least 15 million (and possibly as many as 19 million) of them were sold or leased in the United States. The proposed classes in this case consist of consumers that purchased or leased vehicles with a DS84 ACU (i.e., the Class Vehicles).

9. The Class Vehicles brandish some of this country's most popular vehicle brands, including several Toyota, Honda, Acura, Hyundai, Kia, Chrysler, Jeep, Dodge, Fiat, and Mitsubishi models. The model years for these vehicles span a decade of time—from 2009 to 2019.

10. Every vehicle with a DS84 ACU has a dangerous safety defect. Specifically, the DS84 ASIC in these ACUs malfunctions due to electrical

overstress ("EOS") when exposed to a relatively small burst of stray electricity called a "transient" (the "ACU Defect"). As explained in Sections IV.A.3. and IV.A.4., this ACU Defect poses serious risks to vehicle occupants.

a. First, the defect can cause airbags and seatbelts not to activate during a crash. This happens because crashes sometimes release electrical transients, which cause the DS84 ACU to fail. When this happens, people can die or suffer serious injuries. At least nine people have already died due to this defect. Many more were injured.

b. Second, the defect can cause airbags to deploy when the vehicle has not crashed. This is dangerous because it is shocking and difficult for the driver to operate a vehicle when the airbag deploys without warning.

c. Third, the defect can also cause failures of other important post-crash operations of the safety system. These operations include unlocking doors to facilitate escape or extraction of drivers and passengers by emergency personnel, and shutting off a crashed vehicle's fuel or power supply. These operations also include maintenance and communication of crash data, which can be important to inspection by crash victims and law enforcement.

11. By 2015, several people had already been killed or injured as a result of the ACU Defect, and the National Highway Traffic Safety Administration ("NHTSA") began to investigate the DS84 ACUs. In short order, ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA alerted the Vehicle Manufacturer Defendants and ST Defendants about this investigation. As the regulator's investigation began to heat up, many of these Defendants began to meet regularly to coordinate among themselves about the issue. They recognized the investigation posed a common threat because NHTSA

could uncover the defect, require expensive recalls, and halt the sale of Class Vehicles with the defective ACUs and ASICs (and relatedly, the sale of the defective ACUs and ASICs themselves).

12. In 2016, ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA began to make misleading statements to NHTSA to obscure and downplay the ACU Defect. To coordinate their efforts to conceal the Defect, they shared copies of these misleading statements to NHTSA with companies from each Vehicle Manufacturer Defendant group and the ST Defendants. Soon, companies within several other Defendant groups—including FCA US LLC ("FCA"), Kia America, Inc. ("Kia USA"), Hyundai Motor America, Inc. ("Hyundai USA"), Toyota Motor North America, Inc. ("Toyota USA"), and Toyota Motor Engineering & Manufacturing North America, Inc. ("Toyota Engineering USA")—joined the effort to mislead NHTSA about the nature and scope of the ACU Defect.

13. In April 2019, after nearly four years of investigating the DS84 ACUs and ASICs, NHTSA publicly announced that it was scrutinizing over twelve million vehicles that include them to determine "whether an unreasonable risk exists that requires further field action." ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA stopped making the DS84 ACU that very same year. NHTSA's investigation is still ongoing now, seven years after it first began, and more than 3 years after its public announcement.

14. Even the limited discovery produced to date in this case has already revealed several new suspicious crashes with airbag failures apparently related to the ACU Defect, including dozens of crashes in FCA, Honda, and Hyundai-Kia vehicles. Several of these crashes apparently have not been disclosed to NHTSA. Section IV.D discusses the history of suspicious crashes and crash tests with hallmarks of the ACU Defect and the Defendants' knowledge of the same.

15. Between September 2016 and the present, three Vehicle Manufacturers recalled 5.4 million Class Vehicles in response to NHTSA's investigation. But two or three times as many Class Vehicles with the ACU Defect remain unrecalled and on the roads today. Moreover, *none* of the recalls actually fix the ACU Defect, because the purported "remedies" do not involve removal and replacement of the defective DS84 ASIC, which is the root cause of the ACU Defect.

16. Each Defendant in this case has known about this ACU Defect for several years from internal testing and numerous crashes with airbag and seatbelt failures. Even so, they pushed and continued to push the defective Class Vehicles, ACUs, and ASICs to market. To sell the Class Vehicles to U.S. consumers, several companies within the Defendant Vehicle Manufacturer groups distributed misleading, consumer-facing statements about the Class Vehicles, including: Toyota USA; Toyota Motor Sales USA, Inc. ("Toyota Sales USA"); Kia Corp. ("Kia Korea"); Kia USA; Hyundai Motor Co., Ltd. ("Hyundai Korea"); Hyundai USA; Honda Japan; Honda Development and Manufacturing of America, LLC ("Honda Engineering USA"); American Honda Motor Co., Inc. ("Honda USA"); FCA; Mitsubishi Motors Corp. ("Mitsubishi Japan"); and Mitsubishi Motors North America, Inc. ("Mitsubishi USA").

17. For example, Toyota USA, Toyota Sales USA, Hyundai USA, Honda USA, FCA, and Mitsubishi USA placed window stickers with misleading assurances about airbags and seatbelts on every new Class Vehicle in the United States. These same companies also controlled the nationwide advertising campaigns that repeatedly touted the safety of the Class Vehicles. Sections IV.E.1.a. and IV.E.2.a. describe the particularities of the Defendants' misleading Monroney stickers and advertising.

18. Similarly, Kia Korea, Hyundai Korea, Honda Japan, FCA, and Mitsubishi Japan designed the Class Vehicles to include several misleading in-vehicle representations that similarly assured consumers that the vehicles had

properly functioning airbags. For example, on the side of the driver's door, each Class Vehicle had a permanent label that certifies compliance with federal safety standards. Similarly, the steering wheel will typically feature a permanent imprint that identifies the airbag. These often read in big, capitalized letters "SRS" (Safety Restraint System) and "AIRBAG." For many Class Vehicles, these companies created and applied the labels when they manufactured the vehicles. And for the rest, these same companies bear responsibility based on their control of the mandatory design specifications for all Class Vehicles, which required the manufacturing plants in North America to place the same misleading labels in the Class Vehicles. Sections IV.E.1.b. and IV.E.1.d. describe the details of these misleading certification and airbag labels.

19. Mitsubishi Japan, Hyundai Korea, Kia Korea, Honda Japan, and FCA also each worked with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to design and include airbag warning lamps (a.k.a. readiness indicators) in the Class Vehicles. When consumers turned Class Vehicles on at the point of sale or lease (including during test drives), these lamps illuminated during ignition of the engine and turned off shortly afterwards. When airbag warning lamps in Class Vehicles turned off after ignition like this, they misleadingly communicated to Plaintiffs and other consumers that the airbags and seatbelts in Class Vehicles were ready to deploy in a crash, when in fact they are not ready to deploy in crashes with transients. Section IV.E.1.c. describes the details of these misleading readiness indicators.

20. The Supplier Defendants—ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Malaysia, ST Italy, and Hyundai Mobis Co., Ltd. ("Hyundai Mobis")—all knew the Vehicle Manufacturer Defendants would make these misleading statements when the Supplier Defendants designed, made, and shipped/or the defective ACUs and/or ASICs. Instead of publicly disclosing the defect, informing NHTSA, or fixing the

problem, they coordinated with the Vehicle Manufacturer Defendants to conceal the ACU Defect, because continued distribution of the DS84 ACU and ASIC and sale of the Class Vehicles that contain them was profitable for all Defendants.

21. Although Defendants should recall and replace the defective DS84 ACUs in the Class Vehicles, Defendants' fraud has done harm to Plaintiffs that no recall (or fine by NHTSA) can remedy. When they purchased or leased vehicles with the defective DS84 ACUs, Plaintiffs reasonably believed—based on Defendants' misleading statements—that the airbag and seatbelt systems in their vehicles functioned properly and had no safety defects. Had Defendants disclosed the ACU Defect at the point of sale or lease, Plaintiffs would have seen such disclosures and would not have bought or leased the Class Vehicles, or they would have paid a significantly lower price to purchase or lease them.

22. This lawsuit seeks redress on behalf of Plaintiffs, and all other similarly-situated purchasers and lessees of Class Vehicles with defective DS84 ACUs, for the harm they suffered when they paid for vehicles with a safety system they cannot rely on to protect them in the moment they need it most.

II. THE PARTIES

A. Defendants

23. Defendants are companies from nine different corporate groups: (1) ZF, (2) STMicro, (3) Kia, (4) Hyundai, (5) Hyundai Mobis,[3] (6) Fiat Chrysler, (7) Toyota, (8) Honda, and (9) Mitsubishi.

24. Defendants are some of the largest companies in the global automotive industry. Collectively, they reported more than $880 billion in revenue in 2019 alone. The below chart shows Defendants' reported revenue for 2019.[4]

[3] Although separate corporate groups, Kia, Hyundai, and Hyundai Mobis are affiliates that own large blocks of each other's stock.

[4] Some groups report revenue in foreign currencies. Plaintiffs converted foreign currencies to USD using recent exchange rates.

Defendant Group	Revenue
ZF	$39 billion
ST	$9 billion
Kia	$47 billion
Hyundai	$86 billion
Hyundai Mobis	$31 billion
Toyota	$272 billion
Honda	$143 billion
Fiat Chrysler	$118 billion
Mitsubishi	$137 billion

2. The Supplier Defendants

25. The Supplier Defendants are companies that make and sell the DS84 ACU and/or component parts for the Class Vehicles. The Supplier Defendants are: ZF Active Safety and Electronics US LLC; ZF Passive Safety Systems US Inc.; ZF Automotive US Inc.; ZF TRW Automotive Holdings Corp.; ZF Friedrichshafen AG, STMicroelectronics, Inc.; STMicroelectronics, S.r.l.; STMicroelectronics SDN BHD; and Hyundai Mobis Co., Ltd.

a. The ZF Defendants

26. The ZF Defendants are ZF Active Safety and Electronics US LLC; ZF Passive Safety Systems US Inc.; ZF Automotive US Inc.; ZF TRW Automotive Holdings Corp.; and ZF Friedrichshafen AG. Plaintiffs refer to these Defendants collectively as the "ZF Defendants." Plaintiffs refer to ZF Active Safety and Electronics US LLC, ZF Passive Safety Systems US Inc., ZF Automotive US Inc., ZF TRW Automotive Holdings Corp. as the "Domestic ZF Defendants."

27. ZF Active Safety and Electronics US LLC (referred to herein as "ZF Electronics USA") is a Delaware LLC headquartered in Michigan. It formerly

operated under the name "TRW Automotive U.S. LLC." ZF Electronics USA designed, manufactured, and sold the DS84 ACUs used in the vast majority of Class Vehicles.

28. ZF Passive Safety Systems US Inc. (referred to herein as "ZF Passive Safety USA") is a Delaware Corporation headquartered in Michigan. It previously operated under the name "TRW Vehicle Safety Systems, Inc." ZF Passive Safety USA worked closely with ZF Electronics USA to design the DS84 ACUs. During the relevant period, it issued paychecks to the vast majority of the ZF engineers and technical specialists who were responsible for the core design of the DS84 ACU, the adaptation of the DS84 ACU to the various makes and models of the Class Vehicles, and the investigation of DS84 ACUs that malfunctioned due to EOS.

29. ZF Automotive US Inc. (referred to herein as "ZF Automotive USA") is a Delaware Corporation headquartered in Michigan and the direct parent and 100% owner of ZF Passive Safety USA and ZF Active Safety and Electronics US LLC. It formerly operated under the name "TRW Automotive Inc." It shares responsibility with ZF Electronics USA for the design and manufacture of the DS84 ACU. For example:

a. Specifications for the DS84 ACU and written communications with several Vehicle Manufacturer Defendants about the DS84 ACUs have copyright marks attributing ownership of the materials to ZF Automotive USA.

b. ZF Automotive USA admitted in a filing with NHTSA from 2018 that it is a manufacturer of the ACUs at issue in this litigation. In an attachment to that filing, ZF Automotive USA took responsibility for investigations of DS84 ACUs in Hyundai-Kia vehicles. Moreover, according to documents produced in discovery, ZF Automotive USA holds copyright interests in design specifications for the DS84 ACUs.

30. ZF TRW Automotive Holdings Corp. (referred to herein as "ZF TRW Corp.") is a Delaware Corporation headquartered in Michigan and the direct parent and 100% owner of ZF Automotive USA. ZF TRW Corp. is also the entity that contracted with several of the Vehicle Manufacturer Defendants on behalf of itself and all its subsidiaries.[5] ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA designed, made, and sold the DS84 ACUs pursuant to these ZF TRW Corp. contracts.

31. Although ZF Passive Safety USA, ZF Electronics USA, ZF Automotive USA, and ZF TRW Corp. claim they are independent companies, even the limited discovery that has occurred in this case to date suggests otherwise. In their dealings with NHTSA and their judicial submissions, individuals who received paychecks from ZF Passive Safety USA alone have also held themselves out as representatives of ZF Electronics USA and ZF TRW Corp. For example, in 2016, Marc Bolitho received his paychecks from ZF Passive Safety USA, but described himself to NHTSA as the Director of Passive Safety Engineering for ZF TRW Corp. and Vice President of Passive Safety Engineering for ZF Electronics USA. Similarly, Emanuel Goodman, a Technical Specialist who frequently observed evidence of EOS in DS84 ACUs, received paychecks from ZF Passive Safety USA between 2012 and 2019, but has identified himself as an employee of ZF Electronics USA and ZF Automotive USA in testimony in judicial proceedings. Moreover, based on contracts produced in this litigation, ZF TRW Corp. (and its predecessor, TRW Inc.) regularly bound ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA to written contracts using signatures from ZF TRW Corp. (or TRW Inc.) executives and without any separate signature from ZF

[5] Some of these contracts predated the existence of ZF TRW Corp. and were signed by TRW Inc., its corporate predecessor. In 2004, ZF TRW Corp. assumed substantially all of TRW Inc.'s contractual obligations and other liabilities relating to TRW Inc.'s automotive business, when ZF TRW Corp. spun out from a privately owned company.

Passive Safety USA, ZF Electronics USA, and ZF Automotive USA. Accordingly, these companies share personnel and frequently operate jointly as one unit, and their knowledge and actions are imputed to each other.

32. ZF Friedrichshafen AG is a German corporation headquartered in Germany and the parent owner of the Domestic ZF Defendants.

33. The origins of the relevant business line of the ZF Defendants traces back to an automotive supplier from the early 1900s named the Cleveland Cap Screw Company.

34. During the relevant time period prior to May 15, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA operated as subsidiaries of the ultimate parent company ZF TRW Corp. (then called TRW Automotive Holdings Corp.), which was a publicly traded company listed on the New York Stock Exchange.

b. The ST Defendants

35. The ST Defendants include STMicroelectronics, Inc., STMicroelectronics, S.r.l., and STMicroelectronics SDN BHD.

36. ST is a multinational group of companies that manufacturers and sells semiconductors and electronic chips. ST's automotive integrated circuit and discrete and power transistor line of products is one of its three most important lines of business.

37. STMicroelectronics, Inc. (referred to herein as "ST USA") is a Delaware Corporation headquartered in Coppell, Texas. ST USA also has a permanent office in Livonia, Michigan. The office is within a fifteen-minute drive from an office shared by ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA. Personnel in this shared ZF office performed work relating to the DS84 ACUs.

38. When ZF Automotive USA filed a defect report with NHTSA in 2018 relating to the DS84 ACUs in some of the Hyundai-Kia Class Vehicles, ZF Automotive USA identified ST USA's Michigan office as the address for the manufacturer of the DS84 ASIC contained in the ZF ACUs at issue in this litigation.

39. STMicroelectronics, S.r.l. (referred to herein as "ST Italy") is an Italian company based in Italy. Upon information and belief, ST Italy and ST USA jointly designed the DS84 chip with the input of ZF Electronics USA and ZF Passive Safety USA.

40. STMicroelectronics SDN BHD (referred to herein as "ST Malaysia") is a manufacturer of semiconductor devices based in Muar, Johor, Malaysia. ST Malaysia manufactured and shipped the DS84 ASIC for vehicles sold in the United States.

3. The Vehicle Manufacturer Defendants

41. The Vehicle Manufacturer Defendants are companies that make and sell completed vehicles and their affiliates. The Vehicle Manufacturer Defendants are Hyundai Motor Co., Ltd.; Hyundai Motor America, Inc.; Kia Corp.; Kia America, Inc.; FCA US LLC; Toyota Motor North America Inc., Toyota Motor Engineering & Manufacturing North America, Inc.; Toyota Motor Sales, U.S.A., Inc.; Honda Motor Co., Ltd.; American Honda Motor Co., Inc.; Honda Development and Manufacturing of America, LLC; Mitsubishi Motors Corporation; and Mitsubishi Motors North America, Inc.

42. Defendant Hyundai Mobis Co., Ltd. (referred to herein as "Hyundai Mobis") is an affiliate of Hyundai Motor Co., Ltd.; Hyundai Motor America, Inc.; Kia Corp.; and Kia America, Inc. Hyundai Mobis makes auto parts for Hyundai and Kia vehicles. Although Hyundai Mobis is a Supplier Defendant and not a Vehicle Manufacturer Defendant, Plaintiffs discuss this defendant in this section given its

close relationship with Hyundai Motor Co., Ltd.; Hyundai Motor America, Inc.; Kia Corp.; and Kia America, Inc.

a. The Hyundai-Kia Defendants

43. The Hyundai Defendants are Hyundai Motor Co., Ltd. and Hyundai Motor America, Inc. The Kia Defendants are Kia Corp. and Kia America, Inc. The Hyundai-Kia Defendants are Hyundai, Kia, and Hyundai Mobis.

44. Hyundai Motor Co., Ltd. (referred to herein as "Hyundai Korea") is a foreign corporation headquartered in Seoul, South Korea. Hyundai Korea is one of the largest automobile manufacturers in the world. It designs, develops, manufactures, markets, and sells automobiles around the world, including in the United States.

45. Hyundai Motor America, Inc. (referred to herein as "Hyundai USA") is a California corporation doing business throughout the United States and headquartered in Fountain Valley, California. Hyundai Korea is the parent company of Hyundai USA. Hyundai USA makes and/or sells automobiles in the United States.

46. Kia Corp. (referred to herein as "Kia Korea") is a foreign corporation headquartered in Seoul, South Korea. Kia Korea's largest shareholder is Hyundai Korea, which owns roughly 34% of Kia Korea. Kia Korea also has a large stake in several Hyundai Korea companies. Kia Korea is one of the largest automobile manufacturers in the world. It designs, develops, manufactures, markets, and sells automobiles around the world, including in the United States.

47. Kia America, Inc. (referred to herein as "Kia USA") is a subsidiary of Kia Korea and was incorporated in the state of California on October 21, 1992 as the American sales, marketing, and distribution arm of Kia Korea, with its principal place of business in Irvine, California. Kia USA makes and/or sells automobiles in the United States.

48. Hyundai Mobis is a foreign corporation headquartered in Seoul, South Korea. Kia Korea and several Hyundai affiliates own more than 20% of Hyundai Mobis's stock. Hyundai Mobis's largest shareholder is Kia Korea, which owns approximately 16.88% of the shares. Hyundai Mobis owns approximately 21% of Hyundai Korea. Hyundai Mobis manufactures, supplies, and distributes automotive parts to the Hyundai-Kia Defendants, including some of the defective DS84 ACUs.[6]

b. FCA

49. FCA US LLC (referred to herein as "FCA") is a Delaware limited liability company with its principal place of business and headquarters located at 1000 Chrysler Drive, Auburn Hills, Michigan. FCA is in the business of designing, developing, manufacturing, marketing, and selling automobiles in the United States.

c. The Toyota Defendants

50. The Toyota Defendants (together, "Toyota") are Toyota Motor North America Inc.; Toyota Motor Engineering & Manufacturing North America, Inc.; and Toyota Motor Sales, U.S.A., Inc.

51. Toyota Motor North America, Inc. (referred to herein as "Toyota USA") is a California corporation and wholly owned U.S. subsidiary of the Japanese company Toyota Motor Corporation. Toyota Motor Corporation is a non-party to this lawsuit and is referred to herein as "Toyota Japan". Toyota USA's principal place of business located at 6565 Headquarters Drive, Plano, Texas. It has

[6] Hyundai Mobis manufactured the DS84 ACUs, using ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA's designs, for some of the Hyundai and Kia Class Vehicles. The ZF-designed ACUs manufactured by Hyundai Mobis contain the same defective DS84 ASIC as all of the Class Vehicles. Upon information and belief, ST Malaysia made the DS84 ASICs used by Hyundai Mobis in the DS84 ACUs it made.

additional offices in Torrance, California; Georgetown, Kentucky; Washington, DC; Ann Arbor, Michigan; New York City, New York; and San Ramon, California. Toyota USA is the holding company for Toyota Japan's North American operations and engages in business activities in furtherance of the interests of Toyota Japan, including Toyota Japan's sales in all 50 states and the District of Columbia.

52. Toyota Motor Engineering & Manufacturing North America, Inc. (referred to herein as "Toyota Engineering USA") is a Kentucky corporation doing business throughout the United States. It is a wholly owned subsidiary of Toyota Japan, with its principal place of business at 25 Atlantic Avenue, Erlanger, Kentucky 41018. It also has major operations in Arizona, California, and Michigan. Toyota Engineering USA provides centralized support to Toyota's North American manufacturing plants in several key areas such as purchasing, production control, production engineering, quality control, environmental, and administration. It served as the purchasing agent for many (perhaps all) of the DS84 ACUs installed in the Toyota Class Vehicles.

53. Toyota Engineering USA shares responsibility for Toyota's engineering, design, research and development, and manufacturing activities with Toyota's fourteen plants in the United States, Canada, and Mexico. Some of those manufacturing plants across the United States and North America include Toyota Motor Manufacturing Alabama, Toyota Motor Manufacturing Indiana, Toyota Motor Manufacturing Kentucky, Toyota Motor Manufacturing Texas, Toyota Motor Manufacturing West Virginia, Toyota Motor Manufacturing de Baja California, and Toyota Auto Body Company, Inc. in Long Beach, California.

54. Toyota Motor Sales, U.S.A., Inc. (referred to herein as "Toyota Sales USA") is a California corporation and wholly owned American subsidiary of Toyota Motor Corporation that engages in business activities in furtherance of the interests of its parent, including marketing, sales, and distribution of Toyota automobiles in all 50 states and the District of Columbia. From the time it was

founded in 1957 through 2017, Toyota Sales USA's former principal place of business was located in Torrance, California. In 2017, Toyota Sales USA moved to a new campus facility in Plano, Texas. Toyota Sales USA currently has approximately 8,900 employees and sells its vehicles through a network of 1,800 authorized dealerships throughout the United States.

d. The Honda Defendants

55. The Honda Defendants (together, "Honda") are Honda Motor Co., Ltd.; American Honda Motor Co., Inc.; and Honda Development and Manufacturing of America, LLC.

56. Honda Motor Co., Ltd. (referred to herein as "Honda Japan") is a Japanese corporation with its principal place of business in Tokyo, Japan. It is one of the largest automobile manufacturers in the world, and it is in the business of designing, developing, manufacturing, marketing, and selling automobiles around the world, including in the United States.

57. American Honda Motor Co., Inc. (referred to herein as "Honda USA") is a California corporation doing business throughout the United States. Its headquarters are located in Torrance, California. Honda USA is a wholly owned U.S. subsidiary of Honda Japan, and it engages in business activities in furtherance of the interests of Honda Japan, including the advertising, marketing, lease, and sale of Honda automobiles in all 50 states and the District of Columbia. It has approximately 31,000 employees in the United States and sells its vehicles through its authorized dealership network.

58. Honda Development and Manufacturing of America, LLC (referred to herein as "Honda Engineering USA") is an Ohio corporation with its principal place of business in Marysville, Ohio. It is a wholly owned subsidiary of Honda Japan and is the successor of several of Honda Japan's prior engineering and manufacturing domestic subsidiaries, including American Honda Mfg., Inc. and

Honda R&D Americas, LLC. Honda Engineering USA performs various engineering functions for Honda Japan, including the design, development, prototyping, testing, and manufacturing of Honda vehicles in the United States.

e. The Mitsubishi Defendants

59. The Mitsubishi Defendants (together, "Mitsubishi") are Mitsubishi Motors North America, Inc. and Mitsubishi Motors Corporation.

60. Mitsubishi Motors Corporation (referred to herein as "Mitsubishi Japan") is a Japanese corporation with its principal place of business located at 1-21, Shibaura 3chome, Minato-ku, Tokyo, Japan. Mitsubishi Japan, along with its subsidiaries, develops, manufactures, and sells automobiles, parts, and powertrains worldwide, including in the United States.

61. Defendant Mitsubishi Motors North America, Inc. (referred to herein as "Mitsubishi USA") is incorporated in California and has its administrative headquarters located at 3401 Mallory Lane, Franklin, Tennessee 37067. In a June 2019 press release, Mitsubishi USA touted its roots going back to 1988 in Cypress and Fountain Valley, California before it moved its headquarters to Tennessee in 2019.

62. Mitsubishi USA is a wholly owned subsidiary of Mitsubishi Japan, and it engages in business activities in furtherance of the interests of Mitsubishi Japan. Mitsubishi USA is responsible for the research and development, marketing, sale, and customer service of Mitsubishi-branded vehicles in the United States.

63. Until 2015, Mitsubishi USA had a manufacturing plant located in Normal, Illinois. At the direction of Mitsubishi Japan, that plant has since closed.

B. Plaintiffs

64. For ease of reference, the following chart identifies the representative Plaintiffs and the state(s) in which they reside and purchased or leased their Class Vehicles:

	Class Representative	State of Purchase/ Lease	State of Residence	Model Year	Make & Model
1	Sigfredo Rubio	AL	AL	2015	Acura TLX
2	James Kneup	AZ	AZ	2013	Jeep Wrangler
3	Remigiusz Rundzio	CA	CA	2012	Jeep Wrangler
4	Steve Laveaux	CA	CA	2014	Jeep Wrangler
5	Kevin Burns	CA	CA	2013	Honda Civic Hybrid
6	Michael Hernandez	CA	CA	2019	Hyundai Sonata
7	Bonnie Dellatorre	CA	CA	2013	Kia Optima Hybrid
8	Lore Van Houten	CA	CA	2018	Kia Optima
9	Tiffany Ecklor	CA	CA	2013	Mitsubishi Outlander
10	Gaylynn Darling (Sanchez)	CA	CA	2015	Mitsubishi Lancer
11	Mark Altier	CA	CA	2014	Toyota Tacoma
12	Alejandra Renteria	CA	CA	2013	Toyota Corolla Matrix
13	Michael Nearing	CO	CO	2014	Mitsubishi Lancer
14	Paul Huitzil	CT	CT	2013	Honda Accord
15	Moises Senti	FL	FL	2016	Jeep Wrangler
16	Maximillian Accetta	FL	FL	2015	Jeep Compass
17	Fredericka McPherson	FL	FL	2013	Honda Accord
18	Brian Chaiken	FL	FL	2013	Honda CR-V
19	Carl Paul Maurilus	FL	FL	2017	Hyundai Sonata Hybrid
20	John Colbert	FL	FL	2016	Kia Optima
21	Lawrence Graziano	FL	FL	2018	Kia Optima
22	Samuel Choc	FL	FL	2013	Toyota Tacoma
23	Tatiana Gales	FL	FL	2015	Toyota Corolla
24	Amanda Swanson	IL	IL	2017	Kia Optima

	Class Representative	State of Purchase/ Lease	State of Residence	Model Year	Make & Model
25	Brian Collins	IL	IL	2018	Kia Optima
26	Kenneth Ogorek	IN	IN	2014	Kia Sedona
27	Joseph Fuller	MD	MD	2014	Hyundai Sonata
28	Tina Fuller	MD	MD	2014	Hyundai Sonata
29	Diana King	MD	MD	2014	Kia Sedona
30	Dylan DeMoranville	MA	MA	2013	Kia Optima
31	Kinyata Jones	MI	MI	2013	Kia Optima
32	Steve Keister	MN	WI	2010	Dodge Nitro
33	Bobbi Jo Birk-LaBarge	MN	WI	2015	Kia Optima
34	Dan Sutterfield	MO	MO	2013	Kia Forte
35	Gary Samouris	NV	NV	2018	Toyota Tacoma
36	Gerson Damens	NJ	NJ	2015	Kia Optima
37	Eric Fishon	NY	NY	2014	Jeep Wrangler
38	Ravichandran Namakkal	NY	NY	2014	Honda Civic
39	Constanza Gonzalez	NC	NC	2012	Jeep Wrangler
40	Tonya McNeely	NC	NC	2012	Honda Civic
41	James Dean	OK	OK	2015	Fiat 500
42	Larae Angel	PA	PA	2013	Hyundai Sonata Hybrid
43	Richard Kintzel	PA	PA	2016	Kia Optima
44	Michael Hines	SC	FL	2012	Toyota Tundra
45	Desiree Meyer	SD	WY	2012	Jeep Liberty
46	Angela Bowens	TX	TX	2015	Honda Civic
47	Burton Reckles	TX	TX	2013	Hyundai Sonata
48	Brent DeRouen	TX	TX	2016	Toyota Tundra

	Class Representative	State of Purchase/ Lease	State of Residence	Model Year	Make & Model
49	Danny Hunt	TX	TX	2014	Toyota Tacoma
50	Evan Green	TX	TX	2015	Toyota Tacoma
51	Joy Davis	TX	OR	2014	Toyota Corolla
52	Dee Roberts	WA	WA	2013	Toyota Avalon
53	John Sancomb	WI	WI	2013	Mitsubishi Lancer Sportback

1. Hyundai-Kia Plaintiffs

a. Michael Hernandez

65. Plaintiff Michael Hernandez ("Plaintiff") is an individual residing in Aliso Viejo, California. In or around March 2019, Plaintiff leased a new 2019 Hyundai Sonata (the "Class Vehicle") from Tuttle-Click Hyundai, an authorized Hyundai dealership located in Irvine, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

66. In the weeks leading up to his lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he leased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Tuttle-Click Hyundai. Plaintiff had conversations with the salesperson about the Class Vehicle's features, including its safety features.

b. On the day he visited Tuttle-Click Hyundai to lease the Class Vehicle, Plaintiff saw a Hyundai brochure, which touted the

Class Vehicle's features, including its various safety features. These representations and statements indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of Hyundai brochures distributed in the United States.

c. Plaintiff conducted online research, including reviewing Consumer Reports to understand the safety features offered for the Class Vehicle, and its safety ratings. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

d. Plaintiff reviewed the Monroney sticker and in-vehicle airbag label safety language immediately prior to his lease. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

e. Plaintiff test drove the Class Vehicle before leasing it. At no time prior to or at the time of his lease did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF

Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

67. Hyundai USA, Hyundai Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai USA, Hyundai Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Hyundai USA, Hyundai Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

b. Bonnie Dellatorre

68. Plaintiff Bonnie Dellatorre ("Plaintiff") is an individual residing in Lake Forest, California. On or around October 14, 2013, Plaintiff purchased a new 2013 Kia Optima Hybrid (the "Class Vehicle") from Kia of Irvine, an authorized Kia dealership located in Irvine, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the

Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

69. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she visited Kia of Irvine to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Kia of Irvine. Plaintiff discussed with the salesperson the Class Vehicle's safety features and its warranty.

b. Plaintiff reviewed the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

70. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

c. Lore Van Houten

71. Plaintiff Lore Van Houten ("Plaintiff") is an individual residing in Murrieta, California. On or around September 9, 2018, Plaintiff leased a new 2018 Kia Optima (the "Class Vehicle") from North County Kia, an authorized Kia dealership located in Escondido, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

72. In the weeks leading up to her lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Kia's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to her lease decision. Plaintiff is not personally aware of which particular Kia entity is responsible for these representations and statements because Plaintiff interfaces with Kia as a brand. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the website.

b. At North County Kia on the day she leased the Class Vehicle, Plaintiff saw a Kia brochure, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of Kia brochures distributed in the United States. The brochure was given to Plaintiff by a salesperson at North County Kia.

c. Plaintiff saw Kia television commercials that touted the safety of Kia-branded vehicles, among other things. Plaintiff is not personally aware of which particular Kia entity is responsible for the Kia commercials she saw. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the television advertising.

d. On the day she leased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at North County Kia. The salesperson told Plaintiff prior to her deciding to lease the Class Vehicle that the Class

Vehicle was safe, reliable, had good fuel economy, and that Kia offered a good warranty for it.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her lease. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

f. Plaintiff test drove the Class Vehicle before leasing it. At no time prior to or at the time of her lease did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

73. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia

USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

d. Carl Paul Maurilus

74. Plaintiff Carl Paul Maurilus ("Plaintiff") is an individual residing in Orlando, Florida. On or around March 19, 2017, Plaintiff purchased a new 2017 Hyundai Sonata Hybrid (the "Class Vehicle") from Rick Case Hyundai, an authorized Hyundai dealership located in Davie, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

75. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research. Plaintiff looked up the Class Vehicle online at Kelly Blue Book, and compared Hyundai to other brands in terms of options, performance, and safety. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class

Vehicle was safe and had properly-functioning airbags and seatbelts.

b. Plaintiff saw representations and statements on Hyundai's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff familiarized himself with the safety features that came equipped on the Class Vehicle, and saw advertisements on Hyundai's website about safety awards that Hyundai vehicles have won. Plaintiff is not personally aware of which particular Hyundai entity is responsible for these representations and statements because Plaintiff interfaces with Hyundai as a brand. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the website.

c. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Rick Case Hyundai. Plaintiff had conversations with the salesperson about the safety features the Class Vehicle came with, and how safe the Class Vehicle was generally.

d. On the day he visited Rick Case Hyundai to purchase the Class Vehicle, Plaintiff saw a Hyundai brochure, which touted the Class Vehicle's features, including its various safety features. These representations and statements indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of Hyundai brochures distributed in the United States. The brochure was given to Plaintiff by a salesperson at Rick Case Hyundai.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

f. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

76. Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF

Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

e. John Colbert

77. Plaintiff John Colbert ("Plaintiff") is an individual residing in Crestview, Florida. On or around May 16, 2016, Plaintiff purchased a new 2016 Kia Optima (the "Class Vehicle") from Kia Fort Walton Beach, an authorized Kia dealership located in Fort Walton Beach, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

78. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw Kia television commercials that touted the safety of the Class Vehicle, among other things. Plaintiff is not personally aware of which particular Kia entity is responsible for the Kia commercials he saw. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the television advertising.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a

salesperson at Kia Fort Walton Beach. Plaintiff had conversations with the salesperson about the features, including the safety features, the Class Vehicle came with, and how safe the Class Vehicle was generally.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

d. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

79. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in

the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

f. Lawrence Graziano

80. Plaintiff Lawrence Graziano ("Plaintiff") is an individual residing in Windermere, Florida. On or around April 10, 2018, Plaintiff leased a new 2018 Kia Optima (the "Class Vehicle") from Greenway Kia, an authorized Kia dealership located in Orlando, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

81. In the weeks leading up to his lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw Kia commercials on television touting the features of the Class Vehicle. These commercials represented the Class Vehicle as a safe vehicle. Plaintiff is not personally aware of which particular Kia entity is responsible for television advertising. Based upon the investigation of Plaintiffs' counsel,

Kia USA, Inc. was responsible for the content of the television advertising.

b. At Greenway Kia on the day he leased the Class Vehicle, Plaintiff saw advertisements in the dealership publicizing a JD Power award that the 2018 Kia Optima had won.

c. On the day he leased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Greenway Kia. Plaintiff discussed the safety features of the Class Vehicle with the salesperson. Safety was an important factor in Plaintiff's decision to lease the Class Vehicle because he has a young child. Plaintiff specifically recalls the salesperson pointing out the various airbags the Class Vehicle came equipped with.

d. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his lease. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

e. Plaintiff test drove the Class Vehicle before leasing it. At no time prior to or at the time of his lease did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics

USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

82. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

g. Amanda Swanson

83. Plaintiff Amanda Swanson ("Plaintiff") is an individual residing in Romeoville, Illinois. On or around October 21, 2017, Plaintiff purchased a new 2017 Kia Optima (the "Class Vehicle") from World Kia Joliet, an authorized Kia dealership located in Joliet, Illinois. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the

Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

84. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at World Kia Joliet. The salesperson told Plaintiff about the Class Vehicle's features, including its safety features, prior to her deciding to purchase the Class Vehicle.

b. Plaintiff reviewed and relied on documents about the Class Vehicle. These documents about the Class Vehicle were provided to her by a salesperson at World Kia Joliet. Plaintiff is not personally aware of which particular Kia entity is responsible for written materials she reviewed at World Kia Joliet about the Class Vehicle. Based upon the investigation of Plaintiffs' counsel, Kia USA, Inc. was responsible for distributing materials about the Class Vehicle.

c. Plaintiff saw, heard, and relied on Kia commercials through radio, television, and the internet that touted the safety, quality, and reliability of the Class Vehicle. Plaintiff is not personally aware of which particular Kia entity is responsible for advertising. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the advertising.

d. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible

for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

e. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

85. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the

Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

h. Brian Collins

86. Plaintiff Brian Collins ("Plaintiff") is an individual residing in Carol Stream, Illinois. On or around July 2, 2018, Plaintiff purchased a new 2018 Kia Optima (the "Class Vehicle") from Gerald Kia, an authorized Kia dealership located in Naperville, Illinois. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

87. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Kia's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Kia entity is responsible for these representations and statements because Plaintiff interfaces with Kia as a brand. Based upon the investigation of Plaintiffs' counsel, Kia USA, Inc. was responsible for the content of the website.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Gerald Kia. The salesperson told Plaintiff prior to him deciding to purchase the Class Vehicle that the 2018 Kia Optima was safe. Plaintiff recalls the salesperson touting the fact

that the 2018 Kia Optima had a five star crash rating and numerous airbags.

c. Plaintiff conducted online research, including reviewing Kia dealership websites to understand the safety features offered for the Class Vehicle, and read reviews from Car and Driver. The Car and Driver reviews touted the safety of the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

d. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

e. Plaintiff sat inside a 2018 Kia Optima at Gerald Kia prior to his purchase of his Class Vehicle. When his Class Vehicle was delivered to him, the airbag warning light on its dashboard was not illuminated nor did it flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the

failure of the airbag warning light to warn about the ACU Defect.

88. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

i. Kenneth Ogorek

89. Plaintiff Kenneth Ogorek ("Plaintiff") is an individual residing in Indianapolis, Indiana. On or around July 26, 2013, Plaintiff purchased a new 2014 Kia Sedona ("Class Vehicle") from Napleton Kia of Fishers, an authorized Kia dealership located in Fishers, Indiana. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the

Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

90. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Kia's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Kia entity is responsible for these representations and statements because Plaintiff interfaces with Kia as a brand. Based upon the investigation of Plaintiffs' counsel, Kia USA, Inc. was responsible for the content of the website.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Napleton Kia of Fishers. Plaintiff recalls that the salesperson told Plaintiff prior to him deciding to purchase the Class Vehicle about the Class Vehicle's safety features.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or

flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

91. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

j. Joseph Fuller

92. Plaintiff Joseph Fuller ("Plaintiff") is an individual residing in Middle River, Maryland. On or around April 28, 2014, Plaintiff purchased a new 2014

Hyundai Sonata ("Class Vehicle") from Thompson Hyundai, an authorized Hyundai dealership located in Dundalk, Maryland. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

93. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Thompson Hyundai. The salesperson told Plaintiff prior to him deciding to purchase the Class Vehicle about the Class Vehicle's safety features.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based

upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

94. Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

k. Tina Fuller

95. Plaintiff Tina Fuller ("Plaintiff") is an individual residing in Middle River, Maryland. On or around April 29, 2014, Plaintiff purchased a new 2014 Hyundai Sonata (the "Class Vehicle") from Thompson Hyundai, an authorized Hyundai dealership located in Dundalk, Maryland. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had

properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

96. In the weeks leading up to her purchased of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Thompson Hyundai. The salesperson told Plaintiff prior to her deciding to purchase the Class Vehicle about the Class Vehicle's safety features.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive

USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

97. Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

l. Diana King

98. Plaintiff Diana King ("Plaintiff") is an individual residing in Sparrows Point, Maryland. On or around July 17, 2013, Plaintiff purchased a new 2014 Kia Sedona (the "Class Vehicle") from Bob Bell Nissan, located in Baltimore, Maryland. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a

defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

99. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Bob Bell. The salesperson told Plaintiff prior to her deciding to purchase the Class Vehicle about the Class Vehicle's safety features.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

100. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

m. Dylan DeMoranville

101. Plaintiff Dylan DeMoranville ("Plaintiff") is an individual residing in East Freetown, Massachusetts. On or around April 14, 2017, Plaintiff purchased a used 2013 Kia Optima (the "Class Vehicle") from Route 44 Hyundai located in Raynham, Massachusetts. The Class Vehicle was totaled in an accident where the airbags did not deploy on or around February 7, 2020. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

102. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Route 44 Hyundai. Plaintiff discussed with the salesman the features, price, and overall safety ratings of the Class Vehicle.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

103. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like

Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

n. Kinyata Jones

104. Plaintiff Kinyata Jones ("Plaintiff") is an individual residing in Saint Joseph, Michigan. On or around March 16, 2015, Plaintiff purchased a used 2013 Kia Optima (the "Class Vehicle") from Signature Toyota located in Benton Harbor, Michigan. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

105. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased her Class Vehicle, Plaintiff spoke with the salesperson at Signature Toyota. The salesperson told her that the Class Vehicle was safe and reliable.

b. Plaintiff saw Kia television commercials that touted, among other things, the safety of Kia-branded vehicles. Based upon the investigation of Plaintiffs' counsel, Kia USA, Inc. was responsible for the content of the television advertising.

c. Plaintiff recalls reviewing the Monroney sticker immediately prior to her purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

106. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai

Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

o. Bobbi Jo Birk-LaBarge

107. Plaintiff Bobbi Jo Birk-LaBarge ("Plaintiff") is an individual residing in Merrill, Wisconsin. On or around October 24, 2014, Plaintiff purchased a new 2015 Kia Optima (the "Class Vehicle") from Luther Nissan Kia, an authorized Kia dealership located in Inver Grove Heights, Minnesota. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

108. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Kia's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to her purchase decision. Plaintiff is not personally aware of which particular Kia entity is responsible for these representations and statements because Plaintiff interfaces with Kia as a brand. Based upon the investigation of

Plaintiffs' counsel, Kia USA, Inc. was responsible for the content of the website.

b. Plaintiff conducted online research, including reviewing Luther Nissan Kia's website to understand the Class Vehicle's features, including its safety features. Plaintiff also researched the Class Vehicle's safety features on Google Reviews and Kelley Blue Book. Plaintiff searched online for information regarding the reliability of the Class Vehicle, and for any negative information that might affect her purchasing decision. Further, Plaintiff searched Consumer Reports online for information on customer satisfaction, safety, and reviews. Plaintiff also searched online for recalls, particularly any safety recalls, and recalls that there were none at that time. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Luther Nissan Kia. The salesperson touted the Class Vehicle's safety features to Plaintiff prior to her deciding to purchase the Class Vehicle.

d. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The salesperson at Luther Nissan Kia also walked Plaintiff through each safety feature on the Monroney Sticker. Based upon the investigation

of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

e. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

109. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not

conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

p. Dan Sutterfield

110. Plaintiff Dan Sutterfield ("Plaintiff") is an individual residing in Newburg, Missouri. On or around September 27, 2013, Plaintiff purchased a used 2013 Kia Forte (the "Class Vehicle") from Kia of Rolla, an authorized Kia dealership located in Rolla, Missouri. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

111. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research about the Class Vehicle, including research on its reliability, whether it had problems, and its gas mileage. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

b. Plaintiff recalls reviewing the Monroney Sticker immediately prior to his purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag

warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

112. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

q. Gerson Damens

113. Plaintiff Gerson Damens ("Plaintiff") is an individual residing in Moorestown, New Jersey. On or around June 30, 2015, Plaintiff leased a new 2015 Kia Optima (the "Class Vehicle") from Cherry Hill Kia, an authorized Kia dealership located in Cherry Hill, New Jersey. Plaintiff purchased the Class Vehicle at the end of the lease term on or around January 2, 2019. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

114. In the weeks leading up to his lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research about the Class Vehicle, which included reviewing Consumer Reports' website and him checking for open recalls and other reported concerns that pertained to the Class Vehicle. Plaintiffs visited the Kia website, and saw information about the vehicle's warranty and specifications. In his online research, he did not see any open recalls or reported concerns on the Class Vehicle in his research. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle was affected by the Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA, Inc. was responsible for the content of the Kia website.

b. On the day he leased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Cherry Hill Kia. Plaintiff discussed with the salesman the Class Vehicle's warranty and quality.

c. Plaintiff recalls reviewing the in-vehicle airbag label safety language at the dealership and prior to his lease, including during his test drive. The label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia Korea was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle for a full day before leasing it. At no time prior to or at the time of his lease did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

115. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an

overpayment for the Class Vehicle as a result of Kia, Hyundai Mobis, ZF TRW, and STMicro's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Kia, Hyundai Mobis, ZF TRW, and/or STMicro did not conceal material information regarding the Class Vehicle's defective ACU and ASIC.

r. Larae Angel

116. Plaintiff Larae Angel ("Plaintiff") is an individual residing in Smithfield, Pennsylvania. On or around May 4, 2013, Plaintiff purchased a new 2013 Hyundai Sonata Hybrid (the "Class Vehicle") from Auto Land Hyundai of Uniontown, an authorized Hyundai dealership located in Uniontown, Pennsylvania. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

117. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Hyundai's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to her purchase decision. Plaintiff is not personally aware of which particular Hyundai entity is responsible for these representations and statements because Plaintiff interfaces with Hyundai as a brand. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the website.

b. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Auto Land Hyundai of Uniontown. Plaintiff discussed the safety of the Class Vehicle with the salesperson prior to her deciding to purchase the Class Vehicle.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

d. Plaintiff and her husband took the Class Vehicle for a test drive before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

118. Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers

like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

s. Richard Kintzel

119. Plaintiff Richard Kintzel ("Plaintiff") is an individual residing in Tremont, Pennsylvania. On or around December 30, 2015, Plaintiff purchased a new 2016 Kia Optima (the "Class Vehicle") from Savage Kia, an authorized Kia dealership located in Reading, Pennsylvania. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

120. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a

salesperson at Savage Kia. Plaintiff and the salesperson spoke about the Class Vehicle's safety features, including its front and passenger side airbags, in-door airbags, and reinforced doors, and the Class Vehicle's warranties.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Kia USA was responsible for the content of the Monroney sticker, and Kia Korea was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

121. Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with

the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Kia Korea, Kia USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

t. Burton Reckles

122. Plaintiff Burton Reckles ("Plaintiff") is an individual residing in Sugar Land, Texas. On or around August 16, 2012, Plaintiff purchased a new 2013 Hyundai Sonata (the "Class Vehicle") from Texan Hyundai, an authorized Hyundai dealership located in Rosenberg, Texas. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

123. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he visited Texan Hyundai to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Kia of Irvine. Plaintiff discussed with the salesperson the Class Vehicle's safety features. The salesperson made statements that the Class Vehicle was a safe vehicle.

b. On the day he visited Texan Hyundai to purchase the Class Vehicle, Plaintiff saw a Hyundai marketing materials, which touted the Class Vehicle's features, including its safety features. These representations and statements indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of Hyundai marketing materials distributed in the United States. The marketing materials were given to Plaintiff by a salesperson at Texan Hyundai.

c. Plaintiff viewed and heard Hyundai commercials through radio, television, and internet that touted the quality and reliability of the Class Vehicle. Plaintiff is not personally aware of which particular Hyundai entity is responsible for the Hyundai commercials he saw and heard. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the advertising.

d. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Hyundai USA was responsible for the content of the Monroney sticker, and Hyundai Korea was responsible for the in-vehicle airbag label safety language.

e. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or

flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Hyundai Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

124. Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Hyundai Korea, Hyundai USA, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

2. FCA Plaintiffs

a. James Kneup

125. Plaintiff James Kneup ("Plaintiff") is an individual residing in Tucson, Arizona. On or around May 30, 2013, Plaintiff purchased a new 2013 Jeep Wrangler (the "Class Vehicle") from Larry H. Miller Chrysler Jeep Tucson, an authorized FCA dealership located in Tucson, Arizona. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

126. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff reviewed NHTSA crash test videos online.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Larry H. Miller Chrysler Jeep Tucson. The salesperson described the Class Vehicle to Plaintiff prior to him deciding to purchase it as a fine automobile and discussed the NHTSA crash test results with him. The NHTSA crash test results were good, which the sales representative identified as an indication of the Class Vehicle's high degree of safety.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the

content of the Monroney sticker, and FCA was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

127. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

b. Remigiusz Rundzio

128. Plaintiff Remigiusz Rundzio ("Plaintiff") is an individual residing in Westminster, California. On or around July 22, 2012, Plaintiff purchased a new 2012 Jeep Wrangler (the "Class Vehicle") from Huntington Beach Chrysler Dodge Jeep Ram, an authorized FCA dealership located in Huntington Beach, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

129. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Jeep's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular FCA entity is responsible for these representations and statements because Plaintiff interfaces with FCA as a brand. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the website. Plaintiff also reviewed Huntington Beach Chrysler Dodge Jeep Ram's website to learn more about the Class Vehicle's safety features.

b. On the day he visited Huntington Beach Chrysler Dodge Jeep Ram to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Huntington Beach Chrysler Dodge Jeep Ram. The

salesperson and Plaintiff had conversations about the Class Vehicle's safety features.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker, and FCA was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

130. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW

Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

c. Steve Laveaux

131. Plaintiff Steve Laveaux ("Plaintiff") is an individual residing in Palmdale, California. In or around May 2017, Plaintiff purchased a used 2014 Jeep Wrangler (the "Class Vehicle") from Crown Dodge Chrysler Jeep Ram, an authorized FCA dealership located in Ventura, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

132. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he visited Crown Dodge Chrysler Jeep Ram to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Crown Dodge Chrysler Jeep Ram. Plaintiff discussed with the salesperson the safety features of the Class Vehicle. Plaintiff was concerned about the Takata airbag recall and wanted confirmation that the Class Vehicle did not have a defective airbag system. The salesperson assured Plaintiff that the airbag system in the Class Vehicle was safe.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker, and FCA was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

133. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle.

Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

d. Moises Senti

134. Plaintiff Moises Senti ("Plaintiff") is an individual residing in Ocala, Florida. On or around April 19, 2016, Plaintiff purchased a new 2016 Jeep Wrangler (the "Class Vehicle") from Potamkin Jeep (now known as Miami Lakes Automall), an authorized FCA dealership located in Miami Lakes, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

135. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Jeep's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular FCA entity is responsible for these representations and statements because Plaintiff interfaces with FCA as a brand. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the website.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase.

The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker, and FCA was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

136. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF

TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

e. Maximillian Accetta

137. Plaintiff Maximillian Accetta ("Plaintiff") is an individual residing in Fort Lauderdale, Florida. On or around August 25, 2015, Plaintiff purchased a used 2015 Jeep Compass (the "Class Vehicle") from Off Lease Only, located in Lake Worth, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

138. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Jeep's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Based on his research, Plaintiff believed the Class Vehicle was not only safe, but also safer than other vehicles. Plaintiff is not personally aware of which particular FCA entity is responsible for these representations and statements because Plaintiff interfaces with FCA as a brand. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the website.

b. Plaintiff also conducted online research on the Class Vehicle's safety features. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle

contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. Plaintiff recalls reviewing the Monroney sticker immediately prior to his purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

139. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the

full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

f. Steve Keister

140. Plaintiff Steve Keister ("Plaintiff") is an individual residing in Hayward, Wisconsin. On or around August 30, 2011, Plaintiff purchased a used 2010 Dodge Nitro (the "Class Vehicle") from McKay's Family Dodge, an authorized FCA dealership located in Waite Park, Minnesota. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

141. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research on the Class Vehicle's safety features. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at McKay's Family Dodge. Plaintiff and the

salesperson spoke about the Class Vehicle's price, mileage, condition, and remaining warranty.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

142. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

g. Eric Fishon

143. Plaintiff Eric Fishon ("Plaintiff") is an individual residing in Happauge, New York. On or around May 12, 2017, Plaintiff purchased a used 2014 Jeep Wrangler (the "Class Vehicle") from Westbury Jeep Chrysler Dodge, an authorized FCA dealership located in Jericho, New York. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

144. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw Jeep advertising for the Jeep Wrangler touting its features and highlighting that Jeeps are manufactured in the Unitied States. Plaintiff is not personally aware of which particular FCA entity is responsible for Jeep advertising. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the advertising.

b. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive

USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

145. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

h. Constanza Gonzalez

146. Plaintiff Constanza Gonzalez ("Plaintiff") is an individual residing in Charlotte, North Carolina. On or around February 2, 2019, Plaintiff purchased a used 2012 Jeep Wrangler (the "Class Vehicle") from Bob Mayberry Hyundai located in Monroe, North Carolina. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

147. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research about the Class Vehicle, which included research for reviews, reports, and information about the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle was affected by the Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

b. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about Jeep Wranglers made by a salesperson at Keffer Chrysler Jeep Dodge Ram in Charlotte, North Carolina.

c. Plaintiff recalls reviewing the in-vehicle airbag label safety language immediately prior to her purchase, including during her test drive. The label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive

USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

148. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

i. James Dean

149. Plaintiff James Dean ("Plaintiff") is an individual residing in Oklahoma City, Oklahoma. On or around March 15, 2015, Plaintiff purchased a used 2015 Fiat 500 (the "Class Vehicle") from David Stanley Chrysler Dodge Jeep Ram, an authorized FCA dealership located in Midwest City, Oklahoma. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

150. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at David Stanley Chrysler Dodge Jeep Ram. The salesperson told Plaintiff prior to him deciding to purchase the Class Vehicle that the Class Vehicle was durable, safe, and got good gas mileage.

b. Plaintiff recalls reviewing the Monroney sticker immediately prior to his purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

151. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned

of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

j. Desiree Meyer

152. Plaintiff Desiree Meyer ("Plaintiff") is an individual residing in Douglas, Wyoming. On or around May 14, 2012, Plaintiff purchased a new 2012 Jeep Liberty (the "Class Vehicle") from Aberdeen Chrysler Center, an authorized FCA dealership located in Aberdeen, South Dakota. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

153. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff conducted online research on the Class Vehicle's safety ratings. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class

Vehicle was safe and had properly-functioning airbags and seatbelts.

b. Before she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Aberdeen Chrysler Center. Plaintiff discussed the Class Vehicle's safety with the salesperson. The salesperson represented that the Class Vehicle's safety rating was superior to that of other Jeep vehicles due to improvements in the design of the Class Vehicle.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, FCA was responsible for the content of the Monroney sticker, and FCA was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove a 2012 Jeep Liberty at another Jeep dealership prior to her purchase of the Class Vehicle. When her Class Vehicle was delivered to her, the airbag warning light on its dashboard was not illuminated nor did it flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

154. FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

3. Toyota Plaintiffs

a. Mark Altier

155. Plaintiff Mark Altier ("Plaintiff") is an individual residing in San Diego, California. On or around April 24, 2014, Plaintiff purchased a new 2014 Toyota Tacoma (the "Class Vehicle") from Toyota San Diego (now known as Norm Reeves Toyota San Diego), an authorized Toyota dealership located in San Diego, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

156. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Toyota San Diego (now known as Norm Reeves Toyota San Diego). Prior to his deciding to purchase the Class Vehicle, Plaintiff and the salesperson spoke about the Class Vehicle's safety and reputation.

b. At Toyota San Diego on the day he purchased the Class Vehicle, Plaintiff reviewed and relied on marketing documents provided to him by a salesperson at Toyota San Diego, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of Toyota marketing materials distributed in the United States.

c. Plaintiff saw and heard Toyota commercials through the radio, television, and the internet that touted the safety, quality, and reliability of the Class Vehicle. Plaintiff is not personally aware of which particular Toyota entity is responsible for the Toyota commercials he saw. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the television advertising.

d. Plaintiff reviewed Consumer Reports and read about the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class

Vehicle was safe and had properly-functioning airbags and seatbelts.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

f. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

157. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota

Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

b. Alejandra Renteria

158. Plaintiff Alejandra Renteria ("Plaintiff") is an individual residing in Rialto, California. On or around August 4, 2013, Plaintiff purchased a new 2013 Toyota Corolla Matrix (the "Class Vehicle") from John Elway's Crown Toyota, an authorized Toyota dealership located in Ontario, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

159. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at John Elway's Crown Toyota.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the

investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

160. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota

Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

c. Samuel Choc

161. Plaintiff Samuel Choc ("Plaintiff") is an individual residing in Miami, Florida. On or around October 18, 2012, Plaintiff purchased a new 2013 Toyota Tacoma (the "Class Vehicle") from South Dade Toyota, an authorized Toyota dealership located in Homestead, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

162. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Toyota's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the website.

b. At South Dade Toyota on the day he purchased the Class Vehicle, Plaintiff saw Toyota marketing materials, which included among other things, representations and statements

indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the Toyota marketing materials distributed in the United States. The brochure was given to Plaintiff by a salesperson at South Dade Toyota.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

163. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the

ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

d. Tatiana Gales

164. Plaintiff Tatiana Gales ("Plaintiff") is an individual residing in Miami, Florida. On or around July 18, 2015, Plaintiff purchased a new 2015 Toyota Corolla (the "Class Vehicle") from South Dade Toyota, an authorized Toyota dealership located in Homestead, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

165. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at South Dade Toyota.

b. At South Dade Toyota on the day she purchased the Class Vehicle, Plaintiff saw a Toyota brochure, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of Toyota brochures distributed in the United States. The brochure was given to Plaintiff by a salesperson at South Dade Toyota.

c. Plaintiff saw representations and statements on Toyota's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to her purchase decision. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the website.

d. Plaintiff viewed and heard commercials for the Class Vehicle. Plaintiff is not personally aware of which particular Toyota entity is responsible for advertising. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the advertising.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and

had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

f. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

166. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the

Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

e. Gary Samouris

167. Plaintiff Gary Samouris ("Plaintiff") is an individual residing in Las Vegas, Nevada. On or around July 28, 2018, Plaintiff purchased a new 2018 Toyota Tacoma (the "Class Vehicle") from Findlay Toyota, an authorized Toyota dealership located in Henderson, Nevada. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

168. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Toyota's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the website.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a

salesperson at Findlay Toyota. Prior to him deciding to purchase the Class Vehicle, Plaintiff and the salesperson spoke about the Class Vehicle and its safety features.

c. At Findlay Toyota on the day he purchased the Class Vehicle, Plaintiff reviewed and relied on marketing documents provided to him by a salesperson at Findlay Toyota, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of Toyota marketing materials distributed in the United States.

d. Plaintiff saw and heard Toyota commercials through radio, television, and the internet that touted the safety, quality, and reliability of the Class Vehicle. Plaintiff is not personally aware of which particular Toyota entity is responsible for the Toyota commercials he saw. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the television advertising.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

f. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or

flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

169. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

f. Michael Hines

170. Plaintiff Michael Hines ("Plaintiff") is an individual residing in Gainesville, Florida. On or around October 11, 2013, Plaintiff purchased a used 2012 Toyota Tundra (the "Class Vehicle") from Scenic Chevrolet located in West Union, South Carolina. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

171. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Toyota's website indicating that Toyota-branded vehicles, including the Tundra are safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, TMS was responsible for the content of the website.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Scenic Chevrolet. Plaintiff spoke with the salesperson about the safety and reliability of the Class Vehicle.

c. On the day he purchased the Class Vehicle, Plaintiff was given Toyota marketing materials, which included among other things, representations and statements indicating that the Class Vehicle

was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, TMS was responsible for the content of Toyota brochures distributed in the United States. The Toyota marketing materials were given to him by a salesperson at Scenic Chevrolet.

d. Plaintiff conducted online research on the Class Vehicle, including on Edmunds, Car & Driver, and Google. Plaintiff read reviews about the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle was affected by the Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

e. Plaintiff saw and heard Toyota commercials for the Class Vehicle that touted the safety of the Class Vehicle, among other things. Plaintiff is not personally aware of which particular Toyota Entity is responsible for advertising. Based upon the investigation of Plaintiffs' counsel, TMS was responsible for the content of the television advertising.

f. Plaintiff recalls reviewing in-vehicle airbag label safety language immediately prior to his purchase. The label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, TMC was responsible for the in-vehicle airbag label safety language.

g. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light

conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, TMC, ZF ASE, ZF PSS, and ZF Automotive US Inc. had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

172. TMC, TMNA, TEMA, TMS, ZF ASE, ZF PSS, ZF Automotive US Inc., ZF TRW Automotive Holdings Corp., ST Inc., ST SDN BHD, and ST S.r.l. concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of TMC, TMNA, TEMA, TMS, ZF ASE, ZF PSS, ZF Automotive US Inc., ZF TRW Automotive Holdings Corp., ST Inc., ST SDN BHD, and ST S.r.l.'s misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if TMC, TMNA, TEMA, TMS, ZF ASE, ZF PSS, ZF Automotive US Inc., ZF TRW Automotive Holdings Corp., ST Inc., ST SDN BHD, and ST S.r.l. did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

g. Brent DeRouen

173. Plaintiff Brent DeRouen ("Plaintiff") is an individual residing in Spring, Texas. On or around June 7, 2016, Plaintiff purchased a new 2016 Toyota Tundra (the "Class Vehicle") from Philpott Toyota, an authorized Toyota dealership located in Nederland, Texas. At the time Plaintiff acquired the Class

Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

174. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Philpott Toyota.

b. Plaintiff also had positive experiences with Toyota-braded vehicles in the past and relied on those experiences in deciding to purchase the Class Vehicle.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF

Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

175. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

h. Danny Hunt

176. Plaintiff Danny Hunt ("Plaintiff") is an individual residing in Mathis, Texas. On or around January 1, 2018, Plaintiff purchased a used 2014 Toyota Tacoma (the "Class Vehicle") from Mike Shaw Toyota, an authorized Toyota dealership located in Robstown, Texas. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-

functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

177. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Mike Shaw Toyota. Plaintiff spoke with the salesperson about the Class Vehicle's safety features.

b. Plaintiff conducted online research about the Class Vehicle. Plaintiff read reviews online about it. Plaintiff also specifically ran internet searches about the Class Vehicle's airbag system. It was his first time purchasing a vehicle with side airbags, so Plaintiff wanted to know more about all of the airbags that came equipped in the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. Plaintiff recalls reviewing the in-vehicle airbag label safety language immediately prior to his purchase. The label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or

flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

178. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ZF Germany, ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

i. Evan Green

179. Plaintiff Evan Green ("Plaintiff") is an individual residing in Dallas, Texas. On or around September 15, 2015, Plaintiff purchased a used 2015 Toyota Tacoma (the "Class Vehicle") from Toyota of Dallas, an authorized Toyota dealership located in Dallas, Texas. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

180. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Toyota's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. When visiting Toyota's website, Plaintiff utilized the "Build Your Own" feature. When building his Class Vehicle, Plaintiff reviewed and relied on the description of the Class Vehicle's specifications and options, including its safety options. The ACU Defect was not disclosed as part of the Class Vehicle's specifications and options. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the website.

b. Plaintiff saw and heard Toyota commercials that touted the Class Vehicle as safe, dependable, and reliable. Plaintiff is not

personally aware of which particular Toyota entity is responsible for the Toyota commercials he saw. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the television advertising.

c. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Toyota of Dallas. Prior to deciding to purchase the Class Vehicle, the salesperson informed Plaintiff that the Class Vehicle was safe and reliable.

d. Plaintiff recalls reviewing the Monroney sticker immediately prior to his purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker.

e. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

181. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF

TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

j. Joy Davis

182. Plaintiff Joy Davis ("Plaintiff") is an individual residing in Salem, Oregon. On or around May 15, 2014, Plaintiff purchased a new 2014 Toyota Corolla (the "Class Vehicle") from Universal Toyota, an authorized Toyota dealership located in San Antonio, Texas. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

183. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Toyota's website about the Class Vehicle. Plaintiff is not personally aware of which particular Toyota entity is responsible for these representations and statements because Plaintiff interfaces with Toyota as a brand. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the website.

b. Plaintiff also researched the Class Vehicle on Universal Toyota's website. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. Plaintiff also had positive experiences with Toyota-branded vehicles in the past and relied on those experiences in deciding to purchase the Class Vehicle.

d. Plaintiff recalls reviewing the Monroney sticker immediately prior to her purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker.

e. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the

airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

184. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

k. Dee Roberts

185. Plaintiff Dee Roberts ("Plaintiff") is an individual residing in Raymond, Washington. On or around September 27, 2013, Plaintiff purchased a new 2013 Toyota Avalon (the "Class Vehicle") from Toyota of Olympia, an authorized Toyota dealership located in Olympia, Washington. At the time Plaintiff

acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

186. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Toyota of Olympia. Plaintiff spoke with the salesperson about the Class Vehicle's safety features.

b. Plaintiff saw and heard Toyota commercials that touted the safety of Toyota-branded vehicles. Plaintiff is not personally aware of which particular Toyota entity is responsible for the Toyota commercials she saw. Based upon the investigation of Plaintiffs' counsel, Toyota Sales USA was responsible for the content of the television advertising.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Toyota USA and Toyota Sales USA were jointly responsible for the content of the Monroney sticker, and Toyota Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag

system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

187. Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

4. Honda Plaintiffs

a. Sigfredo Rubio

188. Plaintiff Sigfredo Rubio ("Plaintiff") is an individual residing in Birmingham, Alabama. On or around May 4, 2015, Plaintiff purchased a new 2015 Acura TLX (the "Class Vehicle") from McConnell Honda, an authorized Honda dealership located in Montgomery, Alabama. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

189. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Honda's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Honda entity is responsible for these representations and statements because Plaintiff interfaces with Honda as a brand. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the website.

b. Plaintiff saw and heard Acura television and radio commercials that touted the the Class Vehicle's safety, among other things. Plaintiff is not personally aware of which particular Honda entity is responsible for television advertising. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the television and radio advertising.

c. At McConnell Honda on the day he purchased the Class Vehicle, Plaintiff saw a Honda brochure, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of Honda brochures distributed in the United States. The brochure was given to Plaintiff by a salesperson at McConnell Honda.

d. On the day he visited McConnell Honda to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at McConnell Honda. The salesperson and Plaintiff specifically spoke about the safety of the Class Vehicle.

e. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker, and Honda Japan was responsible for the in-vehicle airbag label safety language.

f. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF

Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

190. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

b. Kevin Burns

191. Plaintiff Kevin Burns ("Plaintiff") is an individual residing in Antioch, California. On or around June 14, 2013, Plaintiff purchased a new 2013 Honda Civic Hybrid (the "Class Vehicle") from Walnut Creek Honda, an authorized Honda dealership located in Walnut Creek, California. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of

knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

192. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Honda's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff recalls reviewing information about the Class Vehicle's driver and front passenger airbags, front collision warning, and a backup camera. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Honda entity is responsible for these representations and statements because Plaintiff interfaces with Honda as a brand. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the website.

b. On the day he visited Walnut Creek Honda to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Walnut Creek Honda. The salesperson and Plaintiff spoke prior to him deciding to purchase the Class Vehicle about the Class Vehicle's safety features, its warranty, and its fuel efficiency. Plaintiff also visited other authorized Honda dealerships while researching the Class Vehicle.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the

investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker, and Honda Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

193. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST

Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

c. Paul Huitzil

194. Plaintiff Paul Huitzil ("Plaintiff") is an individual residing in Bridgeport, Connecticut. On or around October 19, 2015, Plaintiff purchased a used 2013 Honda Accord (the "Class Vehicle") from Honda of Westport, an authorized Honda dealership located in Westport, Connecticut. The Class Vehicle was totaled in an accident where the airbags did not deploy on or around June 3, 2019. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

195. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. In the days prior to, and on the day he visited Honda of Westport to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle's quality and features, made by a salesperson there.

b. Plaintiff conducted online research about the Class Vehicle. He reviewed Consumer Reports, brochures, and information from J.D. Power that the vehicle was safe, reliable, and cost efficient for repairs. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle was affected by the Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The Monroney sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker, and Honda Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. During that test drive, Plaintiff saw the in-vehicle airbag labeling. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

196. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA,

Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

d. Fredericka McPherson

197. Plaintiff Fredericka McPherson ("Plaintiff") is an individual residing in Riverview, Florida. On or around December 10, 2015, Plaintiff purchased a used 2013 Honda Accord (the "Class Vehicle") from Westshore Honda (previously known as Kuhn Honda), an authorized Honda dealership located in Tampa, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

198. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she visited Westshore Honda to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Westshore Honda. Plaintiff and the salesperson had conversations about the Class Vehicle and the Class Vehicle's safety features. The salesperson did not mention any problems or service issues reported by other

customers related to the Class Vehicle's airbags, seatbelt, or ACU.

b. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker, and Honda Japan was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

199. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA,

Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

e. Brian Chaiken

200. Plaintiff Brian Chaiken ("Plaintiff") is an individual residing in Palmetto Bay, Florida. On or around March 15, 2015, Plaintiff purchased a used 2013 Honda CR-V (the "Class Vehicle") from Braman Honda, an authorized Honda dealership located in Miami, Florida. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

201. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Honda's website indicating that Honda-branded vehicles are safe and have properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Honda entity is responsible for these representations and statements because Plaintiff interfaces with Honda as a brand. Based upon the

investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the website. Plaintiff also reviewed Braman Honda's website, which offered brochures regarding new and used Honda vehicles.

b. At Braman Honda on the day he purchased the Class Vehicle, Plaintiff saw a Honda brochure, which included among other things, representations and statements indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of Honda brochures distributed in the United States. The brochure was given to Plaintiff by a salesperson at Braman Honda.

c. On the day he visited Braman Honda to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Braman Honda. Plaintiff and the salesperson discussed the airbags as a safety feature. Plaintiff relied on these statements, as he needed this vehicle to drive around his four kids, and as such safety was a top priority for Plaintiff.

d. Plaintiff conducted online research on Kelly Blue Book's website and other websites that had information regarding the quality, safety, and value of the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

e. Plaintiff saw and heard Honda commercials that touted the features of the Class Vehicle. Plaintiff is not personally aware of

which particular Honda entity is responsible for the Honda commercials he saw. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the television advertising.

f. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker, and Honda Japan was responsible for the in-vehicle airbag label safety language.

g. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

202. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through

discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

f. Ravichandran Namakkal

203. Plaintiff Ravichandran Namakkal ("Plaintiff") is an individual residing in Ozone Park, New York. On or around May 31, 2014, Plaintiff purchased a new 2014 Honda Civic (the "Class Vehicle") from Hillside Honda, an authorized Honda dealership located in Queens, New York. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

204. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Honda's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Honda entity is responsible

for these representations and statements because Plaintiff interfaces with Honda as a brand. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the website.

b. Plaintiff conducted online research on the Class Vehicle. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. On the day he visited Hillside Honda to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson there. Plaintiff and the salesperson discussed the features of the Class Vehicle, including its safety features and technology in the dashboard that would indicate with the light if there was an issue with the airbags or tire pressure in the Class Vehicle.

d. Plaintiff recalls reviewing the Monroney sticker immediately prior to his purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker.

e. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based

upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

205. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

g. Tonya McNeely

206. Plaintiff Tonya McNeely ("Plaintiff") is an individual residing in Mooresville, North Carolina. On or around August 6, 2015, Plaintiff purchased a used 2012 Honda Civic (the "Class Vehicle") from Honda of Concord, an authorized Honda dealership located in Concord, North Carolina. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the

Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

207. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff recalls reviewing the Monroney sticker immediately prior to her purchase. The sticker indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the Monroney sticker.

b. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

208. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form

of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

h. Angela Bowens

209. Plaintiff Angela Bowens ("Plaintiff") is an individual residing in Dallas, Texas. On or around May 17, 2015, Plaintiff purchased a new 2015 Honda Civic (the "Class Vehicle") from John Eagle Honda of Dallas, an authorized Honda dealership located in Dallas, Texas. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

210. In the weeks leading up to her purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she visited John Eagle Honda of Dallas to purchase the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson there.

b. Plaintiff saw and heard Honda commercials that touted the safety of Honda-branded vehicles, among other things. Plaintiff is not personally aware of which particular Honda entity is

responsible for advertising. Based upon the investigation of Plaintiffs' counsel, Honda USA was responsible for the content of the commercials.

c. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of her purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

211. Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST

Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

5. Mitsubishi Plaintiffs

a. Tiffany Ecklor

212. Plaintiff Tiffany Ecklor ("Plaintiff") is an individual residing in Hesperia, California. On or around July 5, 2013, Plaintiff leased a new 2013 Mitsubishi Outlander (the "Class Vehicle") from Victorville Mitsubishi, an authorized Mitsubishi dealership located in Victorville, California. Plaintiff purchased the Class Vehicle at the end of the lease term in or around February 7, 2018. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

213. In the weeks leading up to her lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. On the day she visited Victorville Mitsubishi to lease the Class Vehicle, Plaintiff spoke with a salesperson about the Class Vehicle's features, including its safety features.

b. Plaintiff recalls reviewing the in-vehicle airbag label safety language immediately prior to her lease. The label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Mitsubishi Japan was responsible for the in-vehicle airbag label safety language.

c. Plaintiff test drove the Class Vehicle before leasing it. At no time prior to or at the time of her lease did the airbag warning

> light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

214. Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased the Class Vehicle, or would have paid less for it, if Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

b. Gaylynn Sanchez

215. Plaintiff Gaylynn Darling (Sanchez)[7] ("Plaintiff") is an individual residing in La Mirada, California. On or around July 31, 2015, Plaintiff leased a new 2015 Mitsubishi Lancer (the "Class Vehicle") from Cerritos Mitsubishi, an authorized Mitsubishi dealership located in Cerritos, California. Plaintiff purchased the Class Vehicle at the end of the lease term on or around July 25, 2019. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

216. In the weeks leading up to her lease of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Mitsubishi's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to her lease decision. Plaintiff is not personally aware of which particular Mitsubishi entity is responsible for these representations and statements because Plaintiff interfaces with Mitsubishi as a brand. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the website.

b. On the day she leased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Cerritos Mitsubishi. Plaintiff and the salesperson discussed the Class Vehicle's safety features.

[7] Plaintiff Gaylynn Darling was previously known as Gaylynn Sanchez. Plaintiff's last name has changed due to marriage.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to her lease. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the Monroney sticker, and Mitsubishi Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before leasing it. At no time prior to or at the time of her lease did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

217. Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia,

and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have leased and then purchased the Class Vehicle, or would have paid less for it, if Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

c. Michael Nearing

218. Plaintiff Michael Nearing ("Plaintiff") is an individual residing in Parker, Colorado. On or around September 23, 2013, Plaintiff purchased a new 2014 Mitsubishi Lancer (the "Class Vehicle") from Quality Mitsubishi, an authorized Mitsubishi dealership located in Littleton, Colorado. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

219. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Mitsubishi's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Mitsubishi entity is responsible for these representations and statements because Plaintiff interfaces with Mitsubishi as a brand. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the website.

b. On the day he purchased the Class Vehicle, Plaintiff spoke with and relied on statements about the Class Vehicle made by a salesperson at Quality Mitsubishi. Plaintiff and the salesperson discussed the Class Vehicle's safety features.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the Monroney sticker, and Mitsubishi Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

220. Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the

advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

d. John Sancomb

221. Plaintiff John Sancomb ("Plaintiff") is an individual residing in West Bend, Wisconsin. On or around September 19, 2014, Plaintiff purchased a used 2013 Mitsubishi Lancer Sportback (the "Class Vehicle") from Heiser Chevrolet West Bend located in West Bend, Wisconsin. At the time Plaintiff acquired the Class Vehicle, Plaintiff had a reasonable expectation that the Class Vehicle had properly-functioning airbags and seatbelts, and Plaintiff had no way of knowing that the Class Vehicle contained a defective ACU and ASIC that could cause the airbags and seatbelts to fail during a crash.

222. In the weeks leading up to his purchase of the Class Vehicle, Plaintiff reviewed and relied on numerous statements and representations about it.

a. Plaintiff saw representations and statements on Mitsubishi's website indicating that the Class Vehicle was safe and had properly-functioning airbags and seatbelts. The Class Vehicle's safety features were important to his purchase decision. Plaintiff is not personally aware of which particular Mitsubishi entity is

responsible for these representations and statements because Plaintiff interfaces with Mitsubishi as a brand. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the website.

b. Plaintiff conducted online research by looking up the Class Vehicle online at Kelly Blue Book and Carfax. Because Defendants failed to disclose the ACU Defect, Plaintiff's research did not show that the Class Vehicle contained the ACU Defect, and instead indicated that the Class Vehicle was safe and had properly-functioning airbags and seatbelts.

c. Plaintiff recalls reviewing the Monroney sticker and in-vehicle airbag label safety language immediately prior to his purchase. The sticker and label indicated the Class Vehicle was safe and had properly-functioning airbags and seatbelts. Based upon the investigation of Plaintiffs' counsel, Mitsubishi USA was responsible for the content of the Monroney sticker, and Mitsubishi Japan was responsible for the in-vehicle airbag label safety language.

d. Plaintiff test drove the Class Vehicle before purchasing it. At no time prior to or at the time of his purchase did the airbag warning light on the Class Vehicle's dashboard illuminate or flash to indicate any issue with the Class Vehicle's airbag system. By not illuminating or flashing, the airbag warning light conveyed there were no problems with the system and that the airbag system would function properly during a crash. Based upon the investigation of Plaintiffs' counsel, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF

Automotive USA had joint responsibility for the failure of the airbag warning light to warn about the ACU Defect.

223. Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy concealed the existence of the ACU Defect from consumers like Plaintiff and NHTSA. Had they instead disclosed it before Plaintiff acquired the Class Vehicle, Plaintiff would have learned of the concealed information through, for example, the advertising channels described above or through discussions with the salesperson. Plaintiff has suffered a concrete injury in the form of an overpayment for the Class Vehicle as a result of Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy's misconduct, and did not receive the full benefit of the bargain in acquiring the Class Vehicle. Plaintiff would not have purchased the Class Vehicle, or would have paid less for it, if Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., ST USA, ST Malaysia, and ST Italy did not conceal material information regarding the Class Vehicle's safety and reliability, or the fact that it was equipped with a defective ACU and ASIC.

III. JURISDICTION AND VENUE

A. Subject Matter Jurisdiction

224. This Court has subject matter jurisdiction over this case pursuant to the Class Action Fairness Act, 28 U.S.C. § 1332(d), because members of the proposed Plaintiff Classes are citizens of states different from Defendants' home states, and the aggregate amount in controversy exceeds $5,000,000, exclusive of interest and costs.

225. This Court also has federal question jurisdiction under 28 U.S.C. § 1331 because Plaintiffs have claims under 18 U.S.C. § 1964 (RICO).

226. Furthermore, this Court has supplemental jurisdiction over Plaintiffs' state law claims under 28 U.S.C. § 1367.

B. Personal Jurisdiction over Domestic Defendants

227. The domestic Defendants are Hyundai USA, Kia USA, Toyota USA, Toyota Sales USA, Toyota Engineering USA, Honda USA, Honda Engineering USA, Mitsubishi USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., FCA, and ST USA.

228. As explained below, this Court has personal jurisdiction over all of these domestic Defendants for two basic reasons:

a. The domestic Defendants are based in California or a transferor jurisdiction and therefore general jurisdiction exists; and/or

b. California or a transferor jurisdiction has specific jurisdiction.

1. California Defendants

229. This Court has general jurisdiction over Hyundai USA, Kia USA, Toyota USA, Toyota Sales USA, Honda USA, and Mitsubishi USA because they are all California corporations. As the Court already ruled in its Order on Defendants' Motions to Dismiss (ECF 396 at 15, 28-29, 33, 35), the Court has general personal jurisdiction over these Defendants.

2. Michigan Defendants

230. This Court has general jurisdiction over ZF Passive Safety USA, ZF Automotive USA, ZF Electronics USA, ZF TRW Corp., and FCA because Michigan has general jurisdiction over each of these Defendants (due to the location of their headquarters in Michigan) and because the Judicial Panel for Multidistrict Litigation has transferred (and will continue to transfer in the future) all related cases from Michigan to this Court.

231. As the Court already ruled in its Order on Defendants' Motions to Dismiss (ECF 396 at 37, 45), the Domestic ZF Defendants and FCA are subject to

general jurisdiction in Michigan, and the Court can therefore exercise personal jurisdiction over these Defendants based on Plaintiffs' claims against them in a member case in the Eastern District of Michigan, including the recently amended member case of *Barry Adams, et al. v. ZF Active Safety and Elecs. US LLC, et al.*, No. 20-cv-09668-JAK (C.D. Cal.), which was previously transferred to this MDL.

3. ST USA

232. This Court has specific jurisdiction over ST USA because Michigan has specific jurisdiction over ST USA and because the Judicial Panel for Multidistrict Litigation has transferred related cases from Michigan to this Court. As the Court already ruled in its Order on Defendants' Motions to Dismiss (ECF 396 at 51-56), the Court can exercise specific personal jurisdiction over ST USA for Plaintiffs' claims against ST USA in Michigan, which applies to member cases filed in the Eastern District of Michigan, including the recently amended member case of *Barry Adams, et al. v. ZF Active Safety and Elecs. US LLC, et al.*, No. 20-cv-09668-JAK (C.D. Cal.), which was previously transferred to this MDL.

233. Michigan has specific jurisdiction over ST USA because Plaintiffs' claims arise out of, or relate to, ST USA's conduct in Michigan. For example:

a. According to ZF Automotive USA, the Michigan office of ST USA was responsible for manufacturing the DS84 ASICs that are part of the defective DS84 ACUs. The address for this office is 19111 Victor Parkway, Livonia, Michigan 48150. Because the DS84 ASIC—including its vulnerability to EOS—is a critical part of the defective ZF ACU design, Plaintiffs' claims arise out of, or relate to, ST USA's Michigan activities.

b. Upon information and belief, employees of the ST USA Michigan office served as liaisons with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA on behalf of its

affiliates. Because the DS84 ASIC was a custom chip used only by these ZF companies and their affiliates, these liaison ST USA employees were responsible for providing customer support relating to the DS84 ASIC.

c. Several ST USA employees met with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA between 2005 and 2007 to discuss and establish the design of the DS84 ASICs. These ST USA employees included [redacted] At the time, these employees worked for ST USA out of ST USA's Michigan office.

d. [redacted]

4. Toyota Engineering USA

234. This Court has specific jurisdiction over Toyota Engineering USA based on its operation of the manufacturing plant Toyota Auto Body Company, Inc. (TABC) in Long Beach, California. Upon information and belief, Toyota vehicles with the defective DS84 ACUs were manufactured at this California facility. As the Court already found in its Order on Defendants' Motions to Dismiss (ECF 396 at 29), the Court can exercise personal jurisdiction over Toyota Engineering USA.

235. This Court also has specific jurisdiction over Toyota Engineering USA because consumers in California and the transferor jurisdictions bought Toyota vehicles equipped with DS84 ACUs that were made at other facilities operated by Toyota Engineering USA. Toyota Engineering USA intended for automobiles made in its other facilities to be sold in California and the transferor jurisdictions.

236. Furthermore, this Court has specific jurisdiction because Toyota Engineering USA placed orders for all DS84 ACUs for Toyota Class Vehicles with the Michigan-based ZF Electronics USA. Accordingly, Toyota Engineering USA's Michigan-direct conduct relates to Plaintiffs' claims, and the Michigan transferor courts have jurisdiction.

5. Honda Engineering USA

237. This Court has specific jurisdiction over Honda Engineering USA because consumers in California and the transferor jurisdictions bought Honda vehicles equipped with DS84 ACUs that were made by Honda Engineering USA. The company intended for its automobiles to be sold in California and the transferor jurisdictions. Indeed, the Court's Order on Defendants' Motions to Dismiss (ECF 396 at 33-34) already found that there is personal jurisdiction over two of Honda Engineering USA's predecessor companies that made the Honda Class Vehicles, Honda of America Mfg., Inc. and Honda R&D Americas, LLC.

238. This Court also has specific jurisdiction over Honda Engineering USA because Honda Engineering USA placed orders for all DS84 ACUs for Honda Class Vehicles with the Michigan-based ZF Electronics USA. Accordingly, Honda Engineering USA's Michigan-direct conduct relates to Plaintiffs' claims, and the Michigan transferor courts have jurisdiction.

C. Personal Jurisdiction Over Foreign Defendants

239. The foreign Defendants are ZF Germany, ST Italy, ST Malaysia, Hyundai Korea, Kia Korea, Hyundai Mobis, Honda Japan, and Mitsubishi Japan.

240. This Court has specific personal jurisdiction over these foreign Defendants pursuant to the long-arm statutes of California (Cal. Code Civ. Proc. § 410.10), Florida (Fla. Stat. §§ 48.193(1)), Alabama (Ala. R. Civ. P. 4.2), Michigan (Mich. Comp. Laws § 600.705), New York (N.Y. CPLR § 302), Washington (RCW § 4.28.185(1)(a)) and any other applicable jurisdiction.

241. In the alternative, should the Court find that any of the foreign Defendants did not have minimum contacts with any states sufficient for specific jurisdiction, the Court has personal jurisdiction under Rule 4(k) of the Federal Rules of Civil Procedure because Plaintiffs have pled a federal RICO claim and exercising jurisdiction is consistent with the United States Constitution, given the foreign Defendants' pervasive contacts with the United States and the fact that Plaintiffs' claims arise from, or relate to, transactions in the United States involving vehicles and vehicle parts designed and distributed by the foreign Defendants.

242. Furthermore, the Court has specific jurisdiction over each foreign Defendant pursuant to 18 U.S.C. 1965(a)-(b). First, each Plaintiff has alleged damages arising out of a single multidistrict RICO conspiracy implicating his or her Vehicle Manufacturer Defendant and the Supplier Defendants. Second, the court has personal jurisdiction over at least one of the participants in each alleged multidistrict conspiracy, because, as described above, the Court has jurisdiction over, *at the very least*, the Domestic ZF Defendants, ST USA, and the Domestic Vehicle Manufacturer Defendants. Third, there is no other district in which a court will have personal jurisdiction over all of the alleged co-conspirators in each multidistrict RICO conspiracy. *See* ECF 396 at 17.

243. As explained below, the foreign Defendants targeted consumers in each of the fifty states with advertising for the Class Vehicles; purposely availed themselves of commerce in the fifty states; controlled the design, distribution, and sale of either vehicles with defective DS84 ACUs or the ACUs themselves; and communicated with each other regarding the defective DS84 ACUs using mail and

wire in the United States. These contacts with the United States, California, and the transferor jurisdictions establish personal jurisdiction.

1. ZF Germany

244. Although ZF Germany is based in Europe, it is subject to the Court's specific jurisdiction because it has pervasive contacts with the United States and exerts substantial control over its domestic subsidiaries. ZF Germany had contacts with the United States to sell DS84 ACUs for vehicles in the U.S. market, and these contacts give rise, or relate, to Plaintiffs' claims.

a. ZF Germany's forum-related activities support the exercise of jurisdiction over ZF Germany.

245. As detailed further in Sections IV.F.2., IV.F.4., and IV.F.14, ZF Germany reviewed and approved several misleading presentations and written statements to NHTSA in the U.S. regarding the ACU Defect and crashes involving the Defect. ZF Germany gave approval necessary for the transmittal of these presentations and statements to NHTSA in the U.S., including those dated February 5, 2016, July 19, 2016, and March 8, 2018, all as part of a scheme to conceal the ACU Defect from NHTSA and the American public. These misleading statements to NHTSA in the U.S. give rise, or relate, to Plaintiffs' claims.

246. Furthermore, on information and belief, ZF Germany reviewed and approved several reports regarding ACU failures which were transmitted to at least one domestic vehicle manufacturer. For example, ZF Germany had a proprietary interest in the information contained in several reports transmitted to Toyota USA and Toyota Japan dated July 2, 2018, August 10, 2018, and September 18, 2018, regarding an ACU failure in a 2016 Toyota Auris that crashed in Portugal. These reports analyzed the malfunction of the DS84 ACU due to EOS and contain a legend that states: "© ZF Friedrichshafen AG, 2018." Given ZF Germany's

ownership interest in these reports, ZF Germany was aware of the contents of the reports and approved transmittal of the reports to Toyota USA and Toyota Japan.

247. Similarly, on November 14, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA created an "Analysis Report" about a DS84 ACU retrieved from a Toyota Auris that crashed in Morocco with no airbag deployment, which was then transmitted to Toyota USA and Toyota Japan. The November 14, 2018 Analysis Report has a legend attributing the copyright interest in the memo to ZF Friedrichshafen AG. Given ZF Germany's ownership interest in this report, ZF Germany was aware of the contents of the report and approved transmittal of the report to Toyota USA and Toyota Japan.

b. ZF AG exerts control over the Domestic ZF Defendants.

248. ZF Germany is a parent company that exerts substantial control over its U.S. subsidiaries headquartered in Michigan (ZF Electronics USA; ZF Passive Safety USA; ZF Automotive USA; and ZF TRW Corp.), collectively referred to herein as the "Domestic ZF Defendants." These domestic subsidiaries have forum-related contacts in the United States that give rise to the claims in this action, and those contacts are properly imputed onto ZF Germany for the purposes of establishing personal jurisdiction.

249. On information and belief, ZF Germany has authority over the Domestic ZF Defendants because it directly or indirectly owns and controls the voting power over the Domestic ZF Defendants.

250. On or around May 15, 2015, ZF Germany and its subsidiaries acquired ZF TRW Corp. (then known as TRW Automotive Holdings Corp.) and its subsidiaries. The purchase price was approximately $12 billion. ZF TRW Corp. was (and remains) an American corporation, headquartered in Michigan. The merger was the largest acquisition in ZF Germany's 100-year history. At the time, ZF Germany reported that "TRW Automotive Holdings Corp. . . . is almost as big

as ZF." Upon information and belief, ZF Germany's primary reasons for acquiring ZF TRW Corp. included its ties to the United States, its history and standing in the United States automotive industry, and the know-how of its United States personnel. ZF Germany's sales in North America make up a significant portion of the company's business. According to ZF Germany's 2021 annual report, North America accounted for 27% of the company's sales.

251. Upon information and belief, since the merger, ZF Germany has had the power to appoint board members to all the Domestic ZF Defendants. It has exercised this power to appoint board members to these subsidiaries that it believes will manage the subsidiaries with the principal goal of benefiting ZF Germany. For example, after ZF Germany acquired ZF TRW Corp. and its subsidiaries, Dr. Franz Kleiner, a member of ZF Germany's Board of Management, took over responsibility for the acquired company. After Dr. Kleiner retired, ZF Germany appointed Dr. Martin Fischer as his replacement on the ZF Board of Management, who took over responsibilities including active and passive safety systems and the North America Region.

252. Following the May 15, 2015 acquisition of ZF TRW Corp., ZF Germany exercised significant control over the day-to-day operations of the Domestic ZF Defendants in the United States. ZF Germany's control over the day-to-day operations of the domestic subsidiaries is evident from the fact that, Dr. Fischer—the member of ZF Germany's Board of Management who is also the president of ZF North America, Inc.—is permanently based in Michigan.

253. ZF Germany's 2015 Annual Report describes its efforts to integrate TRW:

> To ensure the top quality of our products and services at economic costs, ZF is generating new synergies through the integration of ZF TRW: Knowledge sharing and the further development of common standards will improve the quality of our products even further. Materials procurement of the two

> companies is also being merged – with positive repercussions for the cost structure. . . .
>
> A common objective of the Supervisory Board and the Board of Management to ensure long-term success is the sustainable further development of the ZF Group based on the requirements for new technologies in an increasingly dynamic market. The pooling of the Group's e-mobility activities in the new E-Mobility Division, ZF's acquisition of Bosch Rexroth's industrial drives segment and, above all, the successful integration of ZF TRW play a major role here. The Supervisory Board will closely follow the further development of these activities. The know-how of ZF TRW, incorporated into the new Active & Passive Safety Technology Division, opens up new opportunities for ZF to actively shape both the safety and automated driving megatrends. The process and structure of ZF TRW's integration as well as the adapted ZF management concept were regularly deliberated by the Board . . .
>
> The members of the Board of Management are assigned directly to the six divisions as well as to the ZF Services Business Unit. The same applies to the responsibilities with regard to the Regions of North America, South America and Asia-Pacific. The Group structure with six divisions is aligned with the market and customers. . . .
>
> The Active & Passive Safety Technology Division has been managing the business activities of the acquired company TRW Automotive Holdings Corp. since May 15, 2015. It includes the following business units: Braking Systems, Steering Systems, Commercial Steering Systems, Occupant Safety Systems, Electronics, Body Control Systems, Engineered Fasteners & Components and Parts & Service.

254. ZF Germany integrated its physical locations with ZF TRW Corp. and its subsidiaries. For example, in the year after ZF Germany acquired ZF TRW Corp., ZF Germany's CEO Stefan Sommer stated in an interview that the company was re-aligning its North American activities and bringing the businesses together

"under one roof" in the former TRW headquarters in Livonia, Michigan. ZF Germany already had a significant presence in the United States before acquiring TRW Automotive Holdings Corp. and its subsidiaries. As of 2013, ZF Germany and its subsidiaries had about 3,700 employees in the United States, including roughly 1,000 employees at three facilities in Michigan.

255. ZF Germany has a common pattern and practice of describing itself, ZF TRW Corp., and ZF TRW Corp.'s subsidiaries as a single, unified entity. After the 2015 acquisition, for example, TRW Automotive's business activities were described as continuing as a "division" of ZF—the ZF Active and Passive Safety Technology division. In 2017, Dr. Kleiner reiterated the unified nature of the companies while explaining that the TRW named would be retired because integration was complete: "Now we believe the public, and employees, understand and identify with this organization as a combined company under ZF." A March 2018 letter from ZF Germany CEO Wolf-Henning Scheider similarly highlights the unified nature of ZF Germany, ZF TRW Corp., and ZF TRW Corp.'s subsidiaries: "An important operational highlight to mention is the integration of TRW into the ZF Group. The new ZF brand image unveiled for the first time at IAA 2017 makes the merging of the two companies also apparent to the public. ZF is now 'one company'."

256. A March 2018 letter from Franz-Josef Paefgen, Chairman of the ZF Germany supervisory board states:

> A key component of [the ZF 2025 Strategy], namely the integration of TRW Automotive Holding Corp, acquired in May 2015, was essentially complete by the end of the fiscal year [2017] with merged corporate functions, a unified identity and the remaining activities transferred into the line organization. Since the beginning of 2017, the service activities of ZF and TRW have been successfully brought together into one organization, 'ZF Aftermarket'.

This statement further exemplifies ZF Germany's common pattern and practice of

describing itself, ZF TRW Corp., and ZF TRW Corp.'s other U.S. affiliates as a single, unified entity.

257. ZF Germany's 2017 Annual Report states:

> In order to ensure the company's long-term success, corporate social responsibility has to be assumed and business activities must be managed responsibly, sustainably and with integrity. With its effective Compliance Management System (CMS) that was further developed in 2017, ZF has taken this responsibility to heart. The ZF and ZF TRW compliance areas were merged on July 1, 2017. In the course of the integration, the legal and compliance organizations of the ZF Group were also merged. The Board Member for Human Resources and Governance is now responsible for them.

Based on this statement and upon information and belief, ZF Germany controls and develops the policies for the senior executives of the merged compliance, human resources, and governance functions of all the Domestic ZF Defendants.

258. ZF Germany's companywide compliance guide dated July 2018 states:

> Product compliance is an important priority for ZF. ZF holds itself to the highest standards of legal and ethical conduct and is committed to making high quality products that are safe and comply with applicable laws, regulations, and standards. These principles are implemented through ZF's policies, processes and structures, and all ZF employees are held to these standards.

Upon information and belief, ZF Germany distributed the compliance guide to all the Domestic ZF Defendants and was responsible for enforcing (and failing to enforce) it.

259. Based on these statements by ZF Germany and upon information and belief, ZF Germany was actively involved in monitoring the global field incidents involving EOS in DS84 ACUs, whether the DS84 ACUs complied with safety standards in the United States, and the legal risks arising from those ACUs.

260. Furthermore, upon information and belief, ZF Germany controlled all ZF-branded company communications relating to the defective DS84 ACUs following its acquisition of TRW in 2015. For example, in connection with the partial recalls of the defective ACUs between 2016 and 2020 and NHTSA's investigation into the ACUs, ZF Germany, along with other ZF Defendants, prepared various slide deck presentations for NHTSA and the Vehicle Manufacturer Defendants, which all contain copyright marks identifying ZF Germany as the owner of the materials. Based on this copyright mark, ZF Germany's consent was required to send the presentations to NHTSA in the U.S. and/or the Vehicle Manufacturer Defendants, and ZF Germany provided consent. Accordingly, ZF Germany had final approval over the statements contained in those presentations.

c. Because of ZF Germany's control over the Domestic ZF Defendants, the forum-related activities of the Domestic ZF Defendants support the exercise of jurisdiction over ZF Germany.

261. The Domestic ZF Defendants—which were substantially controlled by ZF Germany—were actively involved in the activities at issue in this litigation.

262. ZF Electronics USA placed the DS84 ACUs in the stream of commerce with the expectation and intent that it would benefit from the use and sale in the transferor jurisdiction, and it reaped the benefits of selling millions of units in these jurisdictions. Indeed, a Senior Technical Specialist for ZF Electronics USA admitted that ZF Electronics USA designed, manufactured, and distributed the DS84 ACUs. *See* ECF 209-4, ¶ 4.

263. Furthermore, ZF Automotive USA (formerly TRW Automotive Inc.) is a manufacturer of the DS84 ACUs at issue in this litigation and a direct parent of ZF Passive Safety USA and ZF Electronics USA. On information and belief, ZF

Passive Safety USA was also directly involved in the manufacture and design of the DS84 ACU.

264. Additionally, the Domestic ZF Defendants had an active role in the Vehicle Manufacturer Defendants' and NHTSA's investigation of the ACU defect, as well as the concealment of that defect in every state. A Senior Technical Specialist for ZF Electronics USA confirmed that the Domestic ZF Defendants "are responsible for communicating with NHTSA concerning purported electrical overstress issues in the ACUs," and "have also made certain filings with NHTSA related to the ACUs," including a Part 573 Safety Recall Report that was part of a recall targeted at Class Vehicles in every state.

265. As alleged throughout this Complaint, the Domestic ZF Defendants were also directly involved in investigating crashes in Class Vehicles throughout the U.S., including in California, Florida, and Arizona. Despite the nationwide scope of ACU Defect, the Domestic ZF Defendants concealed this dangerous defect from consumers and NHTSA in the U.S. and conspired with the Vehicle Manufacturer Defendants to exclude Class Vehicles from recalls and provide inadequate recall remedies.

266. The existence of the ACU defect is a material fact that would have affected each Plaintiff's decision to acquire the Class Vehicle in each jurisdiction. The Domestic ZF Defendants' concealment of the ACU Defect therefore gives rise, or relates, to Plaintiffs' claims.

2. ST Italy

267. Although based in Italy, ST Italy has substantial activities directed at the United States, and those activities give rise, or relate, to Plaintiffs' claims.

268. For the reasons explained below, the transferor court in the Eastern District of Michigan has specific jurisdiction over ST Italy.

269. During the relevant period, ST Italy purposefully availed itself of the United States' legal protections by registering and maintaining registrations with the United States government for trademarks associated with its semiconductors and electronic chips, which ST Italy used to identify and distinguish its parts in the United States, this District, and the transferor jurisdictions.

270. During the relevant period, ST Italy also purposefully availed itself of the United States' legal protections by filing numerous patents with the United States Patent and Trademark Office associated with its semiconductors and electronic chips.

271. Upon information and belief, ST Italy participated in the preparation of a response to a Request for Quotation that ZF Electronics USA sent to several chip manufacturers in December 2004. This response led to the selection of the DS84 ASIC as the ASIC that would be installed in ZF ACUs in vehicles in the United States. When ST Italy participated in the preparation of this response, it knew and intended that the response would be sent to ZF Electronics USA employees in Michigan.

272. Following this solicitation of business from Michigan, ST Italy invited several Michigan-based employees to Italy for meetings about the design of the DS84 ASIC. Between 2005 and 2008, Michigan-based employees met with well over a dozen technical specialists employed by ST Italy. The two companies agreed on a design for the DS84 ASIC. Based on the agreed design, ST Italy knew the DS84 ASIC was a custom chip made only for ZF Electronics USA and other affiliates owned by ZF TRW Corp. Accordingly, ST Italy purposely directed its engineering and design expertise with the intention of affecting commerce in the United States—specifically, the shipment of ASICs and the manufacture of ACUs.

273. Between 2004 and 2008, ST Italy worked closely with ST USA's Michigan-based employees, who served as liaisons for ST Italy's relationship with ZF Electronics USA and ZF Passive Safety USA.

274. ST Italy did not just have an incidental role in placing the DS84 ASIC into the stream of commerce. Instead, ST Italy designed the DS84 ASIC as a custom chip for ZF Electronics USA. Upon information and belief, when ST Italy performed this work, it knew the DS84 ASIC was designed exclusively for the use in ACUs designed by ZF Electronics USA, and would be used in vehicles sold in the United States.

275. [redacted]

277. Because ST Italy's design and quality assurance work for the DS84 ASICs centered on Michigan—the headquarters of the only company that used the DS84 ASIC—this work had the necessary minimum contact with Michigan and gives rise, or relates, to Plaintiffs' claims.

3. ST Malaysia

278. Although based in Malaysia, ST Malaysia has substantial activities directed at the United States, and those activities give rise, or relate, to Plaintiffs' claims.

279. As explained below, ST Malaysia directly shipped millions of DS84 ASICs to the Los Angeles area. Because Plaintiffs' claims arise out of, or relate, to these shipments (which were essential to the delivery of Class Vehicles with the ACU Defect), the transferor courts in this District have specific jurisdiction over ST Malaysia.

280. During the relevant period, ST Malaysia purposefully availed itself of the United States' legal protections by filing patents with the United States Patent and Trademark Office associated with its semiconductors and electronic chips.

281. According to hundreds of invoices produced by ST USA, the DS84 ASICs are "assembled in Malaysia." Upon information and belief, ST Malaysia manufactured the DS84 ASIC for vehicles sold in the United States.

282. Upon information and belief, ST Malaysia shipped the vast majority of the DS84 ASICs installed in the Class Vehicles to ST USA's distribution center in the Los Angeles area, also known as the "STMicro LAX HUB." During part of the relevant time period, the STMicro LAX HUB was located at 18120 Bishop Ave, Carson, California. For the remainder of the relevant period, the STMicro LAX HUB was located at 19600 Western Avenue, Torrance, California.

283. After ST Malaysia shipped the DS84 ASICs to ST USA in California, ST USA shipped them to ZF Electronics USA's plant in Marshall, Illinois, where ZF Electronics USA manufactured the DS84 ACUs.

284. Upon information and belief, ST Malaysia knew that all DS84 ASICs were made exclusively for ZF Electronics USA because the DS84 ASIC was a custom ASIC not used by any other ACU manufacturer.

[redacted]

[redacted]

4. Hyundai Korea, Kia Korea, and Hyundai Mobis

288. Although Hyundai Korea, Kia Korea, and Hyundai Mobis are based in South Korea, the Court has specific jurisdiction over them based on their pervasive contacts with the United States. These foreign Defendants' contacts with the United States are all in furtherance of sales and leases of Hyundai-Kia vehicles in the United States, which gives rise, or relates, to Plaintiffs' claims.

289. The Hyundai-Kia Defendants are an intertwined group of entities with overlapping roles and responsibilities. Hyundai Korea and Kia Korea are tightly affiliated, so much so that they often hold themselves out to be part of the same joint entity—the Hyundai-Kia Motor Company. Hyundai Mobis is the primary parts supplier and manufacturer for the Hyundai-Kia Motor Company, and forms the third leg of the "Hyundai Motor Group." As relevant for this litigation, each of these Defendants was involved with the issues related to the defective DS84 ACUs in Hyundai and Kia Class Vehicles.

290. Hyundai Korea and Kia Korea share many key executives. For example, Eui-Sun Chung is the Chairman of both Hyundai Korea and Kia Korea, as well as the chairman of Hyundai Motor Group.

291. The services rendered by Hyundai USA and Kia America for the foreign Hyundai-Kia Defendants are so important to the foreign Hyundai-Kia Defendants that they would perform those services themselves if Hyundai USA and Kia America did not exist. Hyundai Korea controls the public name and brand of Hyundai USA, whereas Kia Korea controls the public name and brand of Kia America. In consumer transactions, like those with Plaintiffs, Hyundai Korea's and Kia Korea's unified brands and logos serve as their and their subsidiaries' official seal and signature as to consumers. Additional allegations specifically regarding each of the foreign Hyundai-Kia Defendants are below.

a. Hyundai Korea

292. As this Court already ruled in its Order on Defendants' motions to dismiss (ECF 396 at 15-24), the Court has personal jurisdiction over Hyundai Korea through the federal long-arm statute, Fed. R. Civ. P. 4(k)(2), based on Hyundai Korea's forum-related activities from which this case arises, and the forum-related activities of Hyundai Korea's primary domestic subsidiary, Hyundai USA, which Hyundai Korea substantially controls.

i. Hyundai Korea's forum-related activities support the exercise of jurisdiction over Hyundai Korea.

293. Although a South Korea-based company, Hyundai Korea has substantial activities directed at the United States that give rise, or relate, to Plaintiffs' claims.

294. In a recent complaint to enforce its trademark rights, Hyundai Korea represented that it "currently designs, manufactures, markets, distributes, and sells a wide range of automobile and related automobile parts to over 190 countries throughout the world, including the United States, under the trademark 'Hyundai.'"

295. During the relevant period, Hyundai Korea purposefully availed itself of the United States' legal protections by registering and maintaining registrations

with the United States government for trademarks associated with its vehicles and parts, which Hyundai Korea used to identify and distinguish its vehicles and parts in the United States, this District, and transferor jurisdictions.

296. Hyundai Korea purposely availed itself of markets in the United States, selling more than 500,000 vehicles per year in this market through its domestic subsidiary, Hyundai USA. Specific to this litigation, Hyundai Korea coordinated with ZF Electronics USA and ZF Passive Safety USA to adapt the general design of the ACU with the DS84 for use in Hyundai Class Vehicles. Hyundai Korea signed off on the design of the DS84 ACUs used in the Hyundai Class Vehicles, granting their express approval to the faulty design.

297. Hyundai Korea manufactured over 1.75 million of the Class Vehicles, vehicles manufactured abroad and delivered to Hyundai USA for sale in the United States of America. Although Hyundai Korea made these Hyundai Class Vehicles in Korea, it specifically segregated them from other Hyundai vehicles that were intended for sale in other countries, placed certification labels on them that assured compliance with U.S. federal safety requirements, and ensured those Hyundai Class Vehicles shipped to the United States, with full knowledge that Hyundai USA would then distribute them across the United States. These certification labels give rise, or relate, to Plaintiffs' claims because they misleadingly suggested the Class Vehicles were safe and had properly-functioning airbags and seatbelts.

298. These Class Vehicles were not merely placed into a stream of commerce—they were directly targeted for the United States market. Hyundai USA certified that the vehicles complied with US safety requirements and ensured that they shipped directly to a wholly owned subsidiary responsible for distribution in the United States.

299. To enable access to this market, Hyundai Korea regularly submits applications to the EPA to obtain certification necessary for the sale of its vehicles in the United States.

300. In addition to obtaining emissions certifications, Hyundai Korea certified that the Hyundai Class Vehicles it designed and made met federal safety standards for sale in the United States.

301. Hyundai Korea affixed federal safety certification labels to the Hyundai Class Vehicles manufactured in Korea, and directly approved the same labels for Hyundai Class Vehicles manufactured in the United States, in each case knowing that they would be sold in the United States. The certification labels represented that the Hyundai Class Vehicles conformed to U.S. federal safety standards, thereby enabling the vehicles to be sold in all 50 states. These misleading certification labels give rise, or relate, to Plaintiffs' claims.

302. Hyundai Korea designed the Hyundai Class Vehicles to have clearly visible airbag readiness indicators, as required under 49 C.F.R. § 571.208 (S4.5.2), to communicate with vehicle occupants about the safety and operating status of the airbag system. These readiness indicators give rise, or relate to, Plaintiffs' claims because the readiness indicators in Hyundai-Kia Class Vehicles misleadingly communicated to consumers that the vehicles' passive safety system was "ready" to deploy during crashes.

303. While Hyundai Korea is South Korean company, it designed the Hyundai Class Vehicles to target U.S. consumers, and included prominent English language labels within the car cabin to alert the driver and passengers to the vehicle's airbag system. These misleading labels give rise, or relate, to Plaintiffs' claims.

304. Hyundai Korea played a key role in the Hyundai-Kia Defendants' analysis and decision-making relating to the defective DS84 ACUs in the United States. Multiple documents produced to NHTSA in the U.S. by the Hyundai-Kia Defendants are written in Korean. Upon information and belief, the use of Korean was necessary because employees of the Korean companies needed to review the information and approve the responses of the American subsidiaries.

305. Between October 2015 and July of 2016, the Domestic ZF Defendants met with Hyundai Korea, Kia Korea, and Hyundai Mobis in Korea at least four times to discuss the problems with DS84 ACUs in Hyundai-Kia Class Vehicles and what to tell NHTSA.

306. According to a document produced by ZF Automotive US Inc., Hyundai Korea returned a Hyundai Class Vehicle—specifically a 2016 Hyundai Sonata—due to a faulty ZF ACU that experienced EOS. This demonstrates Hyundai Korea's continuing interest in Class Vehicles after delivery to its primary domestic subsidiary, Hyundai USA.

ii. Hyundai Korea exerts control over Hyundai USA.

307. Hyundai Korea established a fully owned subsidiary, Hyundai USA, in the United States to target consumers in the United States. Hyundai Korea exercises control over Hyundai USA through several formal and informal mechanisms.

308. Upon information and belief, Hyundai Korea has the power to appoint board members to Hyundai USA. It has exercised this power to appoint board members to its subsidiaries that it believes will manage the subsidiaries with the principal goal of benefiting it.

309. Hyundai Korea reportedly maintains a "Global Command and Control Center" at its headquarters in Seoul, Korea. It has been reported that the Global Command and Control Center was modeled after the CNN newsroom in Atlanta, Georgia, with dozens of computer screens relaying video and data. From the Global Command and Control Center, Hyundai Korea controls Hyundai operations around the world, including those in the United States.

310. The Global Command and Control Center monitors every operating line at more than 27 plants in the world, in real time, 24 hours a day, 365 days a year. The production data is generated on the assembly lines and displayed on boards where team members can see it, and headquarters can see the same data at

the same time. If the quality monitors spot errors or problems, they call the factory immediately.

311. Employees of Hyundai USA report on quality issues to Hyundai Korea. One of the Hyundai plants monitored at the Global Command and Control Center is located in Alabama. That plant's production chief was quoted as saying, "if there's a hiccup at any of those boards, headquarters wants to know what needs to be done about it – right now."

312. Senior Korean executives at Hyundai Korea visit Hyundai plants in the United States to monitor and assess their operations.

313. Some Senior Korean executives at Hyundai Korea are directly responsible for supervising Hyundai manufacturing plants worldwide. For instance, Byung Mo Ahn worked for Hyundai Korea as an executive vice president and COO, before transitioning to work for Kia. According to a press release issued by KMA, while serving as a Hyundai Korea executive, Mr. Ahn was responsible for "overseas business operations, including supervising the production activities of nine factories worldwide."

314. Upon information and belief, Korean speaking "coordinators" work at Hyundai USA and report on their activities to Korean executives at Hyundai Korea every business day.

315. Hyundai Korea exercises control over its domestic subsidiary through the executive leadership and board members of Hyundai USA. Hyundai Korea appoints board members for Hyundai USA, exercising this power to appoint board members that it believes will manage the its subsidiary with the principal goal of benefitting Hyundai Korea.

316. Hyundai Korea and Hyundai USA share common executives. For example, Jose Munoz is the current Global Chief Operating Officer of Hyundai Korea as well as the President and CEO of Hyundai Motors North America and the President and CEO of Hyundai USA.

317. Hyundai Korea controls the public name and brand of Hyundai Motor America, Inc. In consumer transactions, like those with Plaintiffs, Hyundai Korea's brands and logos serve as its and its subsidiaries' official seal and signature to consumers.

iii. Because of Hyundai Korea's control over its subsidiary Hyundai USA, the forum-related activities of Hyundai USA support the exercise of jurisdiction over Hyundai Korea.

318. Hyundai Motor America is a California corporation, subject to general jurisdiction in this state. Indeed, as the Court already ruled in the Order on Defendants' motions to dismiss (ECF 396 at 15), the Court can exercise personal jurisdiction over Hyundai USA.

319. Hyundai USA sells, leases, and markets Hyundai-branded automobiles in the United States, including the Hyundai Class Vehicles, at the direction of Hyundai Korea.

320. Hyundai USA participated in the creation of Monroney labels that misleadingly stated that the Hyundai Class Vehicles were equipped with Occupant Restraint Systems but did not disclose the related defects in the DS84 ACU and ASIC. These Monroney labels give rise, or relate, to Plaintiffs' claims.

321. Hyundai USA caused the Class Vehicles to ship to automobile dealers with misleading Monroney labels, airbag labels and imprints, certification labels, readiness indicators, and owner's manuals. These shipments give rise, or relate, to Plaintiffs' claims.

322. Hyundai USA participated in the creation of misleading advertising for the Hyundai Class Vehicles that stressed the safety of those vehicles and omitted material facts. These misleading advertisements give rise, or relate, to Plaintiffs' claims.

323. Hyundai USA has engaged in extensive efforts to conceal the ACU Defect from American consumers and NHTSA, including concealing incidents of observed EOS in certain Hyundai Class Vehicles involved in suspicious accidents. These efforts to conceal the ACU Defect give rise, or relate, to Plaintiffs' claims.

324. Hyundai USA also made misleading statements to NHTSA in the U.S. that give rise, or relate, to Plaintiffs' claims.

b. Kia Korea

325. Although a South Korea-based company, Kia Korea it is subject to the Court's specific jurisdiction because it has pervasive contacts with the United States and exerts substantial control over its domestic subsidiaries. Kia Korea's contacts with the United States are all in furtherance of sales and leases of Kia vehicles in the United States, and these contacts give rise, or relate, to Plaintiffs' claims.

i. Kia Korea's forum-related activities support the exercise of jurisdiction over Kia Korea.

326. Kia Korea designs, manufactures, markets, distributes, and sells a wide range of automobiles and automobile parts to over 190 countries throughout the world, including the United States, under the trademark "Kia."

327. Upon information and belief, Kia Korea is involved in the design, manufacture, marketing, distribution, and sale of Kia vehicles in the United States to a similar extent as Hyundai Korea is involved in the design, manufacture, marketing, distribution, and sale of Hyundai vehicles in the United States.

328. Kia Korea has comparable sales volume in the United States to Hyundai Korea. In 2010, Kia Korea sold approximately 355,000 vehicles in the United States through its domestic subsidiary, Kia America. By 2016, Kia Korea sold approximately 655,000 vehicles in the United States. During that seven-year span, Kia Korea sold approximately 3,839,520 vehicles in the United States.

329. During the relevant period, Kia Korea purposefully availed itself of the United States' legal protections, registering and maintaining registrations with the United States government for trademarks associated with its vehicles and parts, which it used to identify and distinguish its vehicles and parts in the United States, this District, and transferor jurisdictions.

330. Kia Korea purposely availed itself of markets in the United States, selling hundreds of thousands of vehicles per year in this market for each of the last ten years, through its domestic subsidiary. To enable access to this market, Kia Korea regularly submits applications to the EPA to obtain certification necessary for the sale of its vehicles in the United States.

331. In addition to obtaining emissions certifications, Kia Korea also designed and manufactured the Kia Class Vehicles to meet federal safety standards for sale in the United States.

332. Kia Korea affixed federal safety certification labels to the Kia Class Vehicles manufactured in Korea, and directly approved the same labels for Kia Class Vehicles manufactured in the United States, in each case knowing that they would be sold in the United States. The certification labels represented that the Kia Class Vehicles conformed to United States federal safety standards, thereby enabling the vehicles to be sold in all 50 states. These misleading certification labels give rise, or relate, to Plaintiffs' claims.

333. Kia Korea designed the Kia Class Vehicles to have clearly visible airbag readiness indicators, as required under 49 C.F.R. § 571.208 (S4.5.2), to communicate with vehicle occupants about the safety and operating status of the airbag system. These readiness indicators give rise, or relate to, Plaintiffs' claims because the readiness indicators in Hyundai-Kia Class Vehicles misleadingly communicated to consumers that the vehicles' passive safety system was "ready" to deploy during crashes.

334. While Kia Korea is a South Korean company, it designed the Kia Class Vehicles to target U.S. consumers, and included prominent English language labels within the car cabin to alert the driver and passengers to the vehicle's airbag system. These misleading labels give rise, or relate, to Plaintiffs' claims.

335. Kia Korea played a key role in the Hyundai-Kia Defendants' analysis and decision-making relating to the defective ZF TRW ACUs in the United States. Multiple documents produced to NHTSA in the U.S. by the Hyundai-Kia Defendants are written in Korean. Upon information and belief, the use of Korean language was necessary because employees of the Korean companies needed to review the information and approve the responses of the American subsidiaries.

336. Between October 2015 and July of 2016, the Domestic ZF Defendants met with Hyundai Korea, Kia Korea (then known as Kia Motors Corporation), and Hyundai Mobis in Korea at least four times to discuss the problems with ZF TRW ACUs in Hyundai-Kia Class Vehicles and what to tell NHTSA.

ii. Kia Korea exerts control over Kia USA.

337. Kia Korea established a fully owned subsidiary, Kia USA, in the United States to target consumers in the United States.

338. Upon information and belief, Kia Korea has the power to appoint board members to Kia USA. It has exercised this power to appoint board members to its subsidiaries that it believes will manage the subsidiaries with the principal goal of benefiting it.

339. Kia Korea's control over its domestic subsidiary is reflected at the very top of Kia USA. The President & CEO of Kia USA from 2018 to the present, SeungKyu (Sean) Yoon, previously served as the America's Group Leader at Kia Korea from June 2012 to October 2015. After serving in Seoul as Kia Korea's "America Group Leader" for three years, Mr. Yoon was promoted to President & CEO of Kia Canada, Inc., a sibling entity of Kia USA. In 2018, he was promoted

not only to the position of President & CEO at Kia USA, but also to a concurrent position of Senior Managing Director at Kia Korea, where he is the President & CEO of the Kia North America Region team.

340. Additional high-level executives overlap between Kia USA and Kia Korea. The sole director listed on Kia America's 2020 Statement of Information filed with the California Secretary of State is Han Woo Park, the then-President and Co-CEO of Kia Korea.

341. Furthermore, during much of the relevant time period, Byung Mo Ahn directed the operations of Kia USA while serving as a Vice Chairman for Kia Korea.[8] Mr. Ahn worked from 2001 to 2008 as the president and CEO of Kia USA, expanding his leadership role in the United States to be group president and CEO of both Kia USA and the domestic manufacturing subsidiary, Kia Georgia, Inc. (formerly Kia Motor Manufacturing Georgia, Inc.), from 2008 until 2014. In 2014, Mr. Ahn was promoted to Vice Chairman of Kia Korea. A Kia Korea press release made clear, however, that Mr. Ahn would "continue to lead the implementation of the brand's long-term strategy in the U.S."

342. Yet another shared executive is Suk Won (Scott) Hahn, who originally joined Kia Korea in January 2006 before going on to become the Chief Financial Officer of Kia America in February 2015.

343. On information and belief, the Global Command and Control Center in Seoul, Korea, monitors Kia operations around the world in addition to Hyundai operations. Chung Mong Koo, the former Chairman of Hyundai Motor Group and former Chairman & CEO of Hyundai Korea & Kia Korea, who is credited for creating the Global Command and Control Center, began homing in on the oversight of the manufacturing process for Kia and Hyundai automobiles after visiting Kia's United States production plants.

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[8] Mr. Ahn previously worked for Hyundai Korea, as detailed above.

344. On information and belief, Kia and Hyundai have integrated their manufacturing process to build "flexible factories" in the United States that can produce models for either brand. Given the shared leadership at the related Hyundai-Kia defendants, the control that Hyundai exerts over its domestic subsidiary's automobile manufacturing extends to Kia's control over its domestic subsidiary's automobile manufacturing.

345. Employees of Kia USA report on quality issues to Kia Korea.

346. Korean speaking "coordinators" reportedly work at Kia America, and regularly report on their activities to Korean executives at Kia Korea.

347. Senior Korean executives at Kia Korea visit Kia plants in the United States. On information and belief, Kia Korea selected Troup County, Georgia as the location of its $1 billion U.S. manufacturing plant in part because it was a convenient site for Kia Korea executives to visit.

348. Kia Korea controls the public name and brand of Kia USA. For instance, Kia Korea's recent redesign and rebranding, changing its name from "Kia Motor Corporation" to "Kia Corporation" led to a similar change in the domestic subsidiary, as "Kia Motor America" became "Kia America, Inc." In consumer transactions, like those with Plaintiffs, Kia Korea's brands and logos serve as its and its subsidiaries' official seal and signature to consumers.

iii. Because of Kia Korea's control over its subsidiary Kia USA, the forum-related activities of Kia USA support the exercise of jurisdiction over Kia Korea.

349. Kia USA is a California corporation, subject to general jurisdiction in this state. Indeed, as the Court already ruled in Order on Defendants' motions to dismiss (ECF 396 at 15), the Court can exercise personal jurisdiction over Kia USA.

350. Under the direction and supervision of Kia Korea, Kia USA sold, leased, and marketed the Kia Class Vehicles. These transactions give rise, or relate, to Plaintiffs' claims.

351. Kia USA participated in the creation of Monroney labels that misleadingly stated that the Kia Class Vehicles were equipped with Occupant Restraint Systems without disclosing the related defect in the DS84 ACU. These Monroney labels give rise, or relate, to Plaintiffs' claims.

352. Kia USA caused the Kia Class Vehicles to ship to automobile dealers with misleading Monroney labels, airbag labels and imprints, certification labels, readiness indicators, and owner's manuals. These shipments give rise, or relates, to Plaintiffs' claims.

353. Kia USA participated in the creation of misleading advertising for the Kia Class Vehicles that stressed the safety of those vehicles and omitted material facts regarding the defective DS84 ACU in the Kia Class Vehicles. This advertising gives rise, or relates, to Plaintiffs' claims.

354. Kia USA has engaged in extensive efforts to conceal the ACU Defect from American consumers and NHTSA, including concealing incidents of observed EOS in certain Kia Class Vehicles involved in suspicious accidents. These efforts to conceal the ACU Defect give rise, or relates, to Plaintiffs' claims.

355. Kia USA also made misleading statements to NHTSA in the U.S. that give rise, or relate, to Plaintiffs' claims.

c. Hyundai Mobis, Ltd.

356. Although Hyundai Mobis is based in South Korea, the Court has specific jurisdiction over it based on its pervasive contacts with the United States, which give rise, or relate, to Plaintiffs' claims.

i. Hyundai Mobis's forum-related activities support the exercise of jurisdiction over Hyundai Mobis.

357. Hyundai Mobis has substantial activities directed at the United States—both in the manufacture and inadequate response to the defective DS84 ACUs. Specifically, Hyundai Mobis was involved in post-crash investigations, strategic decisions regarding the ACU defect, returning vehicles to ZF entities due to observed EOS, and iterating with regard to additional protective components due to EOS findings in crash investigations and warranty returns.

358. Hyundai Mobis makes auto parts for Hyundai Kia vehicles, including airbag control devices, and supplies parts for the Hyundai and Kia Class Vehicles in the United States.

359. Hyundai Mobis operates two major manufacturing and production sites in the United States, one in Montgomery, Alabama and the other in West Point, Georgia.

360. Hyundai Mobis also operates three production sites, in Toledo, Ohio; Detroit, Michigan; and McCalla, Alabama.

361. Hyundai Mobis maintains and operates a major research and development center, the Mobis Technical Center of North America ("MTCA"), in Plymouth Michigan. At MTCA, Hyundai Mobis researches, *inter alia*, development of North America-specific specifications for Hyundai and Kia vehicles.

362. Hyundai Mobis operates a main distribution branch and office in Fountain Valley, California; a quality control center in Ontario, California; and after-sale parts centers in Florida and California.

363. Hyundai Mobis's North American Research Institute provides original equipment order-taking support and fulfilment, as well as product specification support, for Hyundai USA and Kia USA.

364. Hyundai Mobis participated in the manufacture of the ACU that gives rise to this litigation, specifically manufacturing hundreds of thousands of the faulty

DS84 ACUs for Kia and Hyundai Class Vehicles through its domestic manufacturing subsidiary, Mobis Parts America. Accordingly, these activities by Hyundai Mobis give rise, or relate, to Plaintiffs' claims.

365. After Hyundai Korea and Kia Korea approved of ZF Electronics USA's design of the DS84 ACU's, Hyundai Mobis executed a manufacturing agreement with ZF Electronics USA as to that design. Hyundai Mobis delivered those faulty units to Kia and Hyundai manufacturing facilities for inclusion in the Class Vehicles. These ACUs give rise, or relate, to Plaintiffs' claims.

366. Further, Hyundai Mobis contracted with ZF Electronics USA to procure DS84 ACUs manufactured by ZF Electronics USA. At the direction of Hyundai Mobis, ZF Electronics USA delivered many of those units to Hyundai Motor Manufacturing Alabama, LLC. There, according to the mandatory designs issued by Hyundai Korea, the DS84 ACUs were installed in Hyundai Class Vehicles destined for sale in the United States. These shipments that Hyundai Mobis caused within the United States give rise, or relate, to Plaintiffs' claims.

367. Hyundai Mobis directed other DS84 ACUs manufactured by ZF Electronics USA to be delivered to Kia Georgia, Inc. (formerly Kia Motor Manufacturing Georgia, Inc.), where, according to mandatory designs issued by Kia Korea, the units were installed in Kia Class Vehicles built in Georgia, destined for sale in the United States. These shipments that Hyundai Mobis caused within the United States give rise, or relate, to Plaintiffs' claims.

368. Hyundai Mobis played a key role in the Hyundai-Kia Defendants' analysis and decision-making relating to the defective DS84 ACUs in the United States. One of the primary points of contact for issues regarding the DS84 ACU in Hyundai-Kia Class Vehicles was Taewon Park, an employee of Hyundai Mobis. Hyundai Mobis' investigation of the DS84 ACUs in the United States relates to Plaintiffs' claims.

369. Between 2010 and 2018, the Domestic ZF Defendants met with Hyundai Korea, Kia Korea, and Hyundai Mobis in Korea many times to discuss the ACU Defect and coordinate their efforts to conceal it from NHTSA and consumers. Hyundai Mobis's coordination with these Defendants gives rise, or relates, to Plaintiffs' claims.

370. Hyundai Mobis engaged in extensive efforts to conceal the ACU Defect from American consumers and NHTSA, including concealing incidents of observed EOS in certain Hyundai-Kia Class Vehicles involved in suspicious accidents. These efforts to conceal give rise, or relate, to Plaintiffs' claims.

5. Honda Motor Co., Ltd.

371. Although Honda Japan is based in Japan, it is subject to the Court's specific jurisdiction because it has pervasive contacts with the United States and exerts substantial control over its domestic subsidiaries. Honda Japan's contacts with the United States are all in furtherance of sales and leases of Honda vehicles in the United States, and these contacts give rise, or relate, to Plaintiffs' claims.

a. Honda Japan's forum-related activities support the exercise of jurisdiction over Honda Japan.

372. Honda Japan designs, manufactures, markets, distributes, and sells a wide range of automobiles and automobile parts throughout the world, including the United States, under the trademark "Honda."

373. During the relevant period, Honda Japan purposefully availed itself of the United States' legal protections, including registering and maintaining registrations with the United States government for trademarks associated with its vehicles and parts, which it uses to identify and distinguish its vehicles and parts in the United States, this District, and the transferor jurisdictions. Honda Japan is recognized in the registrations as the owner of the Honda trademarks.

374. Honda Japan has brought litigation in United States courts to protect its trademarks from infringement and counterfeiting. The protection afforded to Honda Japan's trademarks and patents under United States law enabled Honda Japan to sell the Honda Class Vehicles in the United States, this District, and the transferor jurisdictions.

375. In a recent complaint to enforce its trademark rights, Honda Japan represented that it "obtained registrations in the United States for designs for the HONDA and ACURA trademarks, used in connection with automobiles and automobile parts."

376. Honda Japan designs and manufactures Honda vehicles for sale in the United States, including Honda Class Vehicles.

377. Honda Japan purposely avails itself of markets in the United States. For example, Honda Japan regularly submits applications to the EPA to obtain certification necessary for the sale of its vehicles in the United States.

378. In addition to obtaining emissions certifications, Honda Japan also designed and manufactured Honda Class Vehicles to meet federal safety standards for sale in the United States.

379. Owners' manuals for Honda vehicles with the defective DS84 ACUs state: "Honda Motor Co., Ltd. reserves the right . . . to discontinue or change specifications or design at any time." Based on these statements, and upon information and belief, Honda Japan has the ultimate responsibility for the design and specifications for all Honda vehicles with the defective DS84 ACUs, including the Honda Class Vehicles.

380. Indeed, upon information and belief, Honda Japan required its manufacturing subsidiaries to install DS84 ACUs in the Honda Class Vehicles.

381. Although Honda Japan made Honda Class Vehicles in Japan, it specifically segregated them from other Honda vehicles that were intended for sale in other countries, placed certification labels on them that assured compliance with

U.S. federal safety requirements, and ensured those Honda Class Vehicles shipped to the United States, with full knowledge that Honda USA would then distribute them across the United States. These certification labels give rise, or relate, to Plaintiffs' claims because they misleadingly suggested the Class Vehicles were safe and had properly-functioning airbags and seatbelts. Honda Japan also required its U.S. manufacturing subsidiaries to include the same certification in the Honda Class Vehicles those subsidiaries manufactured, pursuant to the design and direction of Honda Japan.

382. Accordingly, Honda Japan did not merely place the Honda Class Vehicles it made into a stream of commerce that brought them to the United States. Instead, it made them for shipment to the United States, certified they complied with U.S. safety and other requirements, and ensured that they shipped directly to a wholly owned subsidiary responsible for distribution in the United States.

383. Honda Japan affixed federal safety certification labels to the Honda Class Vehicles manufactured in Japan, and directly approved the same labels for Honda Class Vehicles manufactured in the United States, in each case knowing that they would be sold in the United States. The certification labels represented that the Honda Class Vehicles conformed to United States federal safety standards, thereby enabling the vehicles to be sold in all 50 states. These misleading certification labels give rise, or relate, to Plaintiffs' claims.

384. Honda Japan designed the Honda Class Vehicles to have clearly visible airbag readiness indicators, as required under 49 C.F.R. § 571.208 (S4.5.2), to communicate with vehicle occupants about the safety and operating status of the airbag system. These readiness indicators give rise, or relate to, Plaintiffs' claims because the readiness indicators in the Honda Class Vehicles misleadingly communicated to consumers that the vehicles' passive safety system was "ready" to deploy during crashes.

385. While Honda Japan is a Japanese company, it designed the Honda Class Vehicles to target U.S. consumers, and included prominent English language labels within the car cabin to alert the driver and passengers to the vehicle's airbag system. These misleading labels give rise, or relate, to Plaintiffs' claims.

b. Honda Japan exerts control over its domestic subsidiaries.

386. Honda Japan established subsidiaries in the United States to target consumers in the United States. Honda USA and Honda Engineering USA are wholly owned subsidiaries of Honda Japan.

387. For decades, Honda Japan has continuously engaged in business in the United States by, among other things, interacting with its wholly owned subsidiaries in the United States. The services rendered by Honda USA and Honda Engineering USA for Honda Japan are so important to Honda Japan that it would perform those services itself if Honda USA and Honda Engineering USA did not exist.

388. Honda Japan controls the "Honda" public name and brand. In consumer transactions, like those with Plaintiffs, Honda Japan's unified brand and logo serve as Honda Japan's and its domestic subsidiaries' official seal and signature as to consumers.

389. Honda Japan derives more revenue from the United States than any other country. For fiscal year ending March 31, 2018 alone, Honda Japan reported $65 billion in sales in the United States, a little under half of its revenue.

390. Honda Japan and its U.S. subsidiaries share common executives. For example:

a. Shinji Aoyama was the President, CEO, and Director of Honda USA and the Chief Officer of Regional Operations (North America) for Honda Japan until October 2021, when Noriya Kaihara took over those positions.

b. Mitsugu Matsukawa, current President of Honda Engineering USA, previously served as President of Honda of America Mfg., Inc. where he was responsible for manufacturing operations at Honda's four Ohio plants. Matsukawa is also on Honda Japan's North American Regional Operating Board and serves as a managing officer of Honda Japan.

c. James A. Keller is the executive vice president of Honda Engineering USA. He oversees all of the company's research & development operations in North America and serves as a member of Honda USA's Board of Directors as well as a member of Honda Japan's North American Regional Operating Board. Keller trained for at least two years at Honda R&D Co., Ltd. in Japan.

d. Takashi Sekiguchi originally joined Honda Japan in 1982 and worked there for years before becoming the Executive Vice President and Director of Honda USA in April 2008.

e. Takanobu Ito, the CEO of Honda Japan from 2009 to 2015, was previously President and Director of Honda R&D Co., Ltd. and Executive Vice President of Honda R&D Americas, Inc.

f. Toshiaki Mikoshiba, served as Chairman and Director of the board for Honda Japan until April 2022, and he previously served as the CEO and director for Honda USA.

391. In 2021, several of the domestic Honda subsidiaries, including Honda of American Honda Mfg., Inc. and Honda R&D Americas, LLC restructured and consolidated into Honda Engineering USA. The restructuring of these U.S. subsidiaries was similar to the restructuring in Japan. At a press conference in 2020 announcing the restructuring plans in the United States, Shinji Aoyama announced

the decision was part of the continued journey to become a "unified company in North America."

392. Upon information and belief, Honda Japan has the power to appoint board members to Honda USA and Honda Engineering USA. Honda Japan has exercised this power to appoint board members that Honda Japan believes will manage the subsidiaries with the principal goal of benefiting Honda Japan.

393. Indeed, Honda Japan recently noted in its 2022 Corporate Governance report that:

> [p]ersons responsible for the supervision of each subsidiary have been appointed from among the Executive Officers or other executives with jurisdiction over the area related to the business of the relevant subsidiary. These persons responsible regularly receive reports regarding business plans and management conditions from the subsidiaries for which they are responsible and supervise those subsidiaries in cooperation with business management departments and other related departments. [Honda Japan] requires subsidiaries to obtain prior approval from or make reports to the [Honda Japan] regarding material matters of the management of the subsidiary in accordance with the [Honda Japan's] rules of procedure, and each subsidiary has developed its own approval rules that include the requirements of the [Honda Japan].

394. Honda Japan acknowledges that it develops human resource mandates for all its subsidiaries, including Honda USA and Honda Engineering USA. For example, Honda Japan admits in its 2017 Sustainability Report: "the Human Resources and Associate Relations Division at the corporate headquarters in Tokyo draws up global human resources strategies from the mid- to long-term perspective in coordination with operations in *each* region." (emphasis added).

395. In part because of the importance of United States markets to its business, Honda Japan decided in 2015 to change its official language for international communications to English by 2020. Under this policy, documents used in Honda Japan meetings that involve regional operation bases and any communication for information sharing across regions will also be in English.

Honda Japan will require English proficiency for associates to be promoted to managerial positions in the future.

396. To ensure its control and involvement over its U.S. subsidiaries, Honda Japan established a "Leadership Resources" document in 2015 and distributed this document on its in-house intranet worldwide, including to Honda USA and Honda Engineering USA. By distributing these resources, Honda Japan provides specific guidelines regarding decision making and management judgment to the employees of Honda USA and Honda Engineering USA.

397. Since at least as early as 2003, Honda Japan has had a code of conduct called the "Honda Conduct Guidelines." Honda Japan distributes these guidelines to its subsidiaries, including Honda USA and Honda Engineering USA, and claims to take steps to ensure that they comply with the guidelines. Once per year, each of Honda Japan's U.S. subsidiaries claims to check the status of activities to ensure awareness of the guidelines, and reports to Honda Japan's Compliance Committee, Executive Council and the Board of Directors.

398. Honda Japan also adopted the "Honda Corporate Governance Basic Policies," which further illustrates that Honda Japan has substantial control of its subsidiaries operations in the United States. For example, the policies provide that Honda Japan "shall provide incumbent outside directors with opportunities including the visits to subsidiaries located in regions in order to deepen their understanding of the Company Group's business."

399. The Honda Corporate Governance Basic Policies further provides that Honda Japan, "[i]n order to strengthen business operations in each region and field, and to make timely and appropriate business decisions, . . . shall place Executive Officers and other executives who have been delegated the business execution authority from the Representative Executive Officers to being responsible for business operations in their respective area of responsibility, in each area

headquarters, business headquarters and functional headquarters, and other main organizations."

400. Honda Japan's Audit Division also "provides supervision and guidance to internal audit departments of the major subsidiaries and when necessary, audits subsidiaries directly to enhance the internal audit system of the Honda group."

401. Upon information and belief, Honda Japan has the power to control recall decisions for vehicles in the United States, and was responsible for the decision not to recall any Honda vehicles with the DS84 ACUs or warn consumers in the United States about the ACUs.

c. Because of Honda Japan's control over its subsidiaries Honda USA and Honda Engineering USA, the forum-related activities of those subsidiaries support the exercise of jurisdiction over Honda Japan.

402. Honda USA is a California corporation, subject to general jurisdiction in this state. Indeed, as the Court already ruled in the Order on Defendants' motions to dismiss (ECF 396 at 33), the Court can exercise personal jurisdiction over Honda USA.

403. As discussed above, Honda Engineering USA is likewise subject to the Court's jurisdiction because consumers in California and the transferor jurisdictions bought Honda vehicles equipped with DS84 ACUs that were made by Honda Engineering USA.

404. Under the direction and supervision of Honda Japan, Honda USA sold, leased, and marketed the Honda Class Vehicles equipped with DS84 ACUs made by Honda Engineering USA. These transactions give rise, or relate, to Plaintiffs' claims.

405. Honda USA participated in the creation of Monroney labels that misleadingly stated that the Honda Class Vehicles were equipped with Occupant

Restraint Systems without disclosing the related defect in the DS84 ACU. These Monroney labels give rise, or relate, to Plaintiffs' claims.

406. Honda USA caused the Honda Class Vehicles to ship to automobile dealers with misleading Monroney labels, airbag labels and imprints, certification labels, readiness indicators, and owner's manuals. These shipments give rise, or relates, to Plaintiffs' claims.

407. Honda USA participated in the creation of misleading advertising for the Honda Class Vehicles that stressed the safety of those vehicles and omitted material facts regarding the defective DS84 ACU in the Honda Class Vehicles. This advertising gives rise, or relates, to Plaintiffs' claims.

408. Honda Engineering USA manufactured many of the Honda Class Vehicles pursuant to Honda Japan's mandatory designs.

409. Honda Engineering USA manufactured the Honda Class Vehicles to have clearly visible airbag readiness indicators, as required under 49 C.F.R. § 571.208 (S4.5.2), to communicate with vehicle occupants about the safety and operating status of the airbag system. These readiness indicators give rise, or relate to, Plaintiffs' claims because the readiness indicators in the Honda Class Vehicles misleadingly communicated to consumers that the vehicles' passive safety system was "ready" to deploy during crashes. Honda Engineering USA also manufactured the Honda Class Vehicles to have certification labels, readiness indicators, and airbag labels and imprints to be placed within the Honda Class Vehicles. These in-vehicle representations give rise, or relate to, Plaintiffs' claims.

6. Mitsubishi Motors Corporation

a. Mitsubishi Japan's forum-related activities support the exercise of jurisdiction over Mitsubishi Japan.

410. Although Mitsubishi Japan is based in Japan, the Court has specific jurisdiction over it based on its pervasive contacts with the United States. Mitsubishi Japan's contacts with the United States are all in furtherance of sales and

leases of Mitsubishi vehicles in the United States. These sales and leases give rise to Plaintiffs' claims.

411. During the relevant period, Mitsubishi Japan purposefully availed itself of the United States' legal protections, including registering and maintaining registrations with the United States government for trademarks associated with its vehicles and parts, which it used to identify and distinguish its vehicles and parts in the United States, this District, and transferor jurisdictions.

412. Mitsubishi Japan purposefully availed itself of markets in the United States by designing, engineering, manufacturing, marketing, and/or selling vehicles under the Mitsubishi brand with the knowledge and intent to market, sell, and lease them throughout the United States. Sales of Mitsubishi vehicles in the United States steadily grew every year from 2012-2019. In 2019 alone, Mitsubishi Japan, together with Mitsubishi USA, sold 121,046 vehicles in the United States.

413. Additionally, Mitsubishi Japan worked with its other American subsidiary, Mitsubishi Motors R&D of America, Inc., to develop "global technologies and products adapted to the market characteristics of each region."

414. To enable access to the U.S. market, Mitsubishi Japan regularly submits applications to the EPA to obtain certification necessary for the sale of its vehicles in the United States.

415. Aside from EPA regulations, Mitsubishi Japan purposefully targeted California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington, by designing, manufacturing, and equipping a portion of its Mitsubishi-branded vehicles with California Certified Emission Control Systems necessary to meet the anti-smog standards adopted by those states.

416. To enable access to these state markets, Mitsubishi Japan regularly submits applications to the California Air Resources Board ("CARB") to obtain certification necessary for the sale of its vehicles in California, Connecticut,

Delaware, Maine, Maryland, Massachusetts, New Jersey, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington.

417. During the relevant period, Mitsubishi Japan designed and manufactured approximately 100,000 Mitsubishi Class Vehicles for sale or lease in the United States.

418. In addition to obtaining emissions certifications, Mitsubishi Japan certified that the Mitsubishi Class Vehicles it designed and manufactured meet federal safety standards for sale in the United States.

419. Although Mitsubishi made these Mitsubishi Class Vehicles in Japan, it specifically segregated them from other Mitsubishi vehicles that were intended for sale in other countries, placed certification labels on them that assured compliance with U.S. federal safety requirements on the Mitsubishi Class Vehicles, and ensured those Mitsubishi Class Vehicles shipped to the United States, with full knowledge that Mitsubishi USA would then distribute them across the United States. These certification labels give rise, or relate, to Plaintiffs' claims because they misleadingly suggested the Class Vehicles were safe and had properly-functioning airbags and seatbelts.

420. Accordingly, Mitsubishi Japan did not merely place the Mitsubishi Class Vehicles it made into a stream of commerce that brought them to the United States. Instead, it made them for shipment to the United States, certified they complied with U.S. safety and other requirements, and ensured they shipped directly to a wholly owned subsidiary responsible for distribution in the United States.

421. Mitsubishi Japan affixed federal safety certification labels to the Mitsubishi Class Vehicles knowing that they would be sold in the United States. The certification labels represented that the Mitsubishi Class Vehicles conformed to United States federal safety standards, thereby enabling the vehicles to be sold in all

50 states. These misleading certification labels give rise, or relate, to Plaintiffs' claims.

422. Mitsubishi Japan designed the Mitsubishi Class Vehicles to have clearly visible airbag readiness indicators, as required under U.S. federal regulations (49 C.F.R. § 571.208 (S4.5.2)), to communicate with vehicle occupants about the safety and operating status of the airbag system. These readiness indicators give rise, or relate to, Plaintiffs' claims because the readiness indicators in Mitsubishi Class Vehicles misleadingly communicated to consumers that the vehicles' passive safety system was "ready" to deploy during crashes.

423. While Mitsubishi Japan is a Japanese company, it designed the Mitsubishi Class Vehicles to target U.S. consumers, and included prominent English language labels within the car cabin to alert the driver and passengers to the vehicle's airbag system. These misleading labels give rise, or relate, to Plaintiffs' claims.

424. Mitsubishi Japan also developed and distributed owner's manuals that were specifically intended to—and did in fact—reach United States consumers in conjunction with their purchases of Mitsubishi-branded vehicles, including the Mitsubishi Class Vehicles. None of these owner's manuals disclosed that the Mitsubishi Class Vehicles were equipped with the defective DS84 ACUs.

b. Mitsubishi Japan exerts control over its domestic subsidiary, Mitsubishi USA.

425. Mitsubishi Japan established a wholly owned subsidiary, Mitsubishi USA, in the United States to engage in business activities on behalf of Mitsubishi Japan. Mitsubishi Japan exercises control over Mitsubishi USA through several formal and informal mechanisms.

426. Mitsubishi USA renders essential services on behalf of Mitsubishi Japan—such as the lease and sale of vehicles in the United States—which are

important enough to Mitsubishi Japan that Mitsubishi Japan would perform those services itself if Mitsubishi USA did not exist.

427. Mitsubishi Japan, together with its American subsidiaries Mitsubishi USA and Mitsubishi Motors R&D of America, Inc., operates and holds itself out to the public as a single entity known as "Mitsubishi Motors" that caters to American consumers and purposefully avails itself of the United States market for Mitsubishi-branded vehicles.

428. Mitsubishi Japan exerts control over the activities of Mitsubishi USA that far exceed the normal oversight exercised in a parent-subsidiary relationship. For instance, in July 2015, Mitsubishi Japan issued a press release announcing that it had decided to close Mitsubishi USA's vehicle manufacturing plant in Normal, Illinois and consolidate production at its Okazaki plant in Japan. Thereafter, Mitsubishi Japan began manufacturing and exporting all Mitsubishi-branded vehicles to the United States from its production facilities in Japan, Thailand, China, Indonesia, the Philippines, and Russia.

429. In 2019, Mitsubishi USA appeared to be in the midst of independently selecting a city to relocate its own headquarters. However, subsequent reporting on the topic revealed that Tennessee Governor Bill Lee and Tennessee's Economic Development Chief, Bob Rolfe, traveled to Japan on June 20, 2019 to pitch to *Mitsubishi Japan* that Mitsubishi USA should relocate to Franklin, Tennessee. This pitch was directed at Mitsubishi Japan's global executives, including Susumu Noguchi, Mitsubishi Japan's Division General Manager, North America and Oceania at the time. A couple of days later, Mitsubishi Japan's Board of Directors—and not Mitsubishi USA's Board of Directors—convened to decide the issue. This serves as further evidence that Mitsubishi Japan substantially controls the activities of its wholly owned subsidiary, Mitsubishi USA.

430. In its Annual Reports, Mitsubishi Japan describes the strict control it exercises over its subsidiaries. For example, its 2020 Annual Report (which

includes the same or similar language to other Annual Reports during the relevant period) stated:

> MMC [Mitsubishi Japan] stipulates the supervisory organization of each of its subsidiaries, and the responsibilities and authority, management method and other matters related to management of its subsidiaries through its internal regulations and other rules. In compliance with the internal regulations and other rules, each of the subsidiaries gives prior or subsequent explanations or reports that should be made to MMC concerning its business, results, financial condition and other important information to the supervisory organization and other internal dedicated organizations in accordance with its size, business conditions, and other factors. MMC also provides guidance and management in accordance with regulations and rules through the supervisory organizations. Moreover, the Internal Audit Dept. conducts systematic operation audits of each subsidiary, auditing the status of appropriate business execution and compliance with MMC's code of conduct, and providing countermeasures as needed.

431. In that same document, Mitsubishi Japan states that it shall "establish and strengthen its subsidiaries' risk management systems" and "strengthen, develop and streamline its subsidiaries' business operations."

432. Mitsubishi Japan also monitors its markets overseas and exerts oversight to improve its domestic subsidiaries. For example, in its 2016 Corporate Social Responsibility Report, Mitsubishi Japan states: "MMC [Mitsubishi Japan] cooperates closely with not only domestic dealers, but also distributors around the world in order to satisfy overseas customers. We provide our distributors with sufficient product information, and then collect local market information. Requests are then made for an improvement."

433. As an additional control measure, Mitsubishi Japan's Audit & Supervisory Board conducts on-site surveys of each of its subsidiaries and, based on the results of its surveys, "hold discussions at Audit & Supervisory Board

meetings, regularly report to the Board of Directors, and exchange opinions with the CEO and COO."

434. Mitsubishi Japan conducts additional audits of Mitsubishi USA through its Internal Audit Department and Quality Audit Department, the results of which are reported directly to the CEO.

435. Mitsubishi Japan and Mitsubishi USA share employees. Indeed, in its March 31, 2020 Financial Statement, Mitsubishi Japan disclosed that it maintains concurrent corporate officers with both Mitsubishi USA and Mitsubishi Motors R&D of America, Inc. For example, Mitsubishi Japan's General Manager for North America A Department is a Director of Mitsubishi USA. Further, in March 2020, Mitsubishi Japan named Yoichi Yokozawa, who previously held senior-level positions throughout Mitsubishi Japan, as Mitsubishi USA's President and Chief Executive Officer. Mr. Yokozawa served as Mitsubishi USA's President and CEO from 2011-2014 after serving as a Corporate General Manager with Mitsubishi Japan since 2006. Upon information and belief, Mitsubishi Japan engaged in this practice of sharing employees throughout the relevant period.

436. Mitsubishi Japan and Mitsubishi USA share a common logo, which Mitsubishi Japan permits Mitsubishi USA to use along with the "Mitsubishi Motors" name under a contract agreement between the entities. Mitsubishi Japan and Mitsubishi USA's common logo includes Mitsubishi Japan's Global Tagline, "Drive Your Ambition."

437. Mitsubishi Japan's website promotes Mitsubishi USA as part of its "Global Network," and one of its "major affiliates." Mitsubishi Japan's website actively promotes its Mitsubishi-branded line of vehicles, which it represents are "produced by Mitsubishi Motors," and Mitsubishi Japan describes Mitsubishi USA as one of its distributors of Mitsubishi Japan's products.

438. Mitsubishi USA's website states that Mitsubishi USA is a part of the "Renault-Nissan-Mitsubishi Alliance," which is a strategic alliance between

Mitsubishi Japan and automobile manufacturers Renault and Nissan. In the "History" section of its website, Mitsubishi USA presents its history and the history of Mitsubishi Japan together as a unified history that it refers to as "Mitsubishi Company History." Additionally, Mitsubishi USA's website includes Mitsubishi Japan press releases.

439. Mitsubishi Japan instituted a Global Code of Conduct and a Global Anti-Bribery Policy, in which it requires all "Mitsubishi Motors Group" (a term used to describe the Mitsubishi corporate entities globally) executives, employees, subsidiaries, and affiliates to follow. Mitsubishi Japan also distributes pamphlets and other materials reflecting its global policies to its subsidiaries and implements training on legal risks for its subsidiaries' executives and employees prior to their appointment.

c. Because of Mitsubishi Japan's control over its subsidiary Mitsubishi USA, the forum-related activities of Mitsubishi USA support the exercise of jurisdiction over Mitsubishi Japan.

440. Mitsubishi USA is a California corporation, subject to general jurisdiction in this state. Indeed, as the Court already ruled in its Order on Defendants' motions to dismiss (ECF 396 at 35), the Court can exercise personal jurisdiction over Mitsubishi USA.

441. Mitsubishi USA is a wholly owned subsidiary of Mitsubishi Japan that marketed, sold, and provided customer service for Mitsubishi-branded vehicles in the United States, including the Mitsubishi Class Vehicles.

442. Mitsubishi USA has maintained its headquarters in Franklin, Tennessee since April 2020. Prior to that, its headquarters were located in Cypress, California. Mitsubishi USA also maintains three regional offices in Irving, Texas, Swedesboro, New Jersey, and Lake Mary, Florida, as well as three warehouses in Riverside, California, Swedesboro, New Jersey, and Lithia Springs, Georgia.

443. Mitsubishi USA participated in the creation of Monroney labels that misleadingly stated that the Mitsubishi Class Vehicles were equipped with Occupant Restraint Systems but did not disclose the related defects in the DS84 ACU and ASIC. These Monroney labels give rise, or relate, to Plaintiffs' claims.

444. Mitsubishi USA caused the Class Vehicles to ship to automobile dealers with misleading Monroney labels, airbag labels and imprints, certification labels, readiness indicators, and owner's manuals. These shipments give rise, or relate, to Plaintiffs' claims.

445. Until its closure in 2015, Mitsubishi USA manufactured select Mitsubishi-branded vehicles at a plant in Normal, Illinois for North America, Russia, Middle East, and Latin America markets.

446. Mitsubishi USA operates through a network of over 350 authorized dealerships that sell, lease, and service Mitsubishi-branded vehicles in the United States, including in this District and the transferor jurisdictions. Mitsubishi USA-authorized dealerships facilitated the sale, lease, and service of Mitsubishi Class Vehicles throughout all 50 states and the District of Columbia.

447. Mitsubishi USA provided warranties directly to consumers in connection with their purchases of Mitsubishi-branded vehicles, including the Mitsubishi Class Vehicles. These warranties did not disclose that Plaintiffs' vehicles or the Mitsubishi Class Vehicles were equipped with the defective DS84 ACUs.

448. Mitsubishi USA advertised and promoted the alleged safety of the Mitsubishi Class Vehicles. Mitsubishi-branded vehicles, including Plaintiffs' vehicles and the Mitsubishi Class Vehicles, were the subject of nationwide advertising campaigns that were intended to reach and did reach this District and transferor jurisdictions. For example, Mitsubishi USA developed and distributed a brochure for the 2015 Mitsubishi Lancer that stated: "When it comes to safety, our goal is simple: Continue to improve. Using this approach, we've armed Lancer with

a host of advanced safety equipment, including active safety equipment to help you avoid trouble and passive safety equipment should a collision prove unavoidable." None of these advertisements or marketing materials disclosed that the Mitsubishi Class Vehicles were equipped with the defective DS84 ACUs. Mitsubishi USA participated in the creation this and similar misleading advertising for the Mitsubishi Class Vehicles that misleadingly stressed the safety of the Class Vehicles. This advertising gives rise, or relates, to Plaintiffs' claims.

449. Mitsubishi USA collects revenue from the sale and lease of the Mitsubishi Class Vehicles and the sale of Mitsubishi Genuine Parts and Accessories.

450. Mitsubishi USA has engaged in extensive efforts to conceal the defective DS84 ACU from American consumers and NHTSA, including concealing incidents of observed EOS in certain Mitsubishi Class Vehicles involved in suspicious accidents.

451. Mitsubishi USA concealed and continues to conceal that the Mitsubishi Class Vehicles contain defective DS84 ACUs that provide insufficient circuit protection, rendering the ACUs in the vehicles susceptible to EOS.

D. Venue

452. Venue is proper in this District under 28 U.S.C. § 1391(b) because a substantial part of the events and/or omissions giving rise to the claims occurred in this District, and because Defendants have caused harm to Plaintiffs and Class members residing in this District. Furthermore, this Complaint is related to the *In Re: ZF-TRW Airbag Control Units Products Liability Litigation* MDL No. 2905 proceedings, which the Judicial Panel on Multidistrict Litigation has consolidated before Judge John A. Kronstadt presiding in this District (ECF 1).

IV. GENERAL FACTUAL ALLEGATIONS

A. The Class Vehicles, DS84 ACUs, and DS84 ASICs are defective.

453. The Class Vehicles suffer from a common, uniform defect (referred to throughout this Complaint as the "ACU Defect") that makes them vulnerable to EOS. The DS84 ASIC within the DS84 ACUs is the root cause of this Defect. The ASIC's and ACU's vulnerability to EOS can prevent deployment of the airbags and seatbelts when they are needed during a crash. EOS can also cause other malfunctions of the ACU, including inadvertent airbag deployments, partial or incomplete airbag and seatbelt deployments, the failure to generate or record data about a crash, the failure to unlock doors automatically after a crash, and the failure to turn off a fuel supply or high-voltage battery after a crash.

1. A properly functioning ACU is supposed to detect crashes and activate important safety features, including airbags and seatbelts.

454. The system of safety features in motor vehicles is known as the Occupant Restraint System (a.k.a., the passive safety system or the safety restraint system). Its purpose is to protect drivers and passengers during collisions.

455. For decades, Occupant Restraint Systems have included systems that automatically tighten seatbelts during a crash to secure the occupants.

456. Also for decades, Occupant Restraint Systems have included devices that rapidly inflate a padded cushion (the "airbag") from the steering wheel and other areas of the vehicle during certain types of crashes. Airbags protect occupants by buffering or preventing impact between occupants and hard surfaces within the vehicle.

457. Seatbelt and airbag systems are "passive" Occupant Restraint Systems because they operate automatically without being triggered by the occupants.

458. The ACU is a critical part of every passive Occupant Restraint System. It is a type of electronic control unit—a small electronic device consisting of

semiconductors and a circuit board that controls a specific electrical function of a vehicle. The core function of the ACU is to control the operation of the Occupant Restraint System, including to interpret signals from crash sensors and activate the safety restraints (e.g., deploying airbags and tightening seatbelts when it detects a crash). Because it controls the occupant restraints, like seatbelts, the ACU is sometimes referred to as an "Occupant Restraint Controller" (ORC) or an "Automotive Restraint Controller" (ARC).

459. Typically, the ACU is physically located in the vehicle's passenger compartment, where the front-seat passenger sits.

460. At a minimum, an Occupant Restraint Controller must deploy front airbags in crashes of "up to 26 km/h (16 mph)" into a barrier. *See* 49 C.F.R. § 571.208 at S4.11(d), S22.4.4, S24.4.4, S26.4. Airbags should also deploy in crashes exceeding that threshold because those crashes are more dangerous. An ACU is responsible for ensuring the airbags and seatbelts activate consistent with these minimum requirements.

461. According to NHTSA's website, frontal air bags are generally designed to deploy in moderate to severe frontal or near-frontal crashes, which are defined as crashes that are equivalent to hitting a solid, fixed barrier at 8 to 14 mph or higher. This would be equivalent to striking a parked car of similar size at about 16 to 28 mph or higher. An ACU is responsible for ensuring the airbags and seatbelts activate in crashes that meet these thresholds.

462. According to federal regulations, an ACU also must keep a record of a crash, including any non-deployment "event" as long as the "trigger threshold" (longitudinal change velocity of 5 miles per hour within 150 millisecond interval) was met. 49 C.F.R. 563. When functioning properly, an ACU stores a crash record on the so-called Event Data Recorder (or "EDR"), which is the automotive equivalent of a "black box" in airplanes. For DS84 ACUs, the EDR is located in an

Electrically Erasable Programmable Read-Only Memory chip (sometimes abbreviated "EEPROM").

463. Normally, a complete EDR crash record will show whether the ACU commanded the safety system to activate during a crash, as well as the information sent to the ACU about the crash (such as the speed of the vehicle, timing of the application of the brakes, etc.). This data enables investigators to determine if a crash was severe enough to trigger the airbags. When a crash is not severe enough to trigger the airbags, the nondeployment of the airbags is "commanded" by the ACU's normal operations, and the crash data will show records of the ACU "commanding" nondeployment during the crash. Accordingly, a "commanded nondeployment" is automotive industry jargon for a crash where the airbags did not deploy because they were not supposed to deploy given the crash severity, and the ACU properly told them not to deploy.

464. In addition to airbags, seatbelts, and Event Data Recorders, ACUs activate other important safety features when a crash is detected. For example, in many vehicles, the ACU sends signals to the automatic door locks and fuel system after detecting a crash.

a. By unlocking automatic doors when a crash is detected, ACUs facilitate a quick escape from a vehicle by passengers who would otherwise have to first disengage the locks themselves. Moreover, when a crash renders passengers unconscious, automatically unlocking the doors allows rescuers to reach the passengers more easily.

b. By turning off the fuel system automatically when a crash is detected, ACUs help reduce the risk of a fire. In gasoline-powered vehicles, ACUs accomplish this by automatically turning off the fuel supply line when a crash is detected. In

hybrid vehicles, ACUs accomplish this by automatically turning off a high-voltage battery.

2. A properly-designed ACU can withstand transient electricity.

465. Large positive and negative transients are among the most severe disturbances that threaten the operation of automotive electronics. Transients are short duration, high magnitude voltage peaks, commonly referred to as surges or bursts. Transients are also referred to as "transient electricity," "electrical transients," "transient voltage," and "transient overvoltage."

466. For decades, participants in the automotive industry—including all the Defendants in this litigation—have known that transients can be generated inside and outside a motor vehicle and cause degradation, malfunction, or destruction of critical electronic equipment. Transients can cause this damage in many ways. One common way is by initiating an electrical phenomenon called "latch-up effect," which can cause parts within a microchip to draw overcurrent power and lead to burnout. The term "overcurrent" refers to an electrical current that exceeds the normal electrical load in a circuit. As Toyota Engineering USA noted in a recall filing with NHTSA in 2013 concerning another type of ACU made by ZF Automotive USA, "latch-up . . . is well known in the electronic component industry as one potential cause of thermal damage in an integrated circuit" and "could cause ASIC damage."

467. Severe events like vehicular crashes and collisions can cause transients. But even with no collision or crash, transients can occur within a vehicle, reach onboard electronics, and damage electronic control units. Defendants have known about these risks for decades.

468. Transients can cause degradation, malfunction, and/or destruction of all electronic control units. An ACU is no exception. Transients can reach an ACU in a variety of ways, including by travelling up the connection between the ACU

and the crash sensors on the vehicle, known as communication (or satellite) lines, because they are the lines through which the crash sensors "communicate" information to the ACU. These crash sensors are connected to the ACU because ACUs are designed to detect crashes by reading electrical signals from the sensors to determine when a crash has occurred. The crash sensors detect activity in the front of the vehicle and send corresponding electrical signals to the ACU. The ACU receives and interprets these signals and activates the airbags and seatbelts when certain thresholds are met.

469. Transients can also sometimes reach ASICs on the ACU that are not connected directly to the front-end crash sensors. For example, transients can reach ASICs that operate airbag "squibs," which is the term for the igniter that physically causes airbags to inflate. Depending on the ACU design, these ASICs sometimes have no connection to the crash sensors.

470. When transients reach squib ASICs with no connection to the front-end crash sensors, the transient typically originates from some source other than those sensors. Vulnerability to these types of transients is a well-known problem, and has prompted recalls of vehicles previously. For example, as explained more fully below, other ACUs, including TRW ACUs recalled between 2012 and 2015, were recalled due to EOS caused by transients that reach squib ASICs.

471. Regardless of its source, transient electricity is dangerous because it can damage important circuits, including the circuits the ACU uses to trigger the airbags and seatbelts during a crash. Because the core function of any ACU is to activate safety restraints in a crash, properly designed ACUs and ASICs can withstand transient electricity, including any transients that could result from a car accident.

3. The DS84 ACUs are defective because they contain a defective DS84 ASIC that makes the DS84 ACUs much less resistant to transient electricity than other ACUs.

472. The DS84 ACUs are defective because they contain a custom ASIC called the DS84 ASIC. This ASIC is defective because it is particularly vulnerable to EOS.

473. The DS84 ASIC performs two critical functions: (1) receiving and interpreting information from the crash sensors and (2) issuing the command that triggers the airbags and seatbelt pretensioners after a crash is detected. ZF Automotive USA's prior generation of ACUs used two separate ASICs for these functions.

474. Because the DS84 ASIC combines into one ASIC the typically separate functions of handling sensor signals and activating safety restraints, the impact of an ASIC malfunction is greater and can lead DS84 ACUs to fail to activate the airbags and tighten seatbelts at the time of a crash.

475. Upon information and belief, the DS84 ASIC is also responsible for commanding the Event Data Recorder on the DS84 ACU to record crash data.

476. Upon information and the belief, the DS84 ASIC is also responsible for issuing commands to disengage automatic locks and shut-off the fuel supply after a crash.

477. The defective DS84 ACUs installed in the Class Vehicles all suffer from the same basic vulnerability to transient electricity and EOS because they all have the same DS84 ASIC, which stops working when exposed to a relatively small electrical surge. The same vulnerability defect exists in all Class Vehicles, regardless of their level of circuit protection.

478. ACUs made by other manufacturers do not have the same vulnerabilities to transient electricity as the defective DS84 ACUs. For example, Honda Japan found that competing ACUs manufactured by Continental

Automotive and DENSO Corporation can withstand much stronger electrical surges than the defective DS84 ACUs.

479. TRW's predecessor ACU to the DS84 ACU, which used two different ASICs to perform the jobs performed by one DS84 ASIC, can also withstand much stronger electrical surges than the defective DS84 ACUs. This predecessor ACU used Freescale ASICs. Testing for Toyota Japan in 2019 found this ASIC could withstand approximately ten times as much voltage as the DS84 ASIC could.

480. Moreover, other contemporaneous ACUs that do not use the DS84 ASIC are also more resistant to electrical surges than the defective DS84 ACUs that do. Testing by ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA in the fall of 2015 showed that the MS84 ASIC reset when exposed to a transient of -8 volts for 500 microseconds, whereas the DS84 ASIC reset and suffered EOS at a much lower level of between -1.5 volts to -2.8 volts over the much shorter time period of 50 – 70 microseconds.[9] In other words, the DS84 ASIC failed between 7 to 10 times more quickly than the MS84 ASIC, and was 2.8 to 5.3 times less robust against transients.

481. In 2016, FCA found that the DS84 "ASIC design is less robust against certain electrical overstress (i.e., surges)." For the DS84 ASIC, EOS started at -1.2 volts for 50 microseconds. By contrast, FCA found the prior design used by ZF Automotive USA (which used Freescale ASICs) did not experience an anomaly until exposed to -19.0 volts for 500 microseconds. Accordingly, the DS84 ASIC failed 10 times faster than this predecessor ASIC, and was approximately 1/15 as robust against transients as the predecessor ASIC.

[9] These other, stronger ZF ACUs use a different ASIC called the MS84. For crash sensor communication, the MS84 uses so-called "PSI-5" technology whereas the DS84 uses "DSI" technology. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA have suggested that this difference may explain the relative weakness of ACUs with the DS84 ASIC.

482. In 2016, FCA also found that ACUs made by other suppliers, including Continental and Bosch, did not suffer resets when exposed to transients of -28 volts and -20 volts, respectively, for 50-70 microseconds. In other words, these other ASICs were between 16 and 24 times more resistant to transients than the DS84 ASIC. For this reason, FCA concluded the "Subject ORC [(i.e., ACU)]/ASIC is more susceptible to Electrical Overstress."

483. Similarly, testing for Toyota Japan showed that a negative surge of less than 2 volts damaged the DS84 ASIC in the Toyota ACUs with .12 ampere diodes and caused them to reset, whereas prior generations of Toyota ACUs with ASICs made by NXP semiconductor could withstand surges of more than 25 volts (i.e., more than 12 times the volts for the DS84 ACUs). That analysis also found ACUs made by Denso with ASICs made by NXP semiconductor could withstand surges between 12 and 19 volts (i.e., between 6 and 10 times more volts than the DS84 ACUs) without a reset.

484. In 2019, testing was also performed on new ZF ACUs for Toyota vehicles that no longer used the DS84 ASIC. These ACUs instead used an ASIC made by Infineon. This ASIC could withstand nearly ten times the amount of voltage that the DS84 ASIC could withstand before resetting.

4. The defective DS84 ASIC is the root cause of the defect in the DS84 ACUs and Class Vehicles.

485. The Class Vehicles and DS84 ACUs are defective because they use the defective DS84 ASICs as the "brains" of the passive safety system. When the ASIC fails due to its vulnerability to transient electricity, the DS84 ACUs and the Class Vehicles malfunction in very dangerous ways.

a. Due to its vulnerability to transients and EOS, the defective DS84 ASIC can stop working during a car crash, which can cause the defective DS84 ACUs and Class Vehicles not to activate the airbags and seatbelts.

486. As explained above, car crashes themselves can generate electrical transients in a variety of ways. When this happens, the defective DS84 ACU and ASIC can fail at the very moment they are needed most: during a car crash.

487. As the Defendants knew, at least two scenarios can generate negative transients that reach the DS84 ASIC during car crashes.

a. First, a crash can cause three phenomena: (1) the vehicle's electrical ground can "shift," which affects the resistance between the ACU circuit board and the vehicle ground (i.e., the vehicle's body, typically the chassis), (2) the current flow of the battery can be disrupted, which leads to an in-rush of additional current upon recovery, and (3) electrical signals on the crash sensor lines can short, meaning they travel along an unintended path, perhaps due to damage to wiring. When combined, these conditions can cause the ASIC's so-called parasitic transistors[10] to turn on, which draws a large current into the ASIC.

b. Second, a crash can cause the crash sensors to short at the same time another powerline unrelated to the ACU shorts to the chassis (i.e. the vehicle frame), which again causes the parasitic transistor within the ASIC to draw a large current into the ASIC.

488. Regardless of how a crash generates the negative transient, however, the DS84 ASIC can fail from electronic overstress whenever exposed to a transient

[10] In electronical engineering jargon, a structure on a circuit board is considered "parasitic" when it has the potential to behave in ways contrary to its intended function after exposure to excessive positive or negative current or some other triggering electrical event.

of 1 or 2 volts. Defendants have observed evidence of EOS damage (such as visible burn marks) on DS84 ASICs in over 35 crashes or crash tests, including at least nine ***fatal*** incidents. Upon information and belief, these crashes ranged from moderate to severe. And none of the suspicious crashes appear to have involved vehicles travelling at speeds far above highway speed limits in the United States. These crashes and crash tests are discussed in Section V.D. below.

489. EOS during a crash can cause any combination of the following failures of a DS84 ACU and Class Vehicle safety system:

a. the front (also called "first stage") airbags can fail to deploy (or deploy too late) in crashes that merit airbag deployment;

b. the side curtain (also called "second stage") airbags can fail to deploy in crashes that merit airbag deployment;

c. the seatbelts can fail to tighten to restrain the passenger;

d. the ACU can fail to unlock the automatic door locks after the crash, thereby increasing the impediments to passenger escape or rescue;

e. the ACU can fail to turn off the fuel supply or high-voltage battery, thereby increasing the risk of a fire; and

f. the ACU can fail to save a complete record of the crash on the Event Data Recorder.

490. The first three problems render all DS84 ASICs, DS84 ACUs, and Class Vehicles defective because properly-designed vehicles, ACUs, and ACU ASICs are able to engage all passive safety restraints (i.e., seatbelts, front airbags, and side airbags) during any crash that merits deployment—including crashes that generate transients. Passive safety systems, ACUs, and ACU ASICs that fail to reliably deploy safety restraints do not serve their most basic function: protecting the lives and physical well-being of drivers and passengers during a crash.

491. The fourth and fifth problems are also serious safety defects, because they increase the likelihood that victims of car accidents suffer further harm after the crash. Upon information and belief, a properly functioning ACU sends commands to unlock automatic door locks and switch off the fuel supply, regardless of whether the car accident happened to generate electrical transients.

492. The failure to save a complete crash record is another defect aside from the failure to activate passive safety restraints, because all passive safety systems are required to save a crash record. *See* 49 CFR § 563. Accordingly, the Class Vehicles, ACUs, and DS84 ASIC are defective because they do not reliably perform this minimum function. This defect is important because complete and accurate crash data is critical to post-hoc investigations of a vehicle's response to a crash. ASIC EOS makes it difficult or impossible for crash investigators to reliably determine whether airbags should not have deployed.

493. All the Class Vehicles, DS84 ACUs, and DS84 ASICs were defective at the point of sale and lease because they are particularly vulnerable to failure due to EOS in certain types of crashes. The ACU Defect is inherent in all Class Vehicles regardless of whether a crash occurs.

b. The defective DS84 ASIC can also fail from EOS outside a crash event, which can cause the Class Vehicle and DS84 ACU to require service or, at worst, airbags to deploy when the vehicle is not crashing.

494. Transient electricity can also occur underneath the hood of a Class Vehicle outside of a collision. For example, according to slide deck presentation that ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA shared with FCA in June 2013, a transient surge can flow through the DS84 ASIC when a line connecting an airbag squib ASIC to the DS84 ASIC shorts and the vehicle ignition causes a current spike.

495. But regardless of how a transient reaches the DS84 ASIC outside of a collision, it can cause the ASIC to malfunction when the transient reaches it. This in turn can cause airbags to inflate during normal driving conditions, when the vehicle has not crashed. These so-called "inadvertent airbag deployments" are a safety risk because it is difficult to maintain control of a vehicle when the airbag goes off while the driver is trying to watch the road and operate the steering wheel, acceleration, and brakes. As of April 2016, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were aware of at least 9 cases of inadvertent airbag deployment in vehicles with the DS84 ASIC. This number increased to at least 10 cases by March 2018.

496. Transient electricity outside of a crash can also cause the passive safety system to shut down and the airbag warning lamp to turn on. This type of failure is another safety risk because it is not safe to drive a vehicle in this condition. Moreover, fixing the disabled condition requires taking the vehicle to a dealer. Warranty claims showing vehicles returned to ZF Automotive USA indicate that this type of EOS failure has occurred in dozens of Class Vehicles.

497. The risk of these two types of failures outside a car crash are independent reasons why the Class Vehicles, DS84 ACUs, and DS84 ASICs are defective.

5. Several types of evidence show when EOS caused a DS84 ASIC to malfunction.

498. Several types of evidence show when a DS84 ASIC has suffered from EOS.

499. The most common first sign that ASIC EOS has occurred is a malfunction of the passive safety system. This can include, but is not limited to, any of the following symptoms, which are each an independent sign of EOS, and can happen without the other failures occurring:

a. A complete or partial failure to deploy airbags in a crash that merited deployment;[11]

b. A complete or partial failure of the seatbelts to tighten;

c. An inadvertent airbag deployment (i.e. outside of a crash); or

d. Activation of an airbag warning lamp (also known as a "readiness indicator").

500. The limited discovery in this case has identified over forty crashes where airbags did not deploy in vehicles with DS84 ACUs and there was evidence of ASIC EOS. Moreover, hundreds of consumers have reported hundreds of additional instances where airbags failed during crashes in Class Vehicles, which Defendants apparently never inspected.

501. Upon information and belief, suspicious inadvertent airbag deployments resulting from EOS have occurred in at least 10 vehicles with DS84 ACUs, including 2 Honda vehicles, 1 FCA vehicle, 1 Kia vehicle, 2 vehicles made by Chinese manufacturer SAIC, and 4 vehicles made by Chinese manufacturer Great Wall.

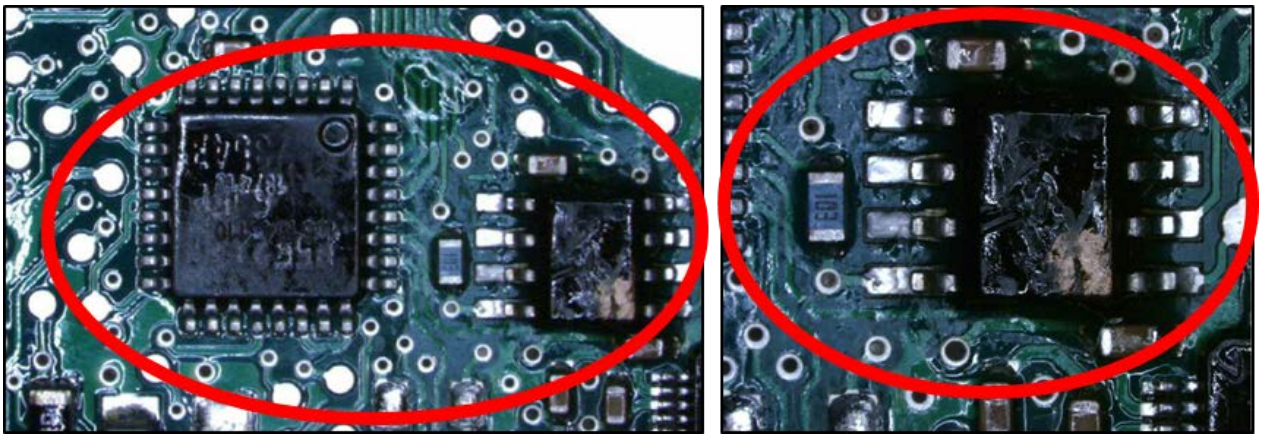
502. Another sign of ASIC EOS is a so-called "non-communicative ACU." This occurs when the ACU fails to communicate with the software typically used to extract crash data from an Event Data Recorder on an ACU. This type of failure indicates that the ACU black box that is supposed to continue working after a crash is no longer working.

503. Another sign of ASIC EOS in ACUs is the complete or partial absence of recorded crash data on the vehicle's Event Data Recorder. An incomplete or

[11] As explained above, airbags have multiple deployment stages, known as first and second stage, which are meant to correspond with accident severity. Suspicious partial deployment occurs when airbags do not completely deploy, or some airbags deploy and others do not, in an accident that merited complete deployment.

absent crash record is evidence that the normal operation of the ASIC (i.e., writing crash data) was interrupted by EOS during the crash.

504. Another sign of ASIC EOS is visible burn marks on the ACU circuit board. For example, the below images of a defective DS84 ACU recovered from a wrecked Toyota Corolla in Northern California depict these kinds of burn marks. The DS84 ASIC is the square shaped chip on the left with visible signs of distress. Upon information and belief, the rectangular chip to its right is a power supply circuit also damaged by the electrical current that caused overstress. The Corolla's airbags failed to deploy during a crash in 2018. The crash killed the driver.



505. Another sign of ASIC EOS can be distress to the interior of the DS84 ASIC, which is revealed through a special kind of investigation. Specifically, to take an image of the interior of the microchip, the chip manufacturer often needs to "decapsulate" or "decap" the chip—meaning the very small black packaging material around the microchip is removed to expose the silicon chip inside. Once this is done, special tools can be used to take an image of the details that are not visible to the naked eye. X-rays can also be used to take a visual image of an ASIC's interior. When either analysis identifies damage to the hardware of the chips—such as burns, fatigued metal, soldering (i.e. fused metal), or damaged pins—it supports a finding that the chip suffered from EOS. As to the damaged pins, ASICs, including the DS84, are packaged with an array of small pins placed

on the underside of the ASIC. The pins serve as electrical contacts to connect the device to the circuit board. Thus, when transients travel to the ASIC, the pins serve as a point of contact that can suffer physical damage and reveal signs of EOS.

506. Another way to test whether an ASIC has suffered from EOS is to replace the chip that appears to be compromised with a new chip of the same type. If the ACU works after replacing the chip, it tends to confirm the ASIC was broken by EOS.

507. Another way to test whether ASIC EOS occurred on a malfunctioning DS84 ACU is to measure the resistance at test points on the circuit board. The purpose of this test is to identify if there are shorts in components connected to the test points by looking for high versus low impedance values. Abnormal resistance measurements relative to another non-malfunctioning DS84 ACU can evidence EOS.

508. These methods for detecting ASIC EOS are identified based on the limited discovery that has occurred to date, and are likely not an exhaustive list.

6. Toyota Engineering USA, FCA, Hyundai USA, and Kia USA have admitted the DS84 ACUs in 5,406,228 Class Vehicles are defective.

509. Toyota Engineering USA, FCA, Hyundai USA, and Kia USA have admitted that the DS84 ACUs in 5,406,228 Class Vehicles are defective by recalling them.

510. None of the recall remedies these Defendants have offered for these Class Vehicles address the root cause of the ACU Defect because the Class Vehicles continue to use defective DS84 ACUs with the defective DS84 ASIC even after receiving the recall remedy. The underlying vulnerability to EOS continues to exist even in these "fixed" vehicles.

511. Plaintiffs estimate that between 10 and 15 million Class Vehicles with the same defective DS84 ASICs and similarly defective DS84 ACUs remain

unrecalled. Upon information and belief, no Defendant has taken any steps to address the safety defect in these vehicles.

a. FCA recalled 1,425,627 Class Vehicles because of the defective DS84 ACUs and defective DS84 ASICs.

512. On September 13, 2016, FCA submitted a 573 Defect Report to NHTSA announcing its intention to recall 1,425,627 vehicles based on an admitted defect with the DS84 ACUs. A 573 Defect Report is a written report that automobile and parts manufacturers must submit to NHTSA in connection with an automobile recall. When filed, these reports are publicly available on NHTSA's website.[12]

513. FCA's recall announcement expressly acknowledges that 100% of the population of 1,425,627 vehicles had the ACU Defect.

514. FCA's September 13, 2016 573 Defect Report states:

> 2010–2014 MY Chrysler 200, Chrysler Sebring and Dodge Avenger ('JS'), 2010–2014 MY Jeep Compass and Jeep Patriot ('MK') and 2010–2012 MY Dodge Caliber ('PM') vehicles may experience loss of air bag and seat belt pretensioner deployment capability in certain crash events due to a shorting

[12] In its February 9, 2022 decision on Defendants' motions to dismiss, the Court reasoned that access to Defendants' books and records may not be necessary to obtain information about uses of mail and wire because "Plaintiffs had access to a number of 'Part 573' reports . . . to NHTSA." ECF 396 at 73. Respectfully, Part 573 Reports do not permit such an inference. Although 573 Defect Reports provide some limited information about automobile defects, they never provide information about shipments of particular vehicles to dealers (such as the dates of shipments), the timing and place of advertising, or other particular details of the distribution process. Moreover, 573 Defect Reports are only filed when a manufacturer admits a defect or voluntarily conducts a recall, or when NHTSA formally finds a defect and orders a recall to take place. Because Defendants continue to deny the ACU Defect, there are no 573 Defect Reports about the ACU Defect in most of the Class Vehicles (i.e., the ones that have not been recalled). Moreover, the Honda and Mitsubishi Defendants have never submitted a 573 Defect Report about the ACU Defect in any of their Class Vehicles.

> condition resulting in a negative voltage transient that travels to the Occupant Restraint Controller ('ORC')[13] via the front impact sensor wires damaging an Application Specific Integrated Circuit ('ASIC') in the ORC. The root cause of the failure was determined to be a combination of the relative susceptibility of the subject ORC ASIC to negative transients and the front acceleration sensor signal cross-car wire routing in certain crash events. . . . The potential loss of air bag and seat belt pretensioner deployment capability in such crash events may increase the risk of injury in a crash.

515. FCA's recall did not rectify the ACU Defect or the economic harm caused by the Defect at the point of purchase and lease.

a. First, the recall occurred years after consumers purchased or leased the defective FCA Class Vehicles and provided no monetary compensation at all. Accordingly, it did not remedy the overpayment damages suffered by consumers.

b. Second, when FCA announced the recall in September 2016, it also admitted "FCA US has not defined a recall remedy at this time." Due to a lack of parts, FCA would not even begin to recall and repair vehicles pursuant to this recall for approximately ***11 months***. During this time period, consumers continued to report airbag and seatbelt failures in several of the vehicles subject to the recall. *See*, *e.g.*, Exhibit 1 (ODI nos. 10920626, 10926236, 11006561, 11006731, 11022674, 10917305, 10926700, 11019118, 10915978, 10993562, 11192853).

c. Third, for years after FCA began conducting its partial recall in August 2017, consumers continued to report airbags and seatbelts failures in FCA Class Vehicles subject to the recall.

[13] As explained above, "ORC" is another term for ACU.

See Exhibit 1 (ODI nos. 11164588, 11183650, 11203283, 11204387, 11219085, 11301047). This suggests an ongoing problem with these vehicles. Upon information and belief, FCA's recall remedy involves replacing the DS84 ACUs with another version of the same ACU and the same defective DS84 ASIC, but with some additional circuit protection. These replacement DS84 ACUs appear to have the same level of circuit protection as the DS84 ACUs in several unrecalled FCA Class Vehicles. NHTSA's investigation into the unrecalled FCA Class Vehicles with DS84 ACUs with the same level of circuit protection as the replacement DS84 ACU used as the recall remedy strongly indicates the agency now doubts the adequacy of the remedy.

d. Fourth, FCA's September 13, 2016 recall has not remedied most of the recall population. According to FCA's most recent recall report, FCA had only repaired 550,005 of the 1,435,625 vehicles with defective DS84 ACUs as of January 16, 2019. After this date, FCA apparently stopped conducting the recall.

b. Hyundai USA and Kia USA recalled 1,088,625 Class Vehicles because of the defective DS84 ACUs and defective DS84 ASICs.

516. Between February 27, 2018 and October 5, 2018, Hyundai USA made three recall announcements concerning 2011-2013 Hyundai Sonatas and 2011-2012 Hyundai Sonata Hybrids, all of which are Class Vehicles equipped with the DS84 ACUs.

517. The final recall announcement expressly acknowledges that 100% of the population of 581,038 vehicles had the defect.

518. Hyundai USA's final 573 Defect Report admitted that the DS84 ACUs in these vehicles were defective and describes the ACU Defect as follows:

> The subject vehicles are equipped with an original equipment airbag control unit ("ACU") which detects a crash signal and commands deployment of the Advanced Airbag System ("AAS") and seat belt pretensioners when necessary. The subject ACU's contain a certain application-specific integrated circuit ("ASIC") that, in the absence of circuit protecting diodes, could be susceptible to electrical overstress ("EOS") resulting in the inability to properly deploy the AAS and seat belt pretensioners during certain frontal crash events. . . .
>
> Hyundai believes that the ASIC used in the subject ACUs could be susceptible to EOS because it lacks adequate circuit protection. In at least one crash test, damage to the DS84 ASIC from EOS could have caused the loss of the AAS and seat belt pretensioner deployment. At the request of Hyundai, ZF-TRW is continuing their analysis of the source of EOS and noncommunication of the DS84 ASICs from other related crash-test ACUs. Hyundai USA notes that this defect appears substantially similar to the defect in Recall No. 16V-668 where EOS appeared to be a root cause of AAS non-deployment in significant frontal crashes involving certain Fiat Chrysler vehicles. As such, Hyundai reasonably believes that this is a defect in original equipment installed in the vehicles of more than one manufacturer.

519. On June 1, 2018, Kia USA announced a recall of 507,587 Class Vehicles, including the 2010-2013 Kia Forte, the 2011-2012 Kia Optima Hybrid, the 2010-2013 Kia Forte Koup, the 2011-2013 Kia Optima, and the 2011-2012 Kia Sedona.

520. Kia USA's recall announcement expressly acknowledges that 100% of the population of 507,587 vehicles had the defect.

521. Kia USA's 573 Defect Report admitted that the DS84 ACUs in these vehicles were defective and describes the ACU Defect as follows:

> The Airbag Control Unit ("ACU") detects crash severity and

> commands deployment of the advanced airbags and seatbelt pretensioners when necessary. The recalled vehicles are equipped with an ACU which contain a certain application-specific integrated circuit ("ASIC") that may be susceptible to electrical overstress ("EOS") during certain frontal crash events. . . .
>
> If the ASIC becomes damaged, the front airbags and seatbelt pretensioners may not deploy in certain frontal crashes where deployment may be necessary, thereby increasing the risk of injury. . . .
>
> The ASIC component within the subject ACUs may be susceptible to EOS due to inadequate circuit protection.

522. Hyundai USA's and Kia USA's recalls did not rectify the ACU Defect or the economic harm caused to consumers by the Defect at the point of purchase and lease.

a. First, the recalls of the Hyundai-Kia Class Vehicles provided no monetary compensation at all. Accordingly, they did not remedy the overpayment damages suffered by consumers.

b. Second, Hyundai USA's and Kia USA's respective limited recalls occurred multiple *years* after they and their parent companies first knew about the ACU Defect, during which they avoided incurring the costs associated with recalls and installing replacement parts for almost a decade for some Class Vehicles. Throughout this time, consumers continued to buy, lease, and drive vehicles that Hyundai USA and Kia USA knew to be unsafe every day.

c. Third, when Hyundai USA first announced its limited recall for some of the Hyundai Class Vehicles in February 2018, it also admitted that it did not have a solution to fix the defective ACU. Hyundai USA first mailed notice of an available repair to

owners ***eight months*** after announcing the recall, in mid-October 2018, while Kia USA first mailed notice of an available repair to owners two months after announcing its recall, on or about July 28, 2018.

d. Fourth, the recall repair eventually offered by Hyundai USA and Kia USA did not provide an adequate remedy to the problem. The "fix" involved installing an extension wire harness kit for additional circuit protection. However, by simply installing a separate wire harness kit called a noise filter outside of the ACU—and even then, only "if necessary" in Kia Sedonas—Hyundai USA's and Kia USA's recalls did not remedy the defective DS84 ACUs, which continued to use the defective DS84 ASICs. Moreover, noise filters have a history of failing as remedies for recalls involving ACU ASIC malfunctions due to transients and EOS. In 2012 and 2013, for example, FCA and Toyota Engineering USA conducted recalls of earlier ACUs made by ZF Automotive USA because the ASICs inside were failing due to EOS and causing inadvertent deployments. As purported remedies, Toyota Engineering USA and FCA installed noise filters. Both remedies failed to cure the defect, and Toyota Engineering USA and FCA had to recall the vehicles again in 2015 when NHTSA launched a second investigation into the EOS problem in these ACUs.

e. Fifth, as of the most recent reports from January 2020, the Hyundai-Kia Defendants' recalls have remedied just over half of the recall population since they were announced over two years ago. According to Hyundai USA's most recent recall report, Hyundai USA had repaired 338,604 of the 580,058 vehicles

with defective DS84 ACUs as of January 31, 2020. According to Kia USA's most recent recall report, Kia USA had repaired 201,060 of the 507,587 vehicles with defective DS84 ACUs as of January 13, 2020. During this time period, and in the years that have followed, consumers reported airbag and seatbelt failures in the Recalled Hyundai and Kia Class Vehicles.[14]

c. Toyota Engineering USA recalled 2,891,976 Class Vehicles because of the defective DS84 ACUs and defective DS84 ASICs

523. On January 17, 2020, Toyota Engineering USA recalled 2,891,976 vehicles equipped with the defective DS84 ACUs. The recalled vehicles included the 2011-2019 Corolla, 2011-2013 Corolla Matrix, 2012-2018 Avalon, and 2013-2018 Toyota Avalon HV.

524. Toyota Engineering USA's 573 Defect Report admitted that DS84 ACUs with the DS84 ASIC are defective and described the ACU Defect as follows:

> The ECU [(a term used by Toyota for ACU)] contains a model DS84 application-specific integrated circuit (ASIC) which controls the communication of the crash sensor signals, firing commands (i.e., when to deploy airbag(s) and/or [seatbelt] pretensioners), and fault information (e.g., diagnostic trouble codes).
>
> This ASIC does not have sufficient protection against negative electrical transients that can be generated in certain severe crashes, such as an underride frontal crash where there is a large engine compartment intrusion before significant deterioration. In these cases, the crash sensor and other powered wiring can be damaged and shorted so as to create a

[14] *See* Hyundai reports, Exhibit 2 (ODI Nos. 11160781, 11140564, 11156730, 11232616, 11208091, 11208630, 11291530, 11301138, 11111515, 11109647, 11153247, 11182813, 11307272); Kia reports, Exhibit 3 (ODI Nos. 10781050, 11018775, 11105328, 11129933, 11130355, 11142259, 11131971, 11174482, 11150286).

> negative electrical transient of sufficient strength and duration to damage the ASIC before the deployment signal is received in the [Safety Restraint System] ECU. This can lead to incomplete or nondeployment of the airbags and/or pretensioners.

525. Toyota Engineering USA's recall did not rectify the ACU Defect or the economic harm caused by the Defect at the point of purchase and lease.

a. First, the recall provided no monetary compensation at all. Accordingly, it did not remedy the overpayment damages suffered by consumers.

b. Second, Toyota Engineering USA's recall occurred multiple *years* after Toyota Engineering USA, Toyota USA, Toyota Sales USA, and Toyota Japan knew about the ACU Defect. Throughout this time, consumers continued to buy, lease, and drive vehicles that Toyota Engineering USA, Toyota USA, Toyota Sales USA, and Toyota Japan knew to be unsafe.

c. Third, the recall repair eventually offered by Toyota Engineering USA did not provide an adequate remedy to the problem. The "fix" involved installing an extension wire harness kit for additional circuit protection. However, by simply installing a separate wire harness kit called a noise filter outside of the ACU—and even then, only "if necessary"—Toyota Engineering USA's recall did not remedy the defective DS84 ACUs, which continued to use the defective DS84 ASICs. Moreover, as noted above, noise filters have a history of failing as recall remedies for recalls involving ACU ASIC malfunctions due to transients and EOS. In 2012 and 2013, for example, FCA and Toyota Engineering USA previously conducted recalls of ACUs made by ZF Automotive USA because the ASICs inside

were failing due to EOS and causing inadvertent deployments. As purported remedies, Toyota Engineering USA and FCA installed noise filters. Both remedies failed to cure the defect, and Toyota Engineering USA and FCA had to recall the vehicles again in 2015 when NHTSA launched a second investigation into the EOS problem in these ACUs.

d. Fourth, as of the most recent reports, Toyota Engineering USA's recall has remedied just over half of the recalled Toyota Class Vehicles. According to Toyota Engineering USA's most recent recall report, Toyota Engineering USA had repaired 1,625,024 of the 2,891,976 vehicles with defective ACUs as of January 20, 2022.

7. Hundreds of consumer complaints report that airbags have failed in Class Vehicles during serious collisions.

526. Publicly available consumer complaints confirm that airbags and seatbelts in Class Vehicles are failing during serious crashes when airbags should deploy and seatbelts should pretension.

527. Between 2014 and the present, more than 30 consumers reported to NHTSA that their airbags and/or seatbelts had failed in Hyundai Class Vehicles. Examples of such complaints are attached hereto as Exhibit 2. Illustrative examples of these complaints are quoted below.

a. A publicly available complaint with NHTSA dated January 28, 2014 reported a January 3, 2014 accident involving a 2013 Hyundai Sonata in Westminster, California. The complaint states: "I START THE VEHICLE TO TURN RIGHT THEN GOT HIT ON THE DRIVER SIDE UP TO THE FRONT END. THE OTHER VEHICLE RAN THE RED LIGHT AND HIS SPEED WAS ABOUT 45-50 MPH. MY CAR GOT HIT HARD

AT THE FRONT AND TURNED 180 DEGREE, NONE OF THE AIRBAGS WAS DEPLOYED. AS A SAFETY CONCERN, I WOULD LIKE TO FILE A COMPLAINT AS I AM GONNA HAVE A BABY SOON THIS YEAR 2014. WHAT IF THAT ANOTHER ACCIDENT OCCUR AND THE BABY OR MY SPOUSE [WERE] IN THE CAR WITH ME? *TR."

b. A publicly available complaint with NHTSA dated August 4, 2014 reported a September 6, 2011 accident involving a 2012 Hyundai Sonata in Bossier City, Louisiana. The complaint states: "TL* THE CONTACT OWNS A 2012 HYUNDAI SONATA. THE CONTACT STATED THAT WHILE DRIVING 45 MPH, THE BRAKING SYSTEM FAILED TO ENGAGE. THE CONTACT APPLIED THE EMERGENCY BRAKE AND THE VEHICLE SKIDDED. AS A RESULT, THE CONTACT CRASHED INTO A MEDIAN. THE DRIVER SIDE AIR BAG FAILED TO DEPLOY. THE CONTACT SUSTAINED BRAIN AND BACK INJURIES AND THE REAR PASSENGER SUSTAINED INJURIES TO THE HANDS AND SHOULDER, WHO BOTH REQUIRED MEDICAL ATTENTION. A POLICE REPORT WAS FILED. THE VEHICLE WAS DESTROYED. THE MANUFACTURER WAS MADE AWARE OF THE FAILURE. THE APPROXIMATE FAILURE MILEAGE WAS 50,000."

c. A publicly available complaint with NHTSA dated December 20, 2019 reported an October 10, 2019 accident involving a 2019 Hyundai Sonata in Casco, Wisconsin. The complaint

states: "TL* THE CONTACT OWNED A 2019 HYUNDAI SONATA. WHILE THE CONTACT WAS PULLING INTO AN INTERSECTION, A SECOND VEHICLE CRASHED INTO THE FRONT DRIVER SIDE OF HIS VEHICLE. THE FRONT END OF THE VEHICLE WAS SEVERELY DAMAGED; HOWEVER, THE AIR BAGS DID NOT DEPLOY. THE DRIVER SUSTAINED BROKEN RIBS, AND INJURIES TO THE LEG, HEAD, AND ARM. MEDICAL ATTENTION WAS RECEIVED AND POLICE REPORT NUMBER: [XXX] WAS FILED. THE VEHICLE WAS DESTROYED AND TOWED FROM THE SCENE. BROADWAY AUTOMOTIVE (1010 S. MILITARY AVE, GREEN BAY, WI) AND THE MANUFACTURER WERE NOTIFIED OF THE FAILURE. THE FAILURE MILEAGE WAS 3,500. *DT."

528. Between 2012 and the present, more than 20 consumers reported to NHTSA that their airbags and/or seatbelts had failed in Kia Class Vehicles. Examples of such complaints are attached hereto as Exhibit 3. Illustrative examples of these complaints are quoted below.

a. A publicly available complaint with NHTSA dated September 16, 2013 reported a September 10, 2013 accident involving a 2011 Forte in Sharpsburg, Georgia. The complaint states: "TL* THE CONTACT OWNS A 2011 KIA FORTE. THE CONTACT STATED THAT WHILE SITTING AT A COMPLETE STOP, ANOTHER VEHICLE TRAVELING 60 MPH CRASHED INTO THE REAR OF THE CONTACTS VEHICLE. THE IMPACT CAUSED THE CONTACTS VEHICLE TO BE PUSHED FORWARD AT

APPROXIMATELY TWO HUNDRED FEET AND INTO THE REAR OF ANOTHER VEHICLE. THE DRIVERS SIDE HEAD REST AND METAL BAR BECAME SEPARATED UPON IMPACT. THE CONTACT SUFFERED FROM WHIPLASH, NECK STRAINS, AND LACERATIONS TO THE LOWER BACK AND RIGHT LEG. A POLICE REPORT WAS FILED. IN ADDITION, THE DRIVER AND PASSENGERS SIDE AIR BAGS FAILED TO DEPLOY. THE VEHICLE WAS DESTROYED. THE MANUFACTURER WAS MADE AWARE OF THE FAILURE. THE FAILURE AND CURRENT MILEAGE WAS 35,000."

b. A publicly available complaint with NHTSA dated February 6, 2015 reported a February 3, 2015 accident involving a 2010 Forte in Saint John, Indiana. The complaint states: "2010 KIA FORTE REAR ENDED A 2012 TOYOTA VENZA WHILE TRAVELING AT APPROXIMATELY 40 MPH ON WET ASPHALT PAVEMENT. UPON COLLISION, THE AIR BAG FAILED TO DEPLOY AND SEAL BELT RESTRAINT FAILED TO HOLD BACK DRIVER OF THE KIA. DRIVERS FOREHEAD HIT AND BENT STEERING WHEEL AND CAUSED MAJOR FRONT END DAMAGE TO THE KIA AND CONSIDERABLY LESS DAMAGE TO THE TOYOTA VENZA. KIA WAS NOT DRIVABLE, SO IT WAS TAKEN TO A SALVAGE YARD OF A FLAT BED TRUCK. DRIVER OF KIA WAS TAKEN TO HOSPITAL FOR X-RAYS AND EVALUATION. DRIVER OF KIA SUFFER NECK\BACK PAIN, BRUISED FOREHEAD AND HEAD ACHE AND WAS PRESCRIBED PAIN PILLS & ANTI

INFLAMMATORY MEDICATION. MY GREATEST CONCERN IS THAT I OWN TWO KIA'S, ONE FOR EACH OF MY COLLAGE [sic] AGE KIDS AND FEAR THAT THE SAME OUTCOME MAY OCCUR AGAIN WITH DIRE CONSEQUENCES. FAILURE OF THE AIR BAG DEPLOYMENT AND SEAT BELT RESTRAINT MUST BE ADDRESSED AND CORRECTED BY KIA BEFORE MORE INJURIES OCCUR. . UPDATED 02/19/15 *BF UPDATED 3/30/2016 *JS UPDATED 9/20/2017*CN."

c. A publicly available complaint with NHTSA dated May 29, 2019 reported a March 24, 2019 accident involving a 2015 Optima in Naperville, Illinois. The complaint states: "I WAS TRAVELING EAST ON A 4 LANE ROAD AT 45 MPH. AS I WAS PASSING THRU A GREEN LIGHT, A WESTBOUND VEHICLE MADE AN ILLEGAL LEFT TURN IN FRONT OF ME, CAUSING ME TO 'T-BONE' HIS VEHICLE. ALL OF HIS AIRBAGS DEPLOYED.....NONE OF MINE DID. THE CAR WAS REPAIRED, SURPRISINGLY; YET I DO NOT FEEL SAFE DRIVING IT. I SUSTAINED CERVICAL AND LUMBAR SPINE INJURIES, AS WELL AS A SEVERE WHIPLASH AND CONCUSSION. I AM UNABLE TO WORK, DUE TO SURGERY THAT WAS NECESSARY. I JUST NEED TO KNOW IF THIS CAR IS SAFE?? I WAS ALSO IN A SIDE COLLISION THAT WAS NOT MY FAULT; TWO YEARS AGO, WHERE SOMEONE HIT ME, AND NO AIRBAGS DEPLOYED. AT THAT PARTICULAR ACCIDENT, I WAS STATIONARY; AT A STOP LIGHT."

529. Between 2010 and the present, dozens of consumers reported to NHTSA that their airbags and/or seatbelts had failed in FCA Class Vehicles. Approximately 100 examples of such complaints are attached hereto as Exhibit 1. Illustrative examples of these complaints are quoted below.

a. A September 29, 2010 complaint concerning a September 7, 2010 crash involving a 2010 Dodge Ram states: "TL* THE CONTACT OWNS A 2010 DODGE RAM 1500. THE CONTACT WAS RUN OFF THE ROAD WHILE DRIVING 65 MPH INTO A DITCH. THE FRONTAL AIR BAGS DID NOT DEPLOY AND THE SEAT BELT DID NOT LOCK. THE CONTACT HIT AND BROKE THE STEERING WHEEL AND STEERING COLUMN BECAUSE OF THE SEAT BELT FAILURE; HE WAS INJURED. THE VEHICLE WAS TOWED TO A REPAIR SHOP. THE MECHANIC (AND POLICE OFFICER ON THE SCENE) STATED THAT THE AIR BAGS SHOULD HAVE DEPLOYED. THE CURRENT AND FAILURE MILEAGES WERE APPROXIMATELY 3,600."

b. A July 18, 2016 complaint concerning a July 13, 2016 crash involving a 2009 Dodge Ram states: "AIR BAG FAILURE--ON WEDNESDAY JULY 13 2016 THE VEHICLE (2009 DODGE RAM 1500) WAS INVOLVED IN A FRONT END COLLISION WHILE TRAVELING ON A CITY OWNED ROAD. THE DRIVER WHO WAS THE ONLY PERSON IN THE VEHICLE LOST CONTROL OF THE VEHICLE WHEN TAKING A SHARP RIGHT TURN ON A DIRT ROAD IN THE DARK. AS A RESULT THE VEHICLE CRASHED INTO A DITCH, COMPLETELY SMASHING IN THE

FRONT END AND DAMAGED MOST OF THE REST OF THE TRUCK AS WELL. UPON IMPACT THE DRIVER'S AIR BAG DID NOT DEPLOY. THE DRIVER SUSTAINED INJURIES TO HIS ENTIRE UPPER BODY AS WELL AS SUFFERING FROM A CONCUSSION UPON IMPACT BECAUSE OF THE AIR BAG MALFUNCTION. HE REQUIRED EMERGENCY MEDICAL ATTENTION AND WAS TRANSPORTED TO THE HOSPITAL BY AMBULANCE. WE HAVE MORE PICTURES INCLUDING PICTURES OF THE FRONT END OF THE TRUCK HOWEVER THE FILE IS TO BIG TO UPLOAD ON THIS REPORT."

c. A September 19, 2017 complaint concerning an October 2, 2015 crash involving a 2012 Jeep Wrangler states: "I WAS INVOLVED IN A SINGLE VEHICLE ACCIDENT ON 10/2/2015 INVOLVING 2012 JEEP WRANGLER, MY VEHICLE JERKED TO THE RIGHT SUDDENLY CAUSING ME TO LOSE CONTROL. THE JEEP WAS JERKED OFF THE ROAD INTO A DITCH ON THE RIGHT, HIT THE FRONT END OF THE DITCH AND WAS LAUNCHED AIRBORNE, THEN CRASHED ON THE CEMENT WALL OF A SECOND DITCH, BOUNCING TWICE BEFORE LANDING IN THE DITCH AND HITTING THE FRONT END OF THAT DITCH. I REPEATEDLY SLAMMED ON MY BRAKES BUT THEY DID NOT ENGAGE. MY AIRBAGS DID NOT DEPLOY. MY SEAT BELT TENSIONER DID NOT ENGAGE, CAUSING ME TO BE THROWN FORWARD AND BACKWARDS REPEATEDLY.

I SUFFERED A CLOSED HEAD INJURY AND HERNIATIONS TO MULTIPLE DISCS IN MY NECK AS WELL AS TRAUMA TO THE FACET JOINTS IN MY NECK, RESULTING IN SEVERE FORAMINAL STENOSIS AT MULTIPLE LEVELS THAT REQUIRES NEUROSURGICAL INTERVENTION. I SLAMMED MY HEAD ON THE STEERING WHEEL 4 TIMES, MY CHEST ONCE. THIS ACCIDENT FOREVER CHANGED MY LIFE. I HAVE REPEATEDLY CALLED FCA TO FILE A FORMAL COMPLAINT, AM ALWAYS TOLD SOMEONE WILL CALL ME BACK. IT'S BEEN ALMOST TWO YEARS AND NO ONE HAS CALLED ME BACK. I WAS GIVEN A CASE NUMBER AND TOLD SOMEONE WOULD COME LOOK AT MY VEHICLE TO INSPECT IT, NEVER HAPPENED. AS I FACE URGENT SURGERY TO MY SPINE WITH PAIN TO MY NECK RADIATING DOWN MY RIGHT ARM, ALL I CAN THINK ABOUT IS CHRYSLER. THEY RECALLED 2016-2017 JEEP WRANGLERS FOR FAULTY WIRING OF THE OCCUPANT RESTRAINT CONTROL MODULE, AS WELL AS JEEP PATRIOTS AND COMPASSES MADE THE SAME YEAR AS MY VEHICLE ALONG WITH MILLIONS OF OTHER CHRYSLER VEHICLES. FCA REFUSES TO RETURN MY PHONE CALLS, HOW MANY MORE PEOPLE ARE THEY IGNORING? THEY NEED SEE WHAT HAPPENS WHEN THEY DON'T RECALL ALL VEHICLES BUILT WITH THE SAME COMPONENTS, KNOWING THERE ARE MORE VEHICLES NOT INCLUDED IN THE RECALL THAT POSE A SAFETY RISK."

d. A February 28, 2019 complaint concerning a collision involving a 2016 Jeep Wrangler states: "DURING A ROLLOVER CRASH WHICH INITIATED AT 40 MILES PER HOUR, THE FRONTAL AIRBAGS FAILED TO DEPLOY. THE VECHICLE ROLLED AND AN ADEQUATE AMOUNT OF FORCE TO DEPLOY THE AIR BAGS SHOULD HAVE BEEN TRIGGERED. AS A RESULT THE OOCCUPANTS EXPERIENCE EXTENSIVE INJURIES CONSISTENT WITH SUDDEN DECELERATION."

530. Since at least as early as 2012, dozens of consumers have reported to NHTSA that airbags and seatbelts in Toyota Class Vehicles failed to activate during serious accidents. Over 70 examples of such complaints are attached hereto as Exhibit 4. Three illustrative examples of these complaints are quoted below.

a. A March 2, 2013 complaint reported a February 20, 2013 accident involving a 2012 Toyota Corolla in Herndon, Virginia. The complaint states: "I BELIEVE THERE IS A SERIOUS SAFETY ISSUE RELATED TO THE PLACEMENT OF THE AIR BAG SENSOR. MY WIFE AND A CO-WORKERS WIFE WERE INVOLVED IN AN ACCIDENT THAT SEVERELY DEFORMED THE FRONT OF A 2012 TOYOTA COROLLA WITHOUT TRIGGERING THE AIRBAG SENSOR. UPON INSPECTION, IT APPEARS THAT THE PORTION OF THE CAR THAT THE AIRBAG SENSOR IS ATTACHED TO, MOVED OVER A FOOT AND A HALF WITHOUT TRIGGERING THE AIR BAG SENSOR. AS A FORMER ASE MASTER TECHNICIAN AND TECHNICAL EXPERT FOR THE BETTER BUSINESS BUREAU, THIS MAY BE A SERIOUS DESIGN FLAW THAT COULD ENDANGER THE

HEALTH AND SAFETY OF OTHER 2012 COROLLA OWNERS. I FILE [sic] A COMPLAINT WITH TOYOTA USA AND I AM WAITING FOR THEIR RESPONSE. *TR."

b. A May 8, 2014 complaint reported an April 2, 2014 accident involving a 2011 Toyota Corolla in Graham, Texas. The complaint states: "I REAR ENDED A TRUCK FULL BUMPER TO FULL BUMPER COLLISION GOING ABOUT 25-30MPH. MY ENTIRE FRONT END WAS CRUSHED, RADIATOR AND TRANSMISSION BUSTED, AND FRONT BUMPER PULLED OFF, AND INSIDE CAR UNDER STEERING WHEEL HAD BEEN SLIGHTLY PUSHED OUT TOWARDS DRIVER SEAT. MY CAR WAS TOTALED. I BUSTED THE WINDSHIELD WITH MY HEAD WHEN I HIT IT GIVING ME A CONCUSSION AND HAD CONTUSIONS TO MY CHEST FROM HITTING STEERING WHEEL, AND CONTUSION AND SPRAIN TO MY RIGHT HAND. NO ONE INCLUDING POLICE, FIREMEN, AMBULANCE, AND WRECKING YARD COULD BELIEVE MY AIR BAGS DID NOT DEPLOY. MY HUSBAND AND I CONTACTED TOYOTA ABOUT THIS AND THEY ASSURED ME IT SHOULD NOT HAVE DEPLOYED AND SENT ME AN EMAIL LINK TO READ DESCRIBING WHEN AIR BAGS SHOULD DEPLOY. WHEN I CALLED BACK AFTER READING THE EMAIL AND TOLD THE MAN WHAT THE EMAIL SAID AND THAT MY AIR BAG SHOULD HAVE DEPLOYED HE CALLED ME A LIAR, AND SAID THAT WAS NOT WHAT THE EMAIL SAID. MY HUSBAND THEN CALLED AND REQUESTED

INFORMATION FROM EDR BE DOWNLOADED AND READ. TOYOTA NEVER RETURNED OUR PHONE CALL AND NEVER RETRIEVED INFORMATION FROM EDR, AND NOW INSURANCE HAS TAKEN POSSESSION OF THE VEHICLE AND IT IS GONE. A MONTH LATER WE STILL HAVE NEVER RECEIVED A RETURN PHONE CALL OR EXPLANATION FROM TOYOTA. *TR."

c. An August 21, 2014 complaint with NHTSA reported an August 7, 2014 accident involving a 2013 Toyota Avalon Hybrid in Indiana, Pennsylvania. The complaint states: "TL* THE CONTACT OWNED A 2013 TOYOTA AVALON HYBRID. THE CONTACT'S VEHICLE WAS STRUCK BY A DRUNK DRIVER, WHICH CAUSED THE CONTACT TO CRASH THE VEHICLE INTO AN EMBANKMENT. THE VEHICLE ROLLED OVER SEVERAL TIMES. THE AIR BAGS FAILED TO DEPLOY. THE CONTACT AND FRONT PASSENGER WERE INJURED AND RECEIVED MEDICAL ATTENTION. THE DRIVER FROM THE OTHER VEHICLE ALSO SUSTAINED INJURIES. A POLICE REPORT WAS FILED AND THE VEHICLE WAS DESTROYED. THE MANUFACTURER WAS NOTIFIED. THE FAILURE OCCURRED WHILE DRIVING 40 MPH. THE APPROXIMATE FAILURE MILEAGE WAS 9,500."

531. Between 2012 and the present, dozens of consumers reported to NHTSA that airbags and/or seatbelts had failed in Honda Class Vehicles. Approximately 40 examples of such complaints are attached hereto as Exhibit 5. Three examples of these complaints are quoted below.

a. A November 28, 2014 complaint reported an October 21, 2014 accident involving a 2013 Honda Civic. The complaint states: "TL* THE CONTACT OWNS A 2013 HONDA CIVIC. THE CONTACT STATED THAT WHILE MAKING A LEFT TURN, ANOTHER VEHICLE DROVE THROUGH A RED LIGHT AND CRASHED INTO THE FRONT OF THE CONTACTS VEHICLE. THE AIR BAG WARNING LIGHT ILLUMINATED AND THE AIR BAGS FAILED TO DEPLOY. A POLICE REPORT WAS FILED. THE CONTACT SUSTAINED INJURIES TO THE CHEST, THE BACK, ABDOMEN AND SHOULDER PAINS THAT REQUIRED MEDICAL ATTENTION. THE VEHICLE WAS NOT DIAGNOSED OR REPAIRED. THE MANUFACTURER WAS NOTIFIED OF THE FAILURE. THE APPROXIMATE FAILURE MILEAGE WAS 10,000."

b. A May 20, 2015 complaint reported an April 23, 2014 accident involving a 2013 Honda Accord. The complaint states: "MY VEHICLE STRUCK ANOTHER VEHICLE IN FRONT OF ME FROM BEHIND. AIRBAG LIGHTS CAME ON YET DID NOT DEPLOY. IMPACT CAUSED DAMAGE TO MY CHEST BY THE SEATBELT. IT CAUSED A TISSUE EXPANDER IMPLANTED IN MY RIGHT BREAST TO BE DAMAGED AND RIPPED OUT THE PLACES STITCHED TO ME. THE TE WAS THERE AS PART OF A BREAST CANCER RECONSTRUCTION PROCESS. SURGERY WAS REQUIRED TO REMOVE AND REPLACE THE TE. THE FRONT END OF THE VEHICLE WAS DAMAGED,

SENSORS NEEDED REPLACEMENT, AND SEATBELT STRUCTURE ALSO NEEDED REPLACEMENT."

c. A September 5, 2016 complaint reported an August 30, 2016 accident involving a 2015 Honda Civic. The complaint states: "THE VEHICLE (V-2) WAS INVOLVED IN A COLLISION AT THE 1-5 NB CYPRESS OFF RAMP IN REDDING CALIFORNIA IN EVENING PEAK HOUR TRAFFIC (AT 1810). V-2 WAS STRUCK BY V-1, WHICH IN TURN PUSHED V-2 INTO V-3. BOTH V-1 AND V-2 WERE STATIONARY AT THE TIME OF COLLISION. V-1, A ISUZA TROOPER SUSTAINED MINOR FRONT END DAMAGE. V-2 RECEIVED MINOR FRONT END DAMAGE, AND MAJOR REAR END DAMAGE. V-3, A KIA SOUL RECEIVED MINOR REAR END DAMAGE. THE ISSUE IS THAT THE V-2 AIRBAG DID NOT DEPLOY OR THE SEATBELT RESTRAIN THE DRIVER IN THE VEHICLE. THE DRIVER STRUCK THE STEERING WHEEL RECEIVING A MAJOR BRAIN CONCUSSION AND BROKEN NOSE UPON BEING PUSHED BY V-1 INTO V-3. SEVERAL ON THE SCENE QUESTIONED THE LACK OF AIRBAG DEPLOYMENT OR THE SEAT-BELT NOT PROVIDING THE RESTRAINT NECESSARY TO PREVENT THE INJURY. MY CONCERN IS THIS IS A FAILURE OF THE SAFETY SYSTEMS NECESSARY TO RESTRAIN THE DRIVER. REPORTING PARTY IS THE FATHER OF THE DRIVER OF V-2, A TEEN DRIVER."

532. Since at least 2014, dozens of consumers have reported to Mitsubishi or NHTSA that the airbags in their Mitsubishi Class Vehicle failed to deploy after a crash. Examples of such complaints are attached hereto as Exhibit 6. For example:

a. On December 30, 2014, a consumer contacted Mitsubishi's Customer Relations hotline to inquire why the airbags in her 2013 Outlander did not deploy after she rear-ended the car in front of her at 40 miles per hour.

b. On January 27, 2015, a consumer contacted Mitsubishi's Customer Relations hotline to report a severe accident where the airbags in his 2014 Lancer Evolution did not deploy and he was ejected from the vehicle. Mitsubishi's internal notes indicate that the consumer suffered extensive injuries, including "BROKEN COLLAR BONE[,] HEAD LACERATION WITH STAPLES[,] BOTH WRIST AND PELVIS."

c. On May 16, 2016, a consumer contacted Mitsubishi's Customer Relations hotline to report that his son was in a four-car freeway collision where the airbags in his 2013 Lancer Sportback did not deploy and the seatbelt restraints failed to lock. The vehicle sustained a frontal impact and was traveling at approximately 50-60 miles per hour at the time of collision.

d. A publicly available complaint with NHTSA dated October 21, 2016 reported a September 13, 2016 accident involving a 2015 Mitsubishi Lancer in Centralia, Washington. The complaint states: "I WAS TRAVELING ALONG 20 MILES BELOW THE SPEED LIMIT HAD A DEER JUMPED OUT IN FRONT OF ME I SWEAR TO MISS IT MY FRONT PASSENGER SIDE TIRE WENT OFF THE ASPHALT AND INTO SOFT DIRT AND MY CAR HIGH CENTERED ON THE RAISED

LIP OF THE ROAD AND SLID DOWN THE HILLSIDE LANDING INTO TREES BOTH GOING FORWARD AND TOWARDS THE RIGHT SIDE OF THE CAR STOPPING BECAUSE OF TREES IT DESTROYED THE FRONT END THE ENTIRE UNDERCARRIAGE THE ENTIRE PASSENGER SIDE OF THE CAR POPPED OPEN THE SUNROOF TRIED PUSHING THE ROOF OFF THE BACK DRIVER SIDE OF THE CAR AND NO AIRBAGS WENT OFF NO SAFETY FEATURES OTHER THAN THE SEAT BELT WORK."

e. A publicly available complaint with NHTSA dated June 8, 2017 reported a May 13, 2017 accident involving a 2015 Mitsubishi Lancer in Kent, Washington. The complaint states: "SON WAS DRIVING VEHICLE REAR ENDED A VEHICLE, AT 35 MPH, ROLLED MITSUBISHI 8 TO 9 TIMES, SLED ON ROOF ABOUT 50 FEET BEFORE COMING TO A STOP UP SIDE DOWN. AIRBAGS NEVER DEPLOYED. NOT EVEN WHEN THE TOW TRUCK FLIPPED CAR RIGHT SIDE UP."

f. A publicly available complaint with NHTSA dated November 14, 2017 reported a November 12, 2017 accident involving a 2015 Mitsubishi Lancer in Boyers, Pennsylvania. The complaint states: "DRIVING ON INTERSTATE AT 1130 AT NIGHT NO RAIN OR ANYTHING. I HIT A DEER AT 72 MPH LOTS OF DAMAGE TO THE FRONT AND DRIVERSIDE. MY SEST BELT WAS LOCKED BUT NOT ONE OF MY AIR BAGS COME OUT..."

g. A publicly available complaint with NHTSA dated January 16, 2020 reported a January 11, 2020 accident involving a 2016

Mitsubishi Lancer in Lake Havasu City, Arizona. The complaint states: "ACCIDENT THAT RESULTED IN THE CAR BEING DECLARED TOTAL LOSS. THE CAR WAS HIT IN THE UPPER FRONT AND SIDE AREA OF DRIVERS SIDE. DURING THE ACCIDENT THE AIR BAGS DID NOT DEPLOY. RESULTED IN INJURIES, OF COURSE. THE CAR WAS MAKING LEFT HANDED TURN FROM RESIDENTIAL AREA ONTO A BUSY MAIN STREET. AND THE OTHER VEHICLE WAS NOT PAYING ATTENTION AND HIT THE CAR WHILE IT WAS TRYING TO TURN. THE CAR WAS GOING APPROXIMATELY 15-20 MPH. THE OTHER VEHICLE WAS GOING 40-45 MPH. WHAT WOULD CAUSE THE AIR BAGS TO MALFUNCTION?? BECAUSE I WOULD LOVE TO KNOW WHY INJURIES HAD TO EVEN OCCUR SINCE THEY ONLY HAPPENED DUE TO THE MALFUNCTION OF THE AIR BAGS."

8. The abandonment of the DS84 ASIC by all Defendants confirms the ACU Defect.

533. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA stopped using the DS84 ASIC in any ACUs intended for the United States vehicles in or around 2019. The complete abandonment of the DS84 ASIC after NHTSA announced its investigation of all unrecalled vehicles with the ASIC is further evidence that each of the Defendants know the DS84 ASIC was and is defective.

534. The next generation of ACUs rolled out by ZF Electronics USA in 2019 used an ASIC made by Infineon instead of the DS84 ASIC made by the ST Defendants.

9. Defendants' statements blaming DS84 ACU malfunctions on vehicle-specific features, such as wire harnesses, are misleading.

535. Many of the Defendants try to downplay the danger posed by the ACU Defect by claiming that some Class Vehicles have additional components to protect the DS84 ASIC. However, these arguments fail because those additional components do not fix the ACU's vulnerability to EOS. Adding protective components as a band-aid to restrain the flow of electricity to the defective DS84 ACU does not fix the ACU Defect. Indeed, airbag failures in multiple crashes have been linked to EOS in defective DS84 ACUs with a range of different protective components. For example, the DS84 ACUs in Hyundai, Kia, Toyota, and FCA Class Vehicles had various levels of ostensible component protection (characterized by NHTSA as ranging from "low" to "mid-level" to "high"), but these Vehicle Manufacturers each determined that the defective DS84 ACUs were dangerously vulnerable to EOS even with their protective components, and decided to recall them. For example, Toyota Engineering USA recalled Toyota Corollas with a purportedly high level of circuit protection (two .12 ampere Schottky diodes), FCA recalled Chrysler 200s with a purportedly mid-level of circuit protection (one .12 ampere Schottky diode), and Kia recalled Kia Fortes with a low level of circuit protection (no Schottky diodes).

536. The most common protective component added to the defective DS84 ACUs is the so-called "Schottky" diode, which is added on the crash sensor communication line.[15] These diodes are not part of the ASIC and are not an absolute shield against transients and EOS. Instead, they may offer some protection against certain levels of transient electricity moving up the crash sensor lines. But

[15] The crash sensor communication on the DS84 ACU is a line on the ACU circuit board that carries the electrical signals sent by the crash sensor wires in the front of the vehicle. The DS84 ACU's communication line uses a so-called DSI protocol, which refers to the technology used to manage the flow of these signals.

when a transient's power level exceeds the diode's thresholds, the diode(s) can fail, and EOS can still occur in the ASIC. Comparative testing summarized in documents produced by Toyota USA show that DS84 ACUs with the highest level of diode protection (i.e., 1-ampere Schottky diodes) are still 3-4 times less resistant to transients than three earlier ACU models made by ZF Electronics USA, and at least 2-3 times weaker to transients than ACUs made by Denso.

537. Moreover, FCA has acknowledged that it cannot rule out the ACU Defect as the cause of nondeployments in six crashes involving FCA Class Vehicles with 1-ampere Schottky diodes and a resistor. These incidents include a 2016 crash involving a 2016 Jeep Patriot in South Dakota, a 2017 crash involving a 2017 Jeep Compass in Michigan, a 2017 crash involving a 2016 Jeep Patriot in Kentucky, a 2017 crash involving a 2017 Jeep Compass in Kentucky, a 2018 crash involving a 2017 Jeep Patriot in Kentucky, and a 2018 crash involving a 2016 Jeep Wrangler in Oklahoma. The vast majority of Class Vehicles have an even lower level of circuit protection than these FCA vehicles had.

538. Apart from pointing to varying levels of protection for the DS84 ASICs, Defendants have also attempted to downplay the scope of the ACU Defect by blaming observed cases of ASIC EOS on purported vehicle-specific variations in the physical layout of the wires around the ACU and crash sensors. But wiring layouts don't cause non-defective ACUs to fail. The defective DS84 ACU and ASIC is the root cause of the airbag and seatbelt failures. The millions of vehicles that have been recalled have various different wiring layouts, but all still have the same vulnerability to EOS in a crash. The implausible defense of "vehicle-specific" wiring layout, which the ZF Defendants, Toyota Defendants, and FCA have asserted in communications with NHTSA, assumes (without evidence) that the wiring layout in these dozens of different vehicles, each of which was recalled due to the confirmed ACU Defect, did not vary meaningfully:

a. 2012–2018 Toyota Avalon;

b. 2013–2018 Toyota Avalon Hybrid;

c. 2011–2019 Toyota Corolla;

d. 2011–2013 Toyota Matrix;

e. 2010–2014 Chrysler 200;

f. 2010 Chrysler Sebring;

g. 2010–2014 Jeep Patriot;

h. 2010–2014 Jeep Compass;

i. 2010–2014 Jeep Compass;

j. 2010–2014 Dodge Avenger;

k. 2010–2012 Dodge Caliber;

l. 2011–2013 Hyundai Sonata;

m. 2011–2012 Hyundai Sonata Hybrid;

n. 2010–2013 Kia Forte;

o. 2010–2013 Kia Forte Koup; and

p. 2011–2013 Kia Optima.

The more plausible explanation for the common observed vulnerability to ASIC EOS across all these various vehicles is the one common feature they indisputably share: a DS84 ACU with a DS84 ASIC.

539. No wiring is immune to transients. For this reason, any vehicle with the DS84 ACU and ASIC can have its airbags and seatbelts fail in crashes in which they should deploy and pretension, regardless of the type of wiring used. Insofar as the ZF Defendants, Toyota Defendants, and FCA have asserted that the DS84 ACU Defect poses a danger only in vehicles with "cross-car" crash sensor wiring, they are wrong for several reasons.

a. First, upon information and belief, many of the recalled Hyundai-Kia Class Vehicles did not have this type of cross-car wiring, but Hyundai USA and Kia USA nonetheless had to recall the vehicles due to the observed cases where airbags and

seatbelts failed due to EOS in real-world crashes and crash tests. These vehicles had crash sensor damage and EOS even without cross-car wiring.

b. Second, EOS has been confirmed on several DS84 ASICs retrieved from Jeep Wranglers, which also did not have cross-car wiring. At least one of these Jeep Wranglers experienced an inadvertent airbag deployment.

c. Third, FCA acknowledged to NHTSA in September 2019 that it cannot rule out the ACU Defect in at least fifteen crashes involving nondeployments in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, one Jeep Liberty, and one Fiat 500.[16]

d. Furthermore, Toyota Japan has stated that the wire harness did not sever in at least one crash without airbag deployment that occurred in Turkey. The DS84 ASIC retrieved from this Toyota vehicle nonetheless had EOS damage. Similarly, in a Hyundai Sonata crash test from March 2018, the ACU had signs of EOS damage even though there was no observed abnormality (such as cut wires) that could have caused EOS.

e. Finally, cross-car wiring does not appear to explain away dozens of warranty returns from the Vehicle Manufacturers with signs of EOS, or the incidents of inadvertent deployment due to EOS in DS84 ACUs, because these incidents occurred without any

[16] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012 in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Jeep Liberty crashed in 2017 in Pennsylvania, whereas the Fiat 500 crashed in 2015 in California.

crash to damage front-end crash sensor wiring. Accordingly, that wiring is not the sole culprit for the types of transients that can occur in crash vehicles.

B. There are millions of Class Vehicles equipped with defective DS84 ACUs.

540. The Class Vehicles are vehicles equipped with DS84 ACUs that contain a DS84 ASIC.

541. Discovery remains ongoing. Based on the incomplete information available at this time, Plaintiffs understand the Class Vehicles are as follows:

a. 2011–2019 Hyundai Sonata;

b. 2011–2019 Hyundai Sonata Hybrid;

c. 2010–2013 Kia Forte;

d. 2010–2013 Kia Forte Koup;

e. 2011–2020 Kia Optima;

f. 2011–2016 Kia Optima Hybrid;

g. 2011–2012, 2014 Kia Sedona;

h. 2010–2014 Chrysler 200;

i. 2010 Chrysler Sebring;

j. 2010–2014 Dodge Avenger;

k. 2010–2017 Jeep Compass;

l. 2010–2013 Jeep Liberty;

m. 2010–2017 Jeep Patriot;

n. 2010–2018 Jeep Wrangler;

o. 2010–2012 Dodge Caliber;

p. 2009–2012 Dodge Ram 1500;

q. 2010–2012 Dodge Ram 2500/3500;

r. 2011–2012 Dodge Ram 3500/4500/5500 Cab-Chassis;

s. 2010–2012 Dodge Nitro;

t. 2012–2019 Fiat 500;

u. 2013–2015 Honda Accord;

v. 2012–2015 Honda Civic (including GX, SI and Hybrid models);

w. 2012–2016 Honda CR-V;

x. 2013–2014 Honda Fit EV;

y. 2012–2017 Honda Fit;

z. 2012–2014 Honda Ridgeline;

aa. 2014–2019 Acura RLX (and the Hybrid model);

bb. 2012–2014 Acura TL;

cc. 2015–2017 Acura TLX;

dd. 2012–2014 Acura TSX (and the TSX Sport Wagon model);

ee. 2011–2019 Toyota Corolla;

ff. 2011–2013 Toyota Corolla Matrix;

gg. 2012–2018 Toyota Avalon;

hh. 2013–2018 Toyota Avalon HV;

ii. 2012–2019 Toyota Tacoma;

jj. 2012–2017 Toyota Tundra;

kk. 2012–2017 Toyota Sequoia;

ll. 2013–2017 Mitsubishi Lancer;

mm. 2013–2015 Mitsubishi Lancer Evolution;

nn. 2013–2015 Mitsubishi Lancer Ralliart;

oo. 2013–2016 Mitsubishi Lancer Sportback; and

pp. 2013 Mitsubishi Outlander.

542. Information produced by Defendants to date indicates there are over 19 million Class Vehicles.

a. Information produced by the domestic Toyota Defendants indicates that there are 5,177,854 Toyota Class Vehicles.

b. Information produced by the domestic Honda Defendants indicates that there are 3,593,499 Honda Class Vehicles.

c. Information produced by Kia USA indicates that there are approximately 1,454,847 Kia Class Vehicles.

d. Information produced by Hyundai USA indicates that there are approximately 1,866,060 Hyundai Class Vehicles.

e. Information produced by the domestic ZF Defendants indicates that over 7,100,651 DS84 ACUs shipped for use in FCA's U.S. vehicles. Based on this information, Plaintiffs allege there are approximately 7,100,651 FCA Class Vehicles.

f. Information produced by Mitsubishi USA indicates that there are approximately 97,565 Mitsubishi Class Vehicles.

C. Installation of the DS84 ASIC and ACU in the Class Vehicles was the result of a joint effort that involved every Defendant group.

543. As explained more fully below, Defendants are jointly responsible for including the DS84 ACU and DS84 ASIC in the Class Vehicles.

1. Between 2005 and 2008, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, and ST Italy jointly designed the DS84 ASIC.

544. Upon information and belief, on December 15, 2004, ZF Electronics USA sent a Request for Quotation to several ASIC suppliers, including ST USA. The Request sought proposals for an ASIC that could fire the squibs (i.e., trigger the airbag inflators) for use in some of ZF Electronics USA's ACUs.

545. Upon information and belief, ZF Passive Safety USA employed the vast majority of the engineers and other technical personnel that assisted with the preparation of the Request for Quotation.

546. On January 3, 2005, ST USA responded to the Request for Quotation. Upon information and belief, ST Italy assisted ST USA with that response by

providing its expertise on chip design to inform the proposal. In doing so, ST Italy knew and intended that its expertise would be used to make a design proposal to a U.S.-based company (ZF Electronics USA) for the manufacture of an ACU in the U.S. ST Italy also intended for its design proposals to ultimately be used for a key component of the passive safety systems in U.S. vehicles.

547. The January 3, 2005 written response from ST USA and ST Italy proposed a family of devices based on an existing design, the UT48, which ZF Electronics USA and ZF Passive Safety USA had not previously used. The UT48 combined the squib drivers (i.e. the output channel to trigger the airbag inflators) and satellite channels (i.e., the input signal from the crash sensors on the front end of the vehicle). These two different functions previously required two chips.

548. After several months of communications about the proposal, ZF Electronics USA, ZF Passive Safety USA, ST USA, and ST Italy met on March 24, 2005 to develop an agenda for a meeting to be held in early April 2005 at ST Italy's facilty in Castelleto, Italy. Although they were employees of ZF Passive Safety USA, George Backos and Keith Miciuda also attended on behalf of ZF Electronics USA. Johannes Konle, an employee of TRW Automotive GmbH, also attended on behalf of ZF Electronics USA and ZF Passive Safety USA. Frank Battaglia, [redacted], Roger Forchhammer, [redacted] Joseph Notaro, [redacted] and Christopher Thibeault attended on behalf of ST Italy and ST USA.[17] At this meeting, ZF Electronics USA, ZF Passive Safety USA, ST Italy, and ST USA discussed the specifications, schedule, and other details about the development of the DS84 ASIC for use in DS84 ACUs.

[17] The domestic ZF Defendants provided interrogatory responses that identify all of these individuals as employees of ST USA These interrogatory responses were verified by Emmanuel Goodman, an employee of ZF Passive Safety USA who has also held himself out as a technical specialist working for ZF Electronics USA. Based on ZF's interrogatory responses, these individuals were the joint agents of ST Italy and ST USA

549. On April 5, 6, and 7, 2005, ZF Electronics USA and ZF Passive Safety USA met with ST USA and ST Italy at one of ST Italy's facilities in Castelleto, Italy. George Backos, Keith Miciuda,[18] Johannes Konle, Tom VanDamme, Matthias Goebel, Martin Mayer, and Armin Schmidt attended on behalf of ZF Passive Safety USA and ZF Electronics USA.[19] [redacted] Antonella Grimald, [redacted] Joseph Notaro, [redacted] Christopher Thibeault, and [redacted] attended on behalf of ST USA and ST Italy.[20]

550. This meeting between ZF Passive Safety USA, ZF Electronics USA, ST USA, and ST Italy took place over the course of three days. The comprehensive meetings included review of specifications, laboratory tours, and discussions of the DS84 ASIC, technical requirements the DS84 ASIC had to meet, tests to run, potential features to include, and a timeline for design and production, among potentially other items. The third day of meetings was held at an ST USA manufacturing site in Agrate, Italy.

551. Beginning in or around 2005 or 2006, technical employees at ZF Passive Safety USA and ZF Electronics USA began to design the DS84 ACUs with the assumption that they would contain the DS84 ASIC. Upon information and

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[18] Mr. Miciuda was an employee of ZF Passive Safety USA.

[19] Although Konle, Goebel, Mayer, and Schmidt may have been employees of a German ZF subsidiary, they represented the interests of ZF Electronics USA in these discussions and their acts are attributable to ZF Electronics USA.

[20] The domestic ZF Defendants provided interrogatory responses that identify all of these individuals as employees of ST USA. These interrogatory responses were verified by Emanuel Goodman, an employee of ZF Passive Safety USA who has also held himself out as a technical specialist working for ZF Electronics USA. Based on ZF's interrogatory responses, these individuals were the joint agents of ST Italy and ST USA.

belief, this assumption was based on at least an agreement in principle about the DS84 ASIC development and design between ST USA, ST Italy, ZF Passive Safety USA, and ZF Electronics USA. The ZF Passive Safety USA employees responsible for designing the DS84 ACUs included Rich Guyon, Keith Miciuda, Niyant Patel, and potentially others. Upon information and belief, these employees also worked on behalf of ZF Electronics USA on this project. All the Domestic ZF Defendants refer to this team of technical employees as the "core" team responsible for the design of the DS84 ACU.

552. Throughout 2005, 2006, and 2007, ST USA and ST Italy designed, tested, and modified the DS84 ASIC with ZF Electronics USA's and ZF Passive Safety USA's input. ZF Electronics USA, ZF Passive Safety USA, ST USA and ST Italy communicated by regular conference calls on a weekly cadence. According to verified interrogatory responses, ZF Electronics USA spoke with "at least certain of its customers concerning the development of the DS84" ASIC during this time. Upon information and belief, these "certain" customers included the Vehicle Manufacturer Defendants.

553. From on or about January 30 to February 2, 2007, ZF Electronics USA, ZF Passive Safety USA, ST USA, and ST Italy held a design review meeting at one of ST Italy's facilities in Castelleto, Italy. Attendees on behalf of ZF Passive Safety USA and ZF Electronics USA included Matthias Goebel, Keith Miciuda, Holger Sradnick, and Tom VanDamme.[21] At this design review meeting, ZF Electronics USA, ZF Passive Safety USA, ST USA and ST Italy discussed the project timelines and the DS84 ASIC's specifications, among potentially other

[21] Although Goebel and Sradnick may have been employees of a German ZF subsidiary, they represented the interests of ZF Electronics USA and ZF Passive Safety USA in these discussions and their acts are attributable to ZF Electronics USA and ZF Passive Safety USA.

items. The parties also discussed ST USA and ST Italy's final testing plan and the results from the testing conducted on the DS84 ASIC to that date.

554. From on or about March 27 to March 29, 2007, ZF Passive Safety USA, ZF Electronics USA, ST USA, and ST Italy met at a ST Italy facility in Castelletto, Italy for a design review. Rich Guyon and Keith Miciuda, among potentially others, attended for ZF Passive Safety USA and ZF Electronics USA. [redacted] Christopher Thibeault, and several other program managers attended on behalf of ST USA and ST Italy.[22] On the first day, ZF Electronics USA, ST USA, and ST Italy discussed the DS84 ASIC's schedule and reviewed technical items. On the second and third days, ZF Electronics USA, ZF Passive Safety USA, ST USA, and ST Italy discussed various technical aspects of the DS84 ASIC and the engineering and design plan moving forward. This included discussions about the testing plan for the DS84 ASIC, a review of the DS84 ASIC's specifications, and potential action items for the companies moving forward.

555. On or about May 2 and May 3, 2007, Keith Miciuda and Holger Sradnick travelled on behalf of ZF Electronics USA and ZF Passive Safety USA to ST Italy's facility in Castelletto, Italy, to meet with ST Italy and ST USA for a design review. [redacted] Richard Mont, [redacted] Christopher Thibeault, and [redacted] attended on behalf of ST Italy and ST USA.[23] During

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[22] The domestic ZF Defendants provided interrogatory responses that identify all these individuals as employees of ST USA. These interrogatory responses were verified by Emanuel Goodman, an employee of ZF Passive Safety USA who has also held himself out as a technical specialist for ZF Electronics USA. Based on ZF's interrogatory responses, these individuals were the joint agents of ST Italy and ST USA.

[23] The domestic ZF Defendants provided interrogatory responses that identify all these individuals as employees of ST USA. These interrogatory responses were verified by Emanuel Goodman, an employee of ZF Passive Safety USA who has also held himself out as a technical specialist for ZF Electronics USA. Based on

Footnote continued on next page

the first day, the companies reviewed the schedule for all devices to be provided by ST USA and ST Italy, conducted a technical review of the devices, including the DS84 ASIC, and reviewed design-testing results for the DS84 ASIC, among other topics. During the second day, the parties continued to review design-testing results for the DS84 ASIC, including testing methodologies for thermal simulation, and continued the technical review of the DS84 ASIC, among other topics.

556. In 2008, ZF Passive Safety USA, ZF Electronics USA, ZF Automotive USA, ST USA, and ST S.r.l. reached an agreement on the final design of the DS84 ASIC. ZF Automotive USA's involvement is based on documents attributing ownership over design specifications to ZF Automotive USA. Upon information and belief, ZF Automotive USA's ownership of these specifications and other intellectual property associated with the design allowed other regional subsidiaries outside the United States to make the DS84 ACU for vehicles sold in foreign markets.

2. Pursuant to agreements between ZF Passive Safety USA, ZF Electronics USA, ST USA, and ST Italy, ST Malaysia manufactured DS84 ASICs and shipped them to ST USA in California.

557. Upon information and belief, after ZF Passive Safety USA, ZF Electronics USA, ST USA, and ST Italy agreed upon the design for DS84 ASICs, ZF Electronics USA placed orders for DS84 ASICs with ST USA.

558. Upon information and belief, pursuant to an agreement between ST USA and ZF Electronics USA, ST USA then directed ST Malaysia to manufacture the DS84 ASICs covered by any order.

559. ST Malaysia then shipped DS84 ASICs ordered by ZF Electronics USA to ST USA's distribution center in the Los Angeles Area, also known as the

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Footnote continued from previous page
ZF's interrogatory responses, these individuals were the joint agents of ST Italy and ST USA.

"STMicro LAX HUB." Upon information and belief, ST Malaysia made these shipments with full knowledge that all of the DS84 ASICs shipped to California would then be shipped to ZF Electronics USA in Illinois.

560. ST USA then shipped the DS84 ASICs received from ST Malaysia at the Los Angeles distribution center to a ZF Electronics USA facility in Illinois.

561. ZF Electronics USA then manufactured the DS84 ACUs for use in Class Vehicles in Illinois, and incorporated into the ACUs the DS84 ASICs it had received from ST USA and ST Malaysia.

3. Between 2006 and 2012, ZF Electronics USA reached separate agreements with each of the Vehicle Manufacturer Defendant groups regarding the use of the defective DS84 ACUs.

562. Upon information and belief, ZF Electronics USA reached an agreement with each Vehicle Manufacturer Defendant group concerning the DS84 ACUs by responding to written Requests for Quotation. These Requests for Quotation sent by each Vehicle Manufacturer Defendant group contained the Vehicle Manufacturer's specifications, which set forth the requirements that an ACU must meet for use in that group's vehicles. For each Vehicle Manufacturer Defendant group, ZF Electronics USA responded with a proposal to use the DS84 ACUs, which succeeded in winning a competitive bid for the supply of DS84 ACUs for each Class Vehicle make and model.

563. Upon information and belief, ZF Passive Safety USA provided all the technical support and know-how for ZF Electronics USA's preparation of responses to Requests for Quotation issued by the Vehicle Manufacturer Defendant groups. While ZF Electronics USA has previously claimed it was the sole entity responsible for the design of the DS84 ACU, discovery has confirmed that the vast majority of the engineers who designed the DS84 ACU received paychecks from ZF Passive Safety USA throughout the relevant time period. Accordingly, ZF Passive Safety USA also was responsible for the design of the DS84 ACU.

564. Upon information and belief, ZF Automotive USA and ZF TRW Corp. knew of and approved ZF Electronics USA's agreements with each Vehicle Manufacturer Defendant group concerning the DS84 ACU.

565. Upon information and belief, the DS84 ACU's low price was an important factor to the Vehicle Manufacturers – including FCA, Hyundai Korea, Kia Korea, Hyundai Mobis, Toyota Engineering USA,[24] Honda Japan, Honda Engineering USA, and Mitsubishi Japan – when they decided which ACUs to purchase and place in the Class Vehicles.

a. ZF TRW Corp., ZF Automotive USA, and ZF Electronics USA marketed the DS84 ACU to the Vehicle Manufacturer Defendants as a scalable ACU designed for "low-cost vehicle markets."

566. Between 2006 and 2014, ZF Automotive USA made "[r]elentlessly driv[ing] down costs" one of four key strategic priorities for itself and its subsidiaries, including ZF Electronics USA. Several publicly available documents published by ZF Automotive USA during this time period expressly list driving down costs as a key priority.

567. Upon information and belief, the relatively low cost of the DS84 ACUs was a significant reason for ZF Electronics USA's success in the bidding process with each of the Vehicle Manufacturer Defendant groups. Shortly before ZF Electronics USA began high volume production-level shipments for use in Class Vehicles in 2008 and 2009, ZF Electronics USA and ZF TRW Corp. issued press releases under their former names that touted the low cost of the DS84 ACUs. For example, one press release about the DS84 ACUs dated May 22, 2008 reads:

> The TRW Automotive Holdings Corp. (NYSE: TRW) subsidiary, TRW Automotive U.S. LLC, has developed a scalable airbag control unit (ACU) designed for the growing

[24] While non-party Toyota Japan made the selection of the DS84 ACU, Toyota Engineering USA procured the ACU for use in Toyota Class Vehicles.

low-cost vehicle markets. The intelligent solution allows the ACU to be adapted within a platform to offer two options – standard and enhanced – for models sold within emerging territories and for those exported to developed markets.

Ed Carpenter, vice president, TRW Electronics, said: "This scalable ACU allows cost driven manufacturers to equip their vehicles with safety electronics while maintaining their competitiveness, and offers emerging safety electronics markets the opportunity to fit their vehicles with advanced safety equipment. This flexibility is essential for OEMs looking for a single solution to satisfy both the emerging and export markets."

The standard system is configured for cost effective applications of one to four squibs with no satellite interface, but provides the flexibility to be used in an enhanced system, designed to handle additional capability requirements of up to eight squibs and four satellite interfaces. The standard and enhanced options can be offered within the same base unit.

TRW's standard ACU supports front and side crash detection with the additional option of rear crash detection and can support the interface of up to four satellite sensor modules or can be configured for no satellite interface.

The metal housing design of the standard ACU meets cost, packaging and reliability requirements while maintaining the mechanical performance necessary for reliable crash sensing.

TRW is leading the way in the performance/price ratio with this airbag controller, fulfilling the need for a cost effective ACU not only for value oriented manufacturers, but also for emerging crash sensor markets such as Brazil, Russia, India and China.

568. Upon information and belief, the DS84 ACUs in the Class Vehicles were the "enhanced version" of the ACU described in the May 22, 2008 press release. Both the enhanced and standard versions used the DS84 ASIC.

569. In 2008 and 2009 in particular, around the time of launch of the DS84 ACU, the Vehicle Manufacturer Defendants had significant incentives to cut costs. During these years, the automotive industry experienced one of its most significant financial crises in history. Two of the largest automakers in the world, FCA's predecessor and General Motors, filed for bankruptcy as a result of this crisis.

b. ZF Electronics USA reached an agreement with FCA regarding the design of the DS84 ACUs to be used in FCA Class Vehicles.

570. In 2006, ZF Electronics USA and ZF Passive Safety USA began to adapt the general design of the ACU with the DS84 ASIC for use in FCA Class Vehicles. To complete this adaptation, ZF Electronics USA and ZF Passive Safety USA obtained the express approval of FCA for the design of DS84 ACUs used in all FCA Class Vehicles other than the 2009 Dodge Ram. Chrysler LLC, the predecessor company that filed for bankruptcy in 2009, provided the express approval for the 2009 Dodge Ram. FCA nonetheless assumed the warranty and statutory recall obligations relating to the 2009 Dodge Ram after Chrysler LLC filed for bankruptcy.

571. Between 2006 and 2008, ZF Electronics USA and Chrysler LLC reached an agreement that the 2009 Dodge Ram would use the DS84 ACUs.

572. In July 2008, ZF Electronics USA made its first high-volume production-level shipment of DS84 ACUs for use in the 2009 Dodge Ram.

573. In April 2009, Chrysler LLC filed for bankruptcy.

574. In June 2009, ZF Automotive USA and FCA (then operating under the name Chrysler Group LLC), Chrysler LLC's successor, agreed to continue the supplier relationship with ZF Automotive USA and its subsidiaries.

575. As part of this continued arrangement, ZF Electronics USA continued to supply DS84 ACUs for installation in FCA Class Vehicles until in or around

2019, and ZF Passive Safety USA continued to provide support for the design and quality assurance of the DS84 ACUs.

576. Upon information and belief, following the June 2009 agreement with ZF Automotive USA and before the DS84 ACUs were installed in the vehicles, FCA agreed to and approved the design of the DS84 ACUs used in FCA Class Vehicles. After reaching this agreement, FCA placed orders for the DS84 ACUs from ZF Electronics USA.

577. In 2013, FCA and ZF Electronics USA agreed to some limited changes to the design of DS84 ACUs to be used in certain Jeep vehicles. These design changes did not cure the ACU Defect because the ACUs still contained the DS84 ASIC, which is uniquely vulnerable to transient electricity.

578. Between 2008 and 2019, ZF Electronics USA made the DS84 ACUs for FCA Class Vehicles in Illinois and shipped them to FCA facilities in Michigan, Illinois, Ohio, and Mexico.

579. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to FCA's manufacturing sites would be installed in FCA Class Vehicles marketed to United States consumers, among other reasons because it was obligated to ensure they complied with U.S. Federal safety standards.

580. Upon information and belief, ZF Electronics USA's, ZF Passive Safety USA's, and ZF Automotive USA's primary point of contact for issues regarding the DS84 ACUs in FCA Class Vehicles was Kevin Plante, a Lead Product Investigator for FCA.

c. ZF Electronics USA reached an agreement with Hyundai Korea, Kia Korea, and Hyundai Mobis regarding the design of the DS84 ACUs to be used in Hyundai and Kia Class Vehicles.

581. In 2007, ZF Electronics USA and ZF Passive Safety USA began to adapt the general design of the ACU with the DS84 ASIC for use in Hyundai-Kia

Class Vehicles. To complete this adaptation, ZF Electronics USA and ZF Passive Safety USA obtained the express approval of Hyundai Korea for the design of DS84 ACUs used in Hyundai Class Vehicles and the express approval of Kia Korea for the design of DS84 ACUs used in Kia Class Vehicles.

582. After Hyundai Korea and Kia Korea approved of the design of the DS84 ACUs, Hyundai Mobis agreed to manufacture many DS84 ACUs for them. To achieve this goal, Hyundai Mobis required its wholly owned subsidiary, Mobis Parts America, to enter into a licensing agreement with ZF Electronics USA. This agreement permitted Hyundai Mobis to manufacture hundreds of thousands of DS84 ACUs for use in Hyundai-Kia Class Vehicles in South Korea. In doing so, Mobis Part America and Hyundai Mobis reached an agreement with ZF Electronics USA regarding the design of the DS84 ACUs to be used in Hyundai-Kia Class Vehicles.

583. Hyundai Mobis also executed its own agreement with ZF Automotive USA in September 2009. This agreement was signed by Dong-Jin Kim, the CEO of Hyundai Mobis and Frank Mueller, who, upon information and belief, was the executive vice president of ZF Automotive USA. Upon information and belief, this agreement allowed Hyundai Mobis to place orders for the DS84 ACUs, and it required ZF Electronics USA to deliver them to any place designated by Hyundai Mobis.

584. In 2012, Hyundai Korea, Kia Korea, Hyundai Mobis, and ZF Electronics USA agreed to some limited changes to the design of the DS84 ACU that was to be installed in Hyundai-Kia Class Vehicles going forward. These design changes did not cure the ACU Defect because the ACUs still contained the DS84 ASIC, which is uniquely vulnerable to transient electricity.

585. Between 2009 and 2019, Hyundai Mobis manufactured hundreds of thousands of DS84 ACUs and shipped them to Hyundai Korea in South Korea. Hyundai Korea then installed these DS84 ACUs in thousands of Hyundai Class

Vehicles. Although Hyundai Korea made these Hyundai Class Vehicles in South Korea, it specifically segregated them from other Hyundai vehicles that were intended for sale in other countries, placed certification labels assuring compliance with U.S. Federal safety requirements on the Hyundai Class Vehicles, and ensured those Hyundai Class Vehicles shipped to the United States, with full knowledge Hyundai USA would then distribute them across the United States.

586. Between 2009 and 2019, Hyundai Mobis manufactured thousands of DS84 ACUs and shipped them to Kia Korea in South Korea. Kia Korea then installed these DS84 ACUs in thousands of Kia Class Vehicles. Although Kia Korea made these Kia Class Vehicles in South Korea, it segregated them from other Kia vehicles that were intended for sale in other countries, placed certification labels assuring compliance with U.S. Federal safety requirements on the Kia Class Vehicles, and ensured those Kia Class Vehicles shipped to the United States, with full knowledge Kia USA would then distribute them across the United States.

587. Between 2009 and 2019, ZF Electronics USA made thousands of DS84 ACUs for Hyundai Class Vehicles in Illinois and shipped them to Hyundai Motor Manufacturing Alabama, LLC in Alabama. Upon information and belief, ZF Electronics USA shipped the DS84 ACUs to Hyundai Motor Manufacturing Alabama, LLC because Hyundai Mobis instructed ZF Electronics USA to do so. Hyundai Motor Manufacturing Alabama, LLC then followed the mandatory designs issued by Hyundai Korea to build Hyundai Class Vehicles. These mandatory designs required Hyundai Motor Manufacturing Alabama, LLC to install DS84 ACUs in the Hyundai Class Vehicles built in Alabama. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Hyundai Motor Manufacturing Alabama, LLC would be installed in Hyundai Class Vehicles marketed to United States consumers.

588. Between 2009 and 2019, ZF Electronics USA made thousands of DS84 ACUs for Kia Class Vehicles in Illinois and shipped them to Kia Georgia,

Inc. in Georgia. Upon information and belief, ZF Electronics USA shipped the DS84 ACUs to Kia Georgia, Inc. because Hyundai Mobis instructed ZF Electronics USA to do so. Kia Georgia, Inc. then followed the mandatory designs issued by Kia Korea to build Kia Class Vehicles. These mandatory designs required Kia Georgia, Inc. to install DS84 ACUs in the Kia Class Vehicles built in Georgia. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Kia Georgia, Inc. would be installed in Kia Class Vehicles marketed to United States consumers.

589. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Hyundai's and Kia's U.S. manufacturing subsidiaries would be installed in Hyundai-Kia Class Vehicles marketed to United States consumers, because it was obligated to ensure they complied with Federal safety standards applicable to passive safety systems.

590. Upon information and belief, ZF Electronics USA's, ZF Passive Safety USA's, and ZF Automotive USA's primary points of contact for issues regarding the DS84 ACUs in Hyundai-Kia Class Vehicles were SK Choi, a senior design engineer for both Hyundai Korea and Kia Korea, and Taewon Park, an employee of Hyundai Mobis.

d. ZF Electronics USA reached an agreement with Toyota Japan regarding the design of the DS84 ACUs.

591. In 2008, ZF Electronics USA began to adapt the design of the ACU with the DS84 ASIC for use in Toyota Class Vehicles. To complete this adaptation, ZF Electronics USA obtained the express approval of Toyota Japan for the design of DS84 ACUs used in Toyota Class Vehicles.

592. Upon information and belief and based on a written contract produced by the domestic Toyota Defendants, Toyota Engineering USA has a contractual relationship with ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA. According to this contract, Toyota Japan and all its

worldwide affiliates are express third-party beneficiaries to the contract. The contract names Toyota Japan; Toyota Motor Manufacturing, Kentucky, Inc.; Toyota Motor Manufacturing, Indiana, Inc.; Toyota Motor Manufacturing Canada, Inc.; and Toyota Sales USA as beneficiaries.

593. Between 2009 and 2019, ZF Electronics USA made millions of DS84 ACUs for Toyota Class Vehicles in Illinois and shipped them to Toyota Motor Manufacturing, Texas, Inc. in Texas; Toyota Motor Manufacturing Canada Inc. in Canada; Toyota Motor Manufacturing, Indiana, Inc. in Indiana; Toyota Motor Manufacturing de Baja California S. de R.L. de C.V. in Mexico; Toyota Motor Manufacturing, Mississippi, Inc. in Mississippi; and Toyota Motor Manufacturing, Kentucky, Inc. in Kentucky. These Toyota subsidiaries then followed the mandatory designs issued by Toyota Japan to build Toyota Class Vehicles. These mandatory designs required the Toyota manufacturing subsidiaries to install DS84 ACUs in the Toyota Class Vehicles.

594. Upon information and belief, between 2009 and 2019, ZF Electronics USA also shipped some DS84 ACUs to Toyota Japan in Japan. Toyota Japan then installed these DS84 ACUs in thousands of Toyota Class Vehicles. Although Toyota Japan made these Toyota Class Vehicles in Japan, it segregated them from Toyota vehicles that were intended for sale in other countries, placed certification labels assuring compliance with U.S. safety requirements on the Toyota Class Vehicles, and ensured those Toyota Class Vehicles shipped to the United States, with full knowledge Toyota Sales USA would then distribute them across the United States.

595. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Toyota Japan and Toyota's manufacturing subsidiaries would be installed in Toyota Class Vehicles marketed to United States consumers, because it was supposed to ensure they complied with Federal safety standards applicable to passive safety systems.

596. Upon information and belief, ZF Electronics USA's, ZF Passive Safety USA's, and ZF Automotive USA's primary point of contact for issues regarding the DS84 ACUs in Toyota Class Vehicles was Tsutomu Kondo, a group manager for Toyota Japan based in Japan.

e. ZF Electronics USA reached an agreement with Honda Japan regarding the design of the DS84 ACUs.

597. In 2009, ZF Electronics USA and ZF Passive Safety USA adapted the general design of the ACU with the DS84 ASIC for use in Honda Class Vehicles. To complete this adaptation, ZF Electronics USA and ZF Passive Safety USA obtained the express approval of Honda Japan for the design of DS84 ACUs used Honda Class Vehicles.

598. In 2014, Honda Japan and ZF Electronics USA agreed to some limited changes to the design of DS84 ACUs used in some, but not all, Honda Class Vehicles going forward. These design changes did not cure the ACU Defect because the ACUs still contained the DS84 ASIC, which is uniquely vulnerable to transient electricity.

599. Between 2009 and 2019, ZF Electronics USA made millions of DS84 ACUs for Honda Class Vehicles in Illinois and shipped them to Honda Canada Inc. in Canada; Honda De México S.A. de C.V. in Mexico; Honda Manufacturing of Indiana, LLC in Indiana; and Honda Engineering USA in Ohio. These Honda subsidiaries then followed the mandatory designs issued by Honda Japan to build Honda Class Vehicles. These mandatory designs required the Honda manufacturing subsidiaries to install DS84 ACUs in the Honda Class Vehicles.

600. Upon information and belief, between 2009 and 2019, ZF Electronics USA also shipped some DS84 ACUs to Honda Japan in Japan. Honda Japan then installed these DS84 ACUs in thousands of Honda Class Vehicles. Although Honda Japan made these Honda Class Vehicles in Japan, it segregated them from Honda vehicles that were intended for sale in other countries, placed certification labels

assuring compliance with U.S. safety requirements on the Honda Class Vehicles, and ensured those Honda Class Vehicles shipped to the United States, with full knowledge Honda USA would then distribute them across the United States.

601. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Honda Japan and Honda's manufacturing subsidiaries would be installed in Honda Class Vehicles marketed to United States consumers, because it was obliged to ensure they complied with U.S. safety standards.

602. Upon information and belief, ZF Electronics USA's, ZF Passive Safety USA's, and ZF Automotive USA's primary point of contact for issues regarding the DS84 ACUs in Honda Class Vehicles was Nobuhiro Koyoto, a Chief Engineer for Honda Japan in Japan.

f. ZF Electronics USA reached an agreement with Mitsubishi Japan regarding the design of the DS84 ACUs.

603. In 2012, ZF Electronics USA and ZF Passive Safety USA adapted the general design of the ACU with the DS84 ASIC for use in Mitsubishi Class Vehicles. To complete this adaptation, ZF Electronics USA and ZF Passive Safety USA obtained the express approval of Mitsubishi Japan for the design of DS84 ACUs used in Mitsubishi Class Vehicles.

604. Between 2012 and 2019, ZF Electronics USA made tens of thousands of DS84 ACUs for Mitsubishi Class Vehicles in Illinois and shipped them to Mitsubishi Japan in Japan. Mitsubishi Japan then installed DS84 ACUs in the Mitsubishi Class Vehicles. Although Mitsubishi Japan made these Mitsubishi Class Vehicles in Japan, it segregated them from Mitsubishi vehicles that were intended for sale in other countries, placed certification labels assuring compliance with U.S. safety requirements on the Mitsubishi Class Vehicles, and ensured those Mitsubishi Class Vehicles shipped to the United States.

605. Upon information and belief, ZF Electronics USA knew the DS84 ACUs shipped to Mitsubishi Japan would be installed in Mitsubishi Class Vehicles

marketed to United States consumers, because it was supposed to ensure they complied with U.S. safety standards.

606. Upon information and belief, ZF Electronics USA's, ZF Passive Safety USA, and ZF Automotive USA's primary point of contact for issues regarding the DS84 ACUs in Mitsubishi Class Vehicles was Mikuni Fukutaro, who worked in Mitsubishi Japan's Vehicle Engineering Development Division in Japan.

D. Defendants have known the DS84 ACUs and ASICs were defective for many years.

607. As explained in more detail below, Defendants collectively learned that the defective DS84 ACUs and ASICs are uniquely vulnerable to EOS years ago.

1. By no later than January and February 2008, ZF Electronics USA, ZF Passive Safety USA, ST USA, and ST Italy learned about the defective DS84 ASIC's vulnerability to transient electricity.

608. [redacted]

609. In January 2008, ZF Passive Safety USA's and ZF Electronics USA's core DS84 ACU design team, including Rich Guyon, Keith Miciuda, and Niyant Patel, reviewed the test results concerning the thermal shutdown performance of the DS84 ASIC.

610. In February 2008, ZF Electronics USA, ZF Passive Safety USA, ST USA, and ST Italy also had several meetings regarding the DS84 ASIC. For

example, on February 15, 18, and 19, 2008, ST USA, ST Italy, ZF Electronics USA, and ZF Passive Safety USA held conference calls and meetings regarding the DS84 ASIC. During these discussions, the four companies discussed test results, other engineering test results, and technical aspects of the DS84 ASIC.

611. Following these test results, ST USA and ST Italy recommended to ZF Passive Safety USA's and ZF Electronics USA's core design team that protective diodes be added to certain points of contact with the DS84 ASIC on the ACU. Upon information and belief, this recommendation was predicated on the recognition that the DS84 ASIC was vulnerable to transients and EOS.

612. In response to these 2008 thermal shutdown test results and the conversations with ST USA and ST Italy, ZF Passive Safety USA and ZF Electronics USA decided to add .12 ampere Schottky diodes to the crash sensor communication lines on the DS84 ACUs for Toyota and Honda Class Vehicles but did not add the .12 ampere diodes to the Hyundai-Kia or FCA Class Vehicles from the 2009-2012 model years. ZF Electronics USA and ZF Passive Safety USA later admitted to Toyota Japan that Toyota Class Vehicles were updated because the design change occurred "in time" for the development of Toyota's next generation ACU, known internally as Gen. 6.7, in 2009.

613. Upon information and belief, ZF Passive Safety USA and ZF Electronics USA made this change because they foresaw a risk that a negative transient could travel up the crash sensor lines. An analysis prepared by ZF Electronics USA and ZF Passive Safety USA in 2008 (described more fully below) specifically noted this risk. The addition of .12 ampere Schottky diodes, however, did not fix the underlying problem with the ZF ACUs and Honda and Toyota Class Vehicles because the ACUs still contain the DS84 ASIC, which is still vulnerable to any transient that surpasses the diodes (either due to diode failure or the strength of the current) or travels to the ACU from a source other than the DSI lines on which the diodes were added (such as the squib power supply circuits).

614. In or around July 23, 2008, ZF Passive Safety USA and ZF Electronics USA, including ZF Passive Safety USA employees Niyant Patel and Tom Wilson, prepared a spreadsheet discussing the "Design Review Based on Failure Mode" for the DS84 ASIC. The document acknowledged that the DS84 ASIC could only sustain a maximum voltage of 5.5 volts from the power supply for a nearby microcontroller and that exceeding that voltage could cause "possible damage to" the DS84 ASIC and nondeployment of the front and/or side airbags. Upon information and belief and based upon the metadata of a version of a document produced by Toyota USA to NHTSA, Toyota Japan received and reviewed a copy of this document in 2008. Accordingly, Toyota Japan was specifically aware of these risks as well.

615. In or around October 30, 2008, ZF Electronics USA and ZF Passive Safety USA, including ZF Passive Safety USA employee Tom Wilson, prepared a spreadsheet discussing the "Design Review Based on Failure Mode" for the DS84 ACUs designed for Toyota Class Vehicles. Upon information and belief and the metadata of a version of a document produced by Toyota USA to NHTSA, Toyota Japan also received and reviewed a copy of this document in 2008. The document noted: "ST ASIC is design [sic] to shutdown the channel automatically due to overcurrent/overthermal . . . . If there is a negative transient on the DSI [(i.e., the crash sensor)] line, it could potentially damage the ASIC permanently," which in turn could "disable of [sic] frontside airbag," resulting in the airbag warning lamp turning on, "[n]on deployment, or late deployment of frontal airbags", and "[n]on deployment of side airbags." According to the document, the .12 ampere diode on the crash sensor for Toyota Class Vehicles would not protect against a transient, if either the "[d]iode has a short condition" or an "un-correct value of diode is selected" (i.e., if the .12 ampere was too weak). Because it received the spreadsheet, Toyota Japan was specifically aware of these risks as well.

616. Upon information and belief, it is ZF Electronics USA's practice to send these types of documents discussing the known risks of ACU failures to all its customers. Accordingly, ZF Electronics USA and ZF Passive Safety USA likely disclosed the same basic risks to the Honda, FCA, Hyundai-Kia, and Mitsubishi Defendants. This is particularly true for the Hyundai-Kia, FCA, and Mitsubishi Class Vehicles, which had even lower levels of circuit protection than the insufficient .12 ampere diodes added on Honda and Toyota Class Vehicles.

2. Between 2008 and the present, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, and ST Malaysia learned of dozens of DS84 ACU and DS84 ASIC failures in vehicles around the globe.

617. Between 2008 and the present, the vulnerability of DS84 ACUs with the DS84 ASIC to EOS became increasingly apparent based on serious safety system failures in several crash tests and real-world crashes as well as warranty claims noting failures in both devices.

618. When the Vehicle Manufacturer Defendants received warranty claims and other consumer reports of unexplained illumination of airbag warning lamps (which are controlled by the ACU) and dangerous safety systems failures (such as airbag and seatbelt failures), they routinely referred the issue to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA.

619. When ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA observed troubling signs of EOS on the DS84 ASIC (such as a noncommunicative ACU, burn marks, missing crash data, or reports of the failures of airbags or seatbelts), they routinely asked ST USA, ST Italy, and ST Malaysia for assistance analyzing the DS84 ASICs retrieved from the malfunctioning DS84 ACUs.

620. [redacted]

[redacted]

621. [redacted]

622. [redacted]

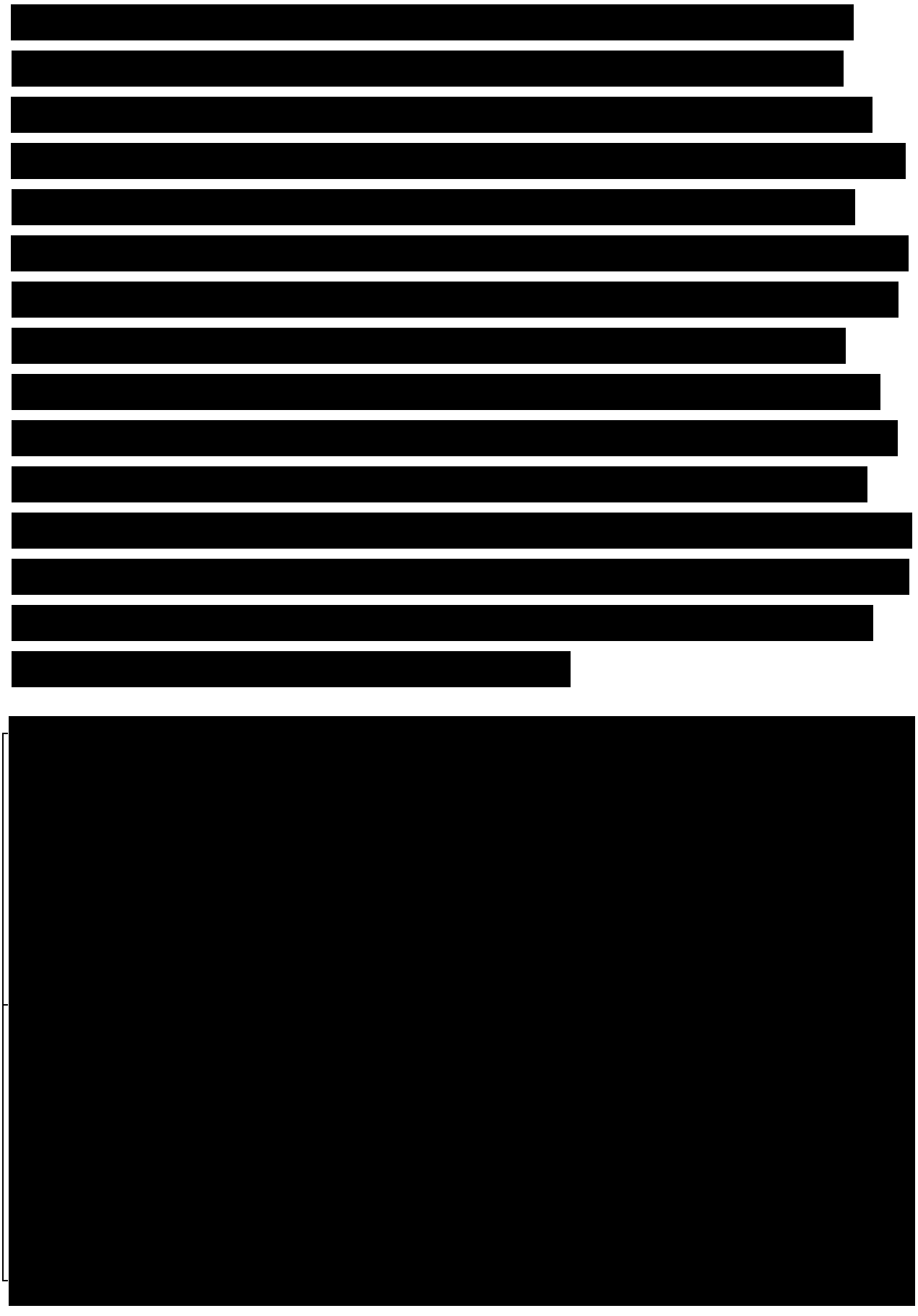
[25] [redacted]

[26] [redacted]

[27] [redacted]

[28] [redacted]

[29] [redacted]



623. [redacted]

624. [redacted]

b. [redacted]

[redacted]

c. [redacted]

[redacted]

d. [redacted]

[redacted]

e. [redacted]

[redacted]

f. [redacted]

[redacted]

g. [redacted]

[redacted]

h. [redacted]

[redacted]

i. [redacted]

[redacted]

j. [redacted]

[redacted]

k. [redacted]

[redacted]

625. [redacted]

[redacted]

3. ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, ST Malaysia, Hyundai USA, Hyundai Korea, Hyundai Mobis, Kia Korea, and Kia USA knew the Hyundai-Kia Class Vehicles, as well as the DS84 ACUs and DS84 ASICs installed therein, were defective.

626. For many years, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, ST Malaysia, Hyundai USA, Hyundai Korea, Hyundai Mobis, Kia Korea, and Kia USA knew that the defective DS84 ACUs and ASICs in Hyundai-Kia Class Vehicles were vulnerable to EOS.

a. Between June 2010 and August 2015, Hyundai Mobis and Hyundai Korea returned 17 Hyundai-Kia vehicles with signs of EOS on DS84 ACUs to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA.

627. According to a document produced by ZF Automotive USA to NHTSA in connection with NHTSA's investigation of the ACU Defect, Hyundai Mobis and Hyundai Korea returned seventeen Hyundai and Kia Class Vehicles to ZF Automotive USA, ZF Passive Safety USA, and/or ZF Electronics USA that showed signs of EOS damage to the DS84 ASIC. These warranty returns began as early as June 24, 2010, confirming Hyundai Korea's, Hyundai Mobis's, and ZF Automotive USA's knowledge of EOS issues in the DS84 ASIC at this early juncture. Further, these warranty returns proceeded up through August 2015, demonstrating knowledge of the potential for EOS damage to the DS84 ASIC in ACUs across multiple vehicle model years. Relevant excerpts of this document are included in the chart below:[30]

[30] This excerpt excludes some columns to make the table readable.

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	25-Aug-15	SR2016102609, RMA (FR-16-03982), partially shorted to VFIREvoltage	Airbag warning lamp on	Hyundai	Sonata
DS84	EOS	ST Micro	24-Jun-10	U501 is short to GND, pin44 is only 87ohm	Airbag warning lamp on	MOBIS	Unknown
DS84	EOS	ST Micro	11-Feb-11	Car crash, airbag isn't deployment [Crash records indicate commanded non deployment]	Airbag warning lamp on	MOBIS	Forte
DS84	EOS	ST Micro	16-Jan-12	AR49655, RMA34289, a fire supply open squib2 powered	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	3-May-12	pin7&44 of US01 short-circuit to GND	Airbag warning lamp on	MOBIS	Forte
DS84	EOS	ST Micro	5-May-12	pin7 of U501 short-circuit to GND.	Airbag warning lamp on	MOBIS	Forte
DS84	EOS	ST Micro	25-Jul-12	Pin7 output signal abnormal	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	8-Dec-11	Mobis 43369km return (bad U501)	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	22-Oct-11	warranty return from Mobis 8938km	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	13-Oct-11	warranty return from Mobis 5068km	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	3-Oct-13	AR55575, RMA36366, B556E1700, pins 6 & 7 out of circuit & around 5.5 ohms B556E1700	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	20-Apr-13	Burnt (ic)	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	20-Jan-13	SR2014111008, RMA, Short between pins 19 and 20 B706E2337	Airbag warning lamp on	MOBIS	Optima

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	21-Nov-14	two current fault:PAB 1st Stg Batt.	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	30-Nov-14	This is Warranty return U501 and U601 were burnt	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	11-Dec-14	link to ECU-30-E181	Airbag warning lamp on	MOBIS	Sonata
DS84	EOS	ST Micro	14-Feb-15	link to 2308-ECU-30-F024	Airbag warning lamp on	MOBIS	Sonata

b. Between 2010 and May 17, 2012, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned that two DS84 ASICs retrieved from Hyundai Sonata durability tests showed signs of EOS.

628. In 2010, nonparty MGA Research Corporation, a US-based safety testing vendor, ran durability tests for Hyundai Sonatas. Although Defendants have produced very little information about these tests to Plaintiffs, a document produced by Kia USA indicates these tests involved frontal impact collisions of at least two Hyundai Sonatas.

629. Upon information and belief, in or around June 2010, Hyundai Korea and Hyundai Mobis alerted ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA that two DS84 ACUs retrieved from two Hyundai Sonatas subject to these durability tests were noncommunicative. This was a sign of EOS.

630. Upon information and belief, in or around June 2010, Hyundai Korea and Hyundai Mobis sent the two DS84 ACUs to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA in Farmington Hills, Michigan, with a request to analyze the malfunctioning DS84 ACUs.

631. Upon information and belief, on June 22, 2010, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a memorandum to Hyundai Korea and Hyundai Mobis concerning these two malfunctioning DS84 ACUs.

632. As to both malfunctioning DS84 ACUs from these durability tests, the June 22, 2010 memorandum noted:

a. The resistance measurements from a power supply chip to the DS84 ASIC was "very low";

b. The EDR data could only be retrieved after replacing the malfunctioning DS84 ASIC with a new DS84 ASIC; and

c. The EDR data contained incomplete crash records.

633. All of the observations noted in the prior paragraph were characteristic signs of ASIC EOS.

634. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASICs from these two Hyundai Sonata crash tests had EOS damage.

c. Between 2010 and May 17, 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned of a Kia Forte crash in Weihai, China with no airbag deployment due to ASIC EOS.

635. In 2010, a Kia Forte with a DS84 ACU crashed in Weihai, a city in the Chinese province of Shandong. The airbags failed to deploy in this crash.

636. On June 12, 2010, non-party Dongfeng Yueda Kia, Kia Korea's Chinese affiliate, prepared a report on this crash, which, upon information and belief, was shared with Kia Korea. The report noted: "The end customer came to report an [sic] crash accident without airbag deployment. The man injured was being rescured [sic] in hospital. The vehicle was removed from accident spot. The pics indicates [sic] there was damaged [sic] heavily in front, side and back of the

car. The end customer though [sic] the airbag should have been deployed to protect passengers. But it didnot [sic] so the customer asked for investigation and compensation." Pictures from an inspection of the vehicle are reproduced below.

637. After the June 12, 2010 report, non-party Dongfeng Yueda Kia sent the DS84 ACU from this Kia Forte to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA's office in Farmington Hills, Michigan.

638. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA then analyzed the DS84 ACU and prepared a written analysis, which was shared with Kia Korea in September 2010. The written analysis noted the DS84 ACU had "[s]everal [a]ctive/[h]istory [diagnostic trouble codes] . . . , including . . . VSAT_Fault[,] LLSE_Failure[,] Various squip faults[,] Driver/Passenger [front impact sensor] no comm[unication][,] Other internal faults associated with squib ASIC." Upon information and belief, the ASIC described in these trouble codes was the DS84 ASIC, and these codes were signs of EOS.

639. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Kia Forte had EOS damage.

a. Between August 2010 and May 17, 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Hyundai Korea, Kia Korea, and Hyundai Mobis confirmed EOS damage on a DS84 ASIC from another Hyundai Sonata crash test.

640. Upon information and belief, in 2010, Hyundai Korea and Hyundai Mobis requested that ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyze a DS84 ACU recovered from a Hyundai Sonata crash test conducted by MGA Research, a US-based non-party safety testing vendor.

641. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a written report in response to this request and sent it to Hyundai Korea and Hyundai Mobis on or around August 19, 2010.

642. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Hyundai Sonata crash test had EOS damage.

b. Between 2011 and May 17, 2012, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Hyundai Mobis, Hyundai Korea, and Kia Korea learned the airbags had not deployed in a Kia Forte crash in Xinyang, China with signs of ASIC EOS.

643. In 2010 or early 2011, a Kia Forte with a DS84 ACU crashed in Xinyang, a city in the Chinese province of Henan. The airbags failed to deploy in this crash. The damage to the front end of the vehicle was substantial, as shown by the below pictures from an inspection of the vehicle.



644. On or around January 31, 2011, Hyundai Mobis and non-party Dongfeng Yueda Kia sent the ACU from this vehicle to ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA.

645. On February 11, 2011, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA sent a written analysis to Kia Korea, non-party Dongfeng Yueda Kia, and Hyundai Mobis. The analysis noted the following independent signs of EOS from that crash:

a. "Measuring resistance from" two power supply chips to the DS84 ASIC "indicated low resistance."

b. The EDR data could not be retrieved from the ACU without replacing the malfunctioning DS84 ASIC with a new DS84 ASIC.

c. Part of the EDR record was missing.

646. Although the February 11, 2011 analysis claimed the EDR data indicated the airbags should not have deployed, this speculation was unreliable because part of the crash record was missing.

647. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Kia Forte had EOS damage.

c. Between August 2011 and May 17, 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis observed EOS-consistent damage in an ACU retrieved from a Kia Forte that crashed in Ganzhou, China.

648. On July 22, 2011 in Ganzhou, a city in the Chinese province of Jiangxi, a Kia Forte with a DS84 ACU crashed in China and its airbags failed to deploy.

649. In August 2011, Hyundai Mobis asked non-party TRW Automotive Components (Shanghai), ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA to analyze the ACU retrieved from the Chinese Kia Forte.

650. TRW Automotive Components (Shanghai)'s attempts to download the EDR from this vehicle's ACUs were unsuccessful, because the ACU was "without communication functions." This was a sign of ASIC EOS.

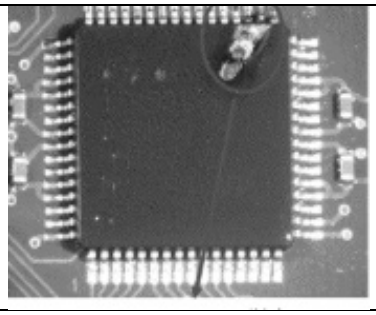
651. TRW Automotive Components (Shanghai) then sent the ACU to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA in Farmington Hill, Michigan.

652. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA analyzed the ACU in August 2011 and observed damage to the DS84 ASIC that was "consistent with EOS."

653. Upon information and belief, on December 9, 2011, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and non-party TRW Automotive Components (Shanghai) sent Kia Korea, Hyundai Korea, and Hyundai Mobis a written slide deck presentation that described the analysis confirming EOS damage to the DS84 ASIC from this Kia Forte. The presentation identified the following independent signs of ASIC EOS:

a. The DS84 ASIC was "burnt over" two pins.

b. There was a visible burn mark to the top right-hand corner of the DS84 ASIC (pictured below).



c. "Resistance Measurements of Power Supply found" two power supply chips "shorted to ground and each other internal to" the DS84 ASIC.

d. The ACU was noncommunicative and special efforts had to be taken to extract the EDR data.

e. The recovered EDR data was incomplete.

654. The December 9, 2011 written presentation admitted there was "[p]ossible internal damage to the squib ASIC [i.e., the DS84 ASIC] at the time of impact causing the Reset line pulled to low, which in turn reseting [sic] the Microcontroller operation resulting in partial EDR1 and non deployment."

655. By no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA communicated their observation that this Kia Forte's ACU had damage to the DS84 ASIC that was consistent with EOS to Hyundai Korea, Kia Korea, and Hyundai Mobis.

d. Between October 2011 and May 17, 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned of a Kia Forte crash with no airbag deployment in Hangzhou, China with signs of ASIC EOS.

656. On October 8, 2011 in Hangzhou, a city in the Chinese province of Zhejiang, a Kia Forte with a DS84 ACU crashed into a truck that suddenly stopped in front of it. The Kia Forte's airbags did not deploy.

657. The crash did substantial frontal damage to the Kia Forte, as shown by the below pictures from the vehicle inspection.

658. Analysis of the ACU captured 11 diagnostic trouble codes, including codes relating to front impact sensor communications errors, low resistance, and shorts to ground. These were signs of ASIC EOS. By no later than December 7, 2011, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned about these diagnostic trouble codes.

659. Although ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA claimed the EDR data from the ACU indicated the airbags should not have deployed, they did not analyze the ACU.

660. Upon information and belief, by no later than May 17, 2012, Hyundai Korea and Hyundai Mobis learned of this crash.

e. In February 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, and Kia Korea learned the airbags had not deployed in a Kia K5 crash in Zhenjiang, China with signs of EOS in the DS84 ASIC.

661. On or around September 2011 in Zhenjiang, a city in the Chinese province of Jiangsu, a Kia K5 with a DS84 ACU crashed into a pole. The impact

broke the pole and K5 was badly damaged, as the below pictures from an inspection confirm. Despite this, the airbags failed to deploy.

662. Upon information and belief, the Kia K5 was the Chinese and South Korean version of the Kia Optima, a Class Vehicle. The two models share a common or very similar platform for the purposes of the passive safety system.

663. Upon information and belief, in February 2012, Kia Korea and nonparty Dongfeng Yueda Kia sent the ACU from this vehicle to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA for analysis.

664. Upon information and belief, in February 2012, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a written analysis of the ACU to Kia Korea and nonparty Dongfeng Yueda Kia. The written analysis noted the following independent signs of ASIC EOS:

a. The ACU had "low resistance" from two power supply circuits.

b. The ECU had the following diagnostic trouble codes stored: "Internal Fault", "SR Warning Lamp Failure", "[front impact sensor] Driver Communication Error", and "[front impact sensor] Passenger Communication Error."

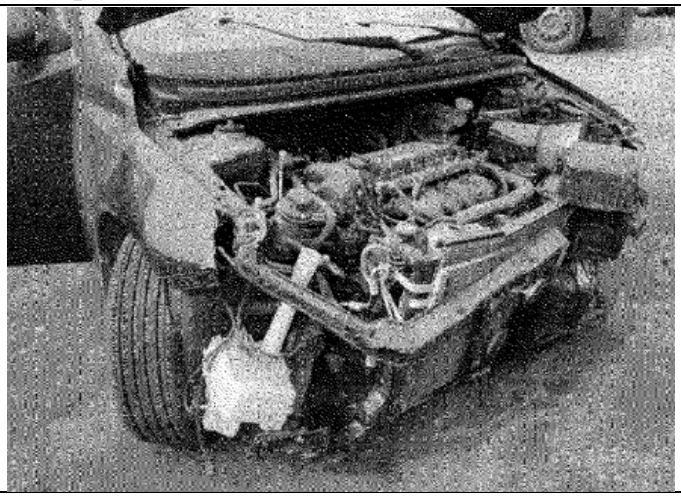
c. EDR data was recovered only after the malfunctioning DS84 ASIC was replaced with a new chip.

665. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed

Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Kia K5 had EOS damage.

f. In March and May 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned of a Kia Forte crash with no airbag deployment in Quinan, China.

666. On March 9, 2012 in Quinan, a city in the Chinese province of Heibei, a Kia Forte with a DS84 ACU crashed but the airbags did not deploy. The crash did significant damage to the front end of the Kia Forte, as shown by the below picture from the vehicle inspection.



667. In April 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and a non-party ZF subsidiary then called TRW Automotive Components (Shanghai) Co., Ltd. provided a written analysis of this crash to Kia Korea and nonparty Dongfeng Yueda Kia. Although the written analysis claimed the airbags in this vehicle should not have deployed, the underlying investigation did not include any inspection of the ACU or the DS84 ASIC. Without such an inspection, the conclusion that deployment was not necessary was unsupported.

668. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea and Hyundai Mobis learned of this Kia Forte crash.

g. Between March and May 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Hyundai Korea, and Hyundai Mobis learned of a Kia Forte crash with no airbag deployment in Baoding, China.

669. On March 23, 2012 in Baoding, a city in the Chinese province of Heibei, a Kia Forte with a DS84 ACU crashed but the airbags did not deploy. The crash did significant damage to the front end of the Kia Forte, as shown by the below picture.

670. In April 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and a non-party ZF subsidiary then called TRW Automotive Components (Shanghai) Co., Ltd. provided a written analysis of this crash to Kia Korea and nonparty Dongfeng Yueda Kia. Although the analysis claimed the airbags in this vehicle should not have deployed, the underlying investigation did not include any inspection of the ACU or the DS84 ASIC.

671. Upon information and belief, by no later than May 17, 2012, ZF Passive Safety USA, ZF Electronics USA, ZF Automotive USA, Hyundai Korea and Hyundai Mobis learned of this crash.

h. In 2012, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA and Kia Korea learned the airbags in a Kia K5 with a DS84 ASIC inadvertently deployed without a crash in Liuzhou, China.

672. On March 13, 2012, a Kia K5 with a DS84 ACU experienced an inadvertent airbag deployment, i.e., the airbags in the vehicle deployed even though the vehicle did not crash. This incident took place in Liuzhou, a city in the Chinese province of Guangxi.

673. Upon information and belief, the Kia K5 was the Chinese and South Korean version of the Kia Optima, a Class Vehicle. The two models share a common or very similar platform for the purposes of the passive safety system.

674. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Kia K5 had EOS damage.

675. On June 13, 2012, a non-party ZF subsidiary then called TRW Automotive Components (Shanghai) Co., Ltd., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA provided a written slide deck presentation to Kia Korea analyzing this incident. According to the document, "[t]he unit was internally visually inspected. Signs of over heating of Squib ASIC U501 [i.e., the DS84 ASIC] could be observed on the top [particle circuit board] assembly." The ACU had no EDR data and recorded 11 diagnostic trouble codes relating to, among other things, "Airbag short to battery," "Driver [front impact sensor] communication," and "ACU Internal fault." [redacted]

[redacted]

676. The analysis from the Kia K5 incident specifically concluded: "The failure was induced by an electrical overstress exceeding the absolute maximum ratings of the device: EOS."

i. Between February and June 2012, Hyundai USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned of a 2011 Hyundai Sonata that crashed in Iowa with no airbag deployment and other signs of ASIC EOS.

677. On December 16, 2011, Thomas Twohill and Janan Twohill were driving their 2011 Hyundai Sonata in Fairfield, Iowa. Their vehicle crashed head on into a Ford Contour that swerved into their lane. The accident was very serious. The driver of the Ford Contour died. Nonetheless, the airbags and seatbelts in the Twohill's Sonata failed to activate, even though they should have given the crash dynamics. The Twohills suffered severe facial injuries. A picture of the Twohill's Sonata is below.

678. Hyundai USA learned of this crash in February 2012.

679. Hyundai USA inspected the vehicle four months later, in June 2012, and was not able to communicate with the ACU to obtain a crash record. This was a sign of ASIC EOS. Hyundai USA, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA communicated about the event. The inspector for Hyundai USA identified 11 diagnostic trouble codes associated with the passive safety system. This was further evidence of ASIC EOS.

680. On May 8, 2013, the Twohills sued Hyundai USA, alleging that the failure of the seatbelts and airbags in their vehicle had caused them personal injuries. Upon information and belief, Hyundai Korea learned of this lawsuit shortly thereafter.

681. On February 25, 2014, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA downloaded information from the DS84 ACU from the Twohill's Hyundai Sonata. The downloaded information included 14 indicators of "fault." This was a sign of ASIC EOS.

682. On February 15, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA retrieved some Event Data Recorder data by removing the chip from the malfunctioning ACU on the Twohills' vehicle and transplanting it onto a working ACU. The retrieved data had no record of the crash, which was another sign of ASIC EOS.

683. On April 25, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA analyzed this ACU and observed damage on the ASIC that is consistent with EOS. Sihn Kwang Cheol, the Senior Research Engineer of Hyundai Korea; Changbeom You, the Deputy General Manager of Hyundai Korea's Quality Strategy Team; Kim Seong Hwan, the Assistant Manager of Hyundai Korea's Electronic Improvement Team; Eric Sim, the Senior Manager of Hyundai USA's Engineering and Design Analysis; and Park Chul Hong, the Manager of Hyundai Mobis's NTF Analysis Team attended this inspection, which took place at a ZF

facility in Farmington Hills, Michigan. The inspection confirmed further evidence of EOS, including abnormal resistance readings, "observations" that "the conformal coating on the DS84 was disturbed (likely from localized heating of the ASIC), discolorations near one mounting hole, [and] air bubble in one corner of the pcb." Bill Herndon of ZF Electronics USA made these observations. Afterwards, he shared pictures of these observations with each of the other attendees at the inspection.

684. [redacted]

685. [redacted]

[redacted]

686. [redacted]

j. Between March and May 2012, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis learned that EOS damage had been observed on a DS84 ACU from a Kia Forte that crashed in Egypt with no airbag deployment.

687. In or before March 2012, a Kia Forte with an ACU containing a DS84 ASIC crashed in Egypt, and its airbags failed to deploy.

688. In March of 2012, Hyundai Mobis requested that ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA perform a post-crash analysis related to this failed airbag deployment. The Forte was severely damaged, as shown by the picture of the vehicle from an inspection.

689. In March 2012, Hyundai Mobis asked ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA to analyze the ACU retrieved from the Egyptian Kia Forte.

690. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA analyzed the ACU in March 2012 and observed damage to the DS84 ASIC that was "consistent with EOS."

691. Upon information and belief, on May 15, 2012, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA sent a written analysis of the ACU retrieved from the Forte to Kia Korea and Hyundai Mobis. The analysis noted the following independent signs of EOS.

a. An electrical check confirmed abnormally low resistance.

b. To access the EDR data, special steps had to be taken because the ACU would not communicate with the crash data tool as designed.

c. The ACU recorded the following diagnostic trouble codes: "[front impact sensor] Driver communication error", "[front impact sensor] Passenger communication error", and "[i]nternal fault-replace ECU." Upon information and belief, these codes were signs of ASIC EOS.

d. The analysis noted the EDR data was only "partial."

692. The analysis described above also noted: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded."

693. By no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA communicated its observation that the Egyptian Kia Forte's ACU had damage to the DS84 ASIC that was consistent with EOS to Hyundai Korea, Kia Korea, and Hyundai Mobis.

k. Kia Korea, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA observed evidence of DS84 ASIC EOS during a Kia Optima crash test on April 2012.

694. On April 20, 2012, Kia Korea performed a 30-mph frontal impact test on a Kia Optima Hybrid for European market certification. This Optima had a DS84 ACU.

695. During this test, the Event Data Recorder on the Optima's ACU failed to record information about the crash.

696. To investigate the cause of the missing data, Kia Korea immediately sent the malfunctioning ACU to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA for analysis.

697. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA found EOS damage on the ACU's DS84 ASIC and reported its conclusions to Kia Korea.

l. Between April 30, 2012 and May 17, 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Hyundai Korea, Kia Korea, and Hyundai Mobis confirmed EOS damage on a DS84 ASIC from a Hyundai Sonata crash test.

698. Upon information and belief, some time in 2011 or early 2012, Hyundai Korea and/or Hyundai Mobis requested that ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyze a DS84 ACU recovered from a Hyundai Sonata crash test conducted by MGA Research.

699. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a written report in response to this request and sent it to Hyundai Korea and/or Hyundai Mobis on or around April 30, 2012.

700. Upon information and belief, by no later than May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea, Kia Korea, and Hyundai Mobis that the DS84 ASIC from this Hyundai Sonata crash test had EOS damage.

m. Between May 17, 2012 and June 2016, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Hyundai Korea, and Hyundai Mobis discussed seven additional suspicious field reports that they did not meaningfully investigate.

701. Upon information and belief, on or around May 17, 2012, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA finalized a written slide deck presentation on a root cause analysis and design robustness improvement plan for the DS84 ACUs in Kia Fortes, Kia Optimas, Kia K5s, and Hyundai Sonatas.

702. Upon information and belief, this slide deck presentation was then sent to Kia Korea, Hyundai Korea, and Hyundai Mobis on May 17, 2012, with ZF Automotive USA's, ZF Electronics USA's, and ZF Passive Safety USA's approval.

703. The May 17, 2012 slide deck presentation identifies seven additional field incidents involving Chinese Kia Fortes, including incidents in Rugao, Jiansu; Jinan, Shangdong; Zhengshou, Henan; Nanyang, Henan; Jinhua, Zhejiang; Yangcheng, Jiangsu; and Anhui, Wuhu.

704. Upon information and belief, between May 2012 and the present, Kia Korea, Hyundai Korea, and Hyundai Mobis never sent ACUs, ASICs, or EDR data retrieved from these Kia Fortes to any ZF company.

705. Based on a document produced by Kia USA and upon information and belief, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Hyundai Korea, and Hyundai Mobis knew that no ACUs, ASICs, or EDR data for these Fortes was sent to any ZF company as of June 2016.

n. After observing evidence of ASIC EOS, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Hyundai Mobis, Hyundai Korea, and Kia Korea agreed to inadequate design changes to the DS84 ACU.

706. In mid-2012, various personnel of ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, and Hyundai Mobis discussed incidents involving Hyundai and Kia vehicles containing ACUs with DS84 ASICs. During these meetings, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Hyundai Korea, Kia Korea, Hyundai Mobis, ST USA, and ST Italy discussed whether the DS84 ASIC could be damaged in ways that would affect airbag deployment.

707. For example, on May 2, 2012, Hyundai Korea, Kia Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA and ST Italy met to discuss ST USA's and ST Italy's tests of DS84 ACUs for whether voltage exceeding internal device specifications could damage the DS84 ASIC, and whether transients on vehicle wiring could raise voltage above device specifications. In this meeting, SK Choi represented both Hyundai Korea and Kia Korea; YS Hwang and SH Lee represented Hyundai Mobis; Ed Wampuszyc represented ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA; and [redacted] represented ST USA and ST Italy.

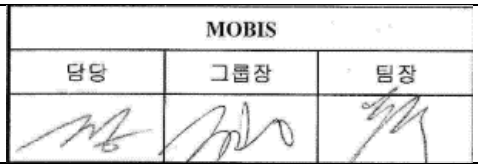
708. On May 17, 2012, Hyundai Korea, Kia Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA discussed approximately 20 field incidents and crash tests involving the DS84 ASIC and potential design changes to ACUs containing the DS84 ASIC. During this discussion, SK Choi represented Hyundai Korea and Kia Korea; MH Cho, YS Hwang, MC Jeon, and CH Park represented Hyundai Mobis; and SH Han, SJ Hong,

Farad Khairallah, M. Kim, and Sharath Reddy represented ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA.

709. During the summer of 2012, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Hyundai Korea, Kia Korea, and Hyundai Mobis agreed to add Schottky diodes to DS84 ACUs for future Hyundai and Kia Class Vehicles.

710. Around July 23, 2012, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Kia Korea, Hyundai Mobis, and Kia Korea began testing ACUs with additional protective components on or around July 23, 2012.

711. On July 23, 2012, Hyundai Mobis sent a report to Kia Korea and Hyundai Korea that called for a change to the DS84 ACU. The subject of the report was "Hardware addition for internal ACU damage of . . . GEN6.0 ACU." The report described the following "Reason of Design change:" "Hardware addition for improving damage of internal ACU by [front impact sensor] cut & power change during collision." The report is signed by three Hyundai Mobis employees.



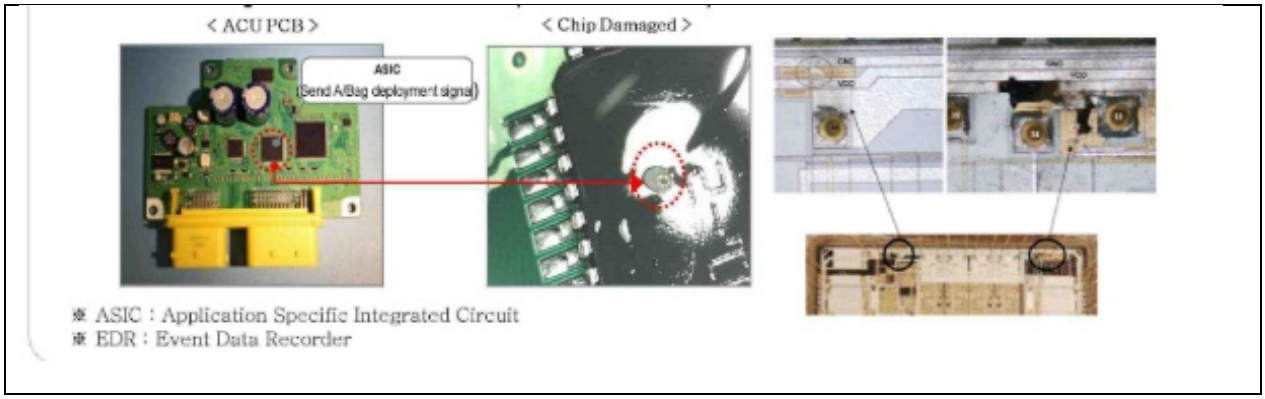
Plaintiffs do not presently know the identities of the employees responsible for these signatures, but Hyundai Mobis does know that information.

712. A July 24, 2012 Hyundai Korea test report created by the Hyundai Korea Chassis & Safety Design Team based in South Korea noted that a design change was being made to address "the GEN6 ASIC internal ACU burnout in actual collision." Upon information and belief, this refers to an actual crash of a Hyundai Sonata instead of a crash test. The report was written by Hyundai Korea employees Chang Beom You and also approved by Hyundai Korea employees Woo Geun Cho and Dae Gyun Kim.

713. Between July 29, 2012 and August 5, 2012, Kia Korea, Hyundai Korea, Hyundai Mobis, ZF Electronics USA, ZF Passive Safety USA, and ZF

Automotive USA met in Burlington, Wisconsin at an office of MGA Research. Se Kyung Choi and Chang Beom You, two experts specializing in Chassis and Safety Control Design, attended on behalf of Hyundai Korea and Kia Korea. Cheol Hong Park attended on behalf of Hyundai Mobis. Ki Myeong Kim attended on behalf of ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA. The purpose of the meeting was to run tests on purported improvements "related with ASIC damage."

714. Upon information and belief, ST USA and ST Italy provided ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA with images of observed ASIC damage in Hyundai-Kia vehicles during 2012, and ZF Automotive USA then provided the same images to Kia Korea, Hyundai Korea, and Hyundai Mobis. These images appear in a Hyundai Korea and Kia Korea document that Hyundai USA produced to NHTSA, and are reproduced below. Upon information and belief, the images are the type of decapsulation analysis that only ST USA, ST Italy, and ST Malaysia can perform on DS84 ASICs.



715. The same Hyundai Korea and Kia Korea document from 2012, described in the preceding paragraph, acknowledges there was a "Problem Occurring" with the "TRW Gen 6.0 ACU" fitted on Hyundai Sonatas, Kia Fortes, and Kia Optimas. The document describes the "Cause" this way: "When the [front impact sensor] ground short circuit due to engine room deformation/damage in the event of a collision, failure of ignition ASIC due to internal inrush current in case of

ACU supply → Insufficient design of internal element (ASIC) protection circuit." The document defines "inrush current" as "[t]ransient current that increases momentarily when powering on electronic parts but immediately returns to normal state."

716. In August 2012, following the tests described in the preceding paragraph, Hyundai Korea changed the engineering plans for future productions of the Sonata to "apply the Schottky diodes for ASIC damage problems." A Schottky diode does not strengthen the ASIC itself; instead, it can add external protection on a particular line (i.e., a wire) that connects to the ASIC. Upon information and belief, the Schottky diodes were placed on the communication lines linking the crash sensors to the DS84 ASIC, which means the squib lines (the communication lines to deploy the airbags) were still unprotected. Moreover, an electrical surge can still overwhelm a Schottky diode and cause EOS in the ASIC.

717. Likewise, Kia Korea began to include DS84 ACUs with the same inadequate changes in the Sedona beginning August 15, 2012, and other Kia Class Vehicles with defective DS84 ACUs beginning September 1, 2012.

718. Because these changes affected hundreds of thousands of Kia and Hyundai Class Vehicles sold in the United States, Kia USA and Hyundai USA would have known about the change as well.

719. The addition of Schottky diodes to certain Hyundai-Kia Class Vehicles was insufficient to remedy the ACU Defect, but demonstrates that Kia USA, Hyundai USA, Kia Korea, Hyundai Korea, Hyundai Mobis, Ltd., ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA knew that the defective ACU was a serious safety concern that required action.[31]

[31] As explained above, the use of two Schottky diodes does not appear to fix the defect. Many FCA Class Vehicles have one Schottky diode, but still had confirmed cases of ASIC EOS in the ACUs in crashes. Similarly, Toyota Class Vehicles have two Schottky diodes, but the same pattern of ASIC EOS emerged. FCA and Toyota Engineering USA recalled many of these vehicles.

o. Between July 2012 and December 2015, Kia USA, Kia Korea, Hyundai Mobis, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA observed evidence that EOS had caused airbag and seatbelts to fail in a 2010 Kia Forte crash in Tallahassee, Florida.

720. On the night of March 21, 2011, Joy King drove her 2010 Kia Forte Koup on U.S. Highway 19/27 in Tallahassee, Florida. A logging truck cut Ms. King's vehicle off after it entered the highway. Her Kia Forte collided into the rear end of the truck. The police report for the incident estimated that Ms. King's Forte was travelling at 65 miles per hour at the time of collision. The front airbag did not deploy. Upon information and belief, the airbag should have deployed given the severity and speed of the crash.

721. Ms. King's accident was very serious. She suffered a closed head injury, a fractured jaw, a fractured left shoulder, a fractured left arm, and a fractured lower back. All of her teeth had to be pulled out, and she had to have at least two surgeries.

722. Photos of Ms. King's wrecked Kia Forte show serious damage to the vehicle.

723. On June 3, 2011, an accident reconstruction specialist called Kia USA's customer assistance center about this accident and informed Kia USA that the airbags did not deploy. He provided Kia USA with the vehicle information.

724. On July 28, 2011, per its Consumer Assistance Center Case Report, Kia USA reviewed the photos from this incident and decided "no further assistance can be provided at this time." "Case closed."

725. On September 26, 2011, Heath King, Joy King's husband, called Kia USA and requested "somebody to go out and look at the car, to see why the airbags did not deploy." He noted the severe injuries suffered by Ms. King and stated: "I don't understand why nothing has been done." The representative at Kia USA then falsely stated: "Kia has never received police report or pictures." This was false because Kia USA had received and reviewed pictures from the accident.

726. On October 6, 2011, an attorney representing Ms. King had another phone call with Kia USA. He again informed Kia USA that the airbags in her vehicle did not deploy and that Ms. King sustained serious injuries.

727. On November 28, 2011, Kia USA received a traffic accident report and three additional color photos of Ms. King's Forte.

728. On July 18, 2012, Kia USA received a copy of a complaint by Ms. King initiating a personal injury lawsuit against Kia USA.

729. Upon information and belief, Kia USA informed Kia Korea of Ms. King's accident in 2012 because it had prompted a lawsuit and Kia USA reported the incident to NHTSA in September 2012 as part of its Early Warning obligations under the Transportation Recall Enhancement, Accountability and Documentation ("TREAD") Act.

730. Between December 1 and 3, 2015, in response to a request from Kia USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyzed the DS84 ACU from Ms. King's vehicle. They observed damage on the DS84 ASIC that was consistent with EOS, and advised Kia USA that EOS prevented creation of an EDR crash record.

731. On December 14 and 15, 2015, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Kia Korea, Kia USA, and Hyundai Mobis attended a joint inspection of Ms. King's vehicle in the United States.

732. [redacted]

a. [redacted]

733. By no later than January 14, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA prepared a written analysis of the DS84 ACU from Ms. King's Kia Forte. The report concluded:

a. "Resistance to ground measurements identified anomaly on the DS84 squib asic. After replacing the DS84, the resistance to ground measurements were consistent with measurements on an exemplar ACU."

b. "An ACU download was performed. There is no crash record recorded."

c. "Analysis performed by ST Micro confirmed the presence of electrical overstress on the DS84."

734. On May 24 and 25, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA met with Hyundai Korea, Kia Korea, and Hyundai Mobis in South Korea. During this meeting, these Defendants reviewed and discussed the January 14, 2016 report on the King crash, which confirmed EOS damage on the DS84 ASIC.

p. Between March 2014 and January 2016, Kia USA, Kia Korea, Hyundai Mobis, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned of evidence that EOS had caused airbags and seatbelts to fail in a fatal accident involving a 2012 Kia Forte in San Leandro, California.

735. On July 28, 2013 a 2012 Kia Forte Sedan was hit head-on by a drunk driver at approximately 2 am in San Leandro, California. The drunk driver drove his vehicle towards the Forte at 67 miles per hour. Although both drivers swerved near impact, the front-ends of the vehicles collided.

736. The driver of the Kia Forte was named Ronald Hill. His wife, Lomia Faumuina, was riding in the passenger seat. Both Mr. Hill and Ms. Faumuina were wearing their seatbelts.

737. The crash involved a massive amount of force. The crush energy experienced by the Kia Forte was the equivalent of 302,000 foot-lbs. The force of the crash moved the dashboard of the Kia Forte 2.6 inches forward and displaced the airbag sensors.

738. The crash destroyed the front end of the Forte, as demonstrated by the below picture of the wreckage.

739. Despite the high speed and force of the collision, the airbags in the Kia Forte did not deploy, and the seatbelt pretensioners failed to activate. By contrast, the airbags in the vehicle that collided with the Kia Forte did deploy.

740. Upon information and belief, the airbags in the Kia Forte should have deployed during this crash due to its severity and speed.

741. As a result of this accident, Ms. Faumuina died from blunt force trauma and Mr. Hill suffered a brain bleed, a fractured pelvis, and a fractured right leg.

742. On or about July 2, 2014, NHTSA sent Kia USA a letter requesting information about this crash.

743. In March 2014, Kia USA was served with a complaint alleging the non-deployment of the airbags in this crash had killed Ms. Faumuina and seriously injured Mr. Hill.

744. On April 7, 2015, a Kia USA engineer attempted to download a crash record from the DS84 ACU in Mr. Hill's and Ms. Faumuina's Forte. The attempt

failed because the download tool could not communicate with the ACU. This was a sign of EOS.

745. On June 15, 2015, ZF Automotive USA, ZF Passive Safety USA and ZF Electronics USA also attempted to download a crash record from the ACU at their shared facility in Michigan. The attempt again failed. This was further confirmation of EOS.

746. On October 9, 2015, an unknown individual submitted a Vehicle Owner Questionnaire to NHTSA about this incident. The Questionnaire stated: "THE CAR WAS INVOLVED IN A SERIOUS FRONTAL IMPACT AND THE FRONT SEAT AIRBAGS DID NOT GO OFF. THE PASSENGER WAS KILLED AND THE DRIVER WAS SERIOUSLY INJURED. KIA WAS INFORMED AND THE AIRBAG CONTROL MODULE WAS TESTED AND FOUND TO BE NOT WORKING." The reporting individual is unknown because the public record version of this questionnaire redacts his or her name.

747. On October 11, 2015, the same individual provided an update to the questionnaire stating: "THIS IS A CORRECTION TO A COMPLAINT FILED LAST WEEK. I CHECKED NO ON THE FATALITIES QUESTION. THE KIA WAS IN A SERIOUS FATAL FRONTAL IMPACT BUT THE AIRBAGS DID NOT DEPLOY. KIA TESTED THE AIRBAG CONTROL MODULE AND IT HAD NO FAULT CODES AND DID NOT RECORD ANY CRASH DATA. KIA HAS THE MODULE NOW. THE OTHER CARS AIRBAGS WORKED AND THE DRUNK DRIVER SURVIVED...UPDATED 10/15/15 *BF ...UPDATED 12/29/15 *BF THE DATA SHOWED THAT THERE WERE NO STORED OR DIAGNOSTIC FAULT CODES. THERE WAS NO CRASH RECORD RECORDED BY THE ACU." Again, the reporting individual is unknown because the public record version of this questionnaire redacts his or her name.

748. Between December 1 and 3, 2015, in response to a request from Kia USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA

analyzed the DS84 ACU from Mr. Hill's and Ms. Faumuina's Forte. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA observed damage on the DS84 ASIC that was consistent with EOS, and advised Kia USA that EOS prevented creation of an EDR crash record.

749. On December 9, 2015, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a report for the 2012 Forte concerning Mr. Hill's and Ms. Faumuina's crash and sent it to Kia USA. Emanuel Goodman, a longtime employee of ZF Passive Safety USA who also served as a Senior Technical Specialist for ZF Electronics USA, prepared the report. The report found: "Resistance to ground measurements identified an anomaly on the DS84 squib ASIC. After replacing the DS84, resistance to ground measurements were consistent with measurements on exemplar ACU." This was a sign of EOS.

750. [redacted]

751. On December 14 and 15, 2015, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Kia USA, and Hyundai Mobis attended a joint inspection of Mr. Hill's and Ms. Faumuina's vehicle in Irwindale, California. Part of the inspection included running tests with a new ACU. With a new ACU, there were "no issues," aside from the sensor wiring being disconnected, which is a clear sign an ACU issue was the cause of the failure.

752. On May 24 and 25, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA met with Hyundai Korea, Kia Korea, and Hyundai Mobis in South Korea. During this meeting, these Defendants reviewed and discussed the updated January 14, 2016 report on the Faumuina crash.

q. Between May 2015 and August 2017, Hyundai USA, Hyundai Korea, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned that ASIC EOS had occurred in another fatal accident involving a 2011 Hyundai Sonata that crashed with no airbag deployment.

753. On September 27, 2014, Millard Johnson was driving a 2011 Hyundai Sonata with his wife, Mary Johnson, in the passenger seat. A pickup truck travelling at a speed higher than 65 miles per hour crashed into the Johnsons' Sonata. The collision caused catastrophic damage to both vehicles. The below picture of the Johnson's Sonata after the wreck confirms the serious nature of the collision. The airbags in the pickup truck deployed. None of the airbags in the Johnson's Sonata deployed, despite considerable damage to both the front and driver's side. Upon information and belief, the airbags in the Johnsons' Sonata should have deployed during the crash.

754. Because of the crash, Mary Johnson suffered major injuries, including head trauma resulting in bleeding and blood pooling on the brain, multiple spinal cord injuries, dislocation of her right elbow, and a fractured right wrist.

755. Millard Johnson died from injuries he sustained in the crash.

756. On April 17, 2015, Hyundai USA inspected the Johnsons' Sonata. It sent the DS84 ACU from the vehicle to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA

757. In May 2015, Mary Johnson filed a lawsuit against Hyundai USA and Hyundai Korea. The compliant contained the information about this crash pled in the above paragraphs. Hyundai USA answered the complaint on June 15, 2015.

758. On November 3, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA attempted to recover a readout from the EDR, but found the ACU to be noncommunicative. This was a sign of DS84 ASIC EOS.

759. On August 24-25, 2017, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyzed the ACU retrieved from this incident.

They observed damage on the DS84 ASIC that was consistent with EOS. They reported their findings to Hyundai Korea and Hyundai USA.

r. In March 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA informed Kia Korea of test results showing that a transient of -1.5 volts for 30 microseconds would cause EOS of the DS84 ASIC.

760. Upon information and belief, in 2015 or 2016, Kia Korea asked ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to perform negative transient tests and measure transient voltage, duration, and current required to cause EOS damage to the DS84 ASIC.

761. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA then performed a test on a Kia Forte DS84 ACU.

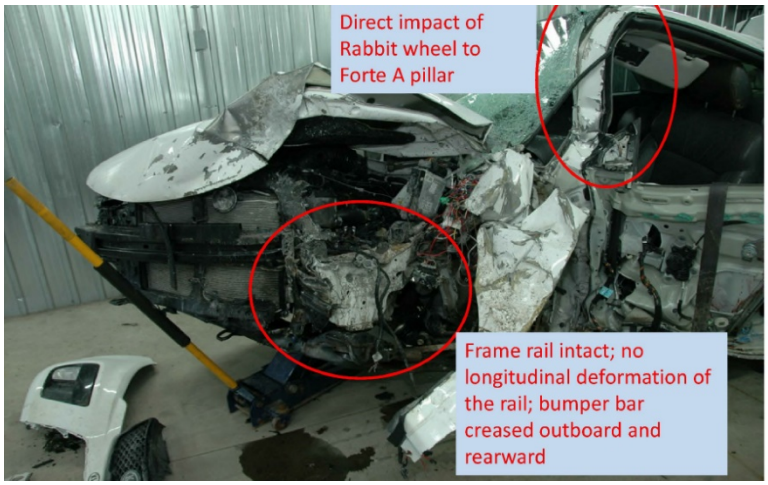
762. Upon information and belief, on or around March 24, 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA provided a written report to Kia Korea summarizing the test results. The conclusion states: "Tranisent . . . flowing through ASIC satellite channel caused electrical overstress of ASIC." Accordingly, these tests showed ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and Kia Korea that the DS84 ASIC suffers EOS at a relatively low voltage.

s. Between May 2017 and August 2017, Kia USA, Kia Korea, Hyundai Mobis, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA observed evidence that EOS had caused the airbags to fail in a fatal accident involving a 2013 Kia Forte in Canada.

763. On the morning of March 18, 2017 in Canada, a man named Julian Dufort drove his 2013 Kia Forte. His vehicle crossed into an oncoming lane on a two-lane rural road and collided with a Volkswagen Rabbit. The left fronts of the two vehicles collided.

764. The Forte's airbags failed to deploy, whereas the Volkswagen's airbags deployed. Mr. Dufort died from the crash.

765. Pictures of the wreckage confirm that the damage to Mr. Dufort's Kia Forte was extreme and should have caused airbag deployment under any rational deployment strategy.



766. Transport Canada (a Canadian government agency) received a customer report and removed the ACU from the Forte.

767. After Transport Canada contacted Kia Canada, Inc. about the incident, Kia Canada, Inc. contacted Kia USA for assistance. Kia USA then contacted ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA for assistance. Kia Canada, Inc. shipped the ACU to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA's shared office in Michigan.

768. On August 24, 2017, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, and Hyundai Mobis jointly inspected the DS84 ACU retrieved from Mr. Dufort's Forte. The joint inspection found internal damage to the DS84 ASIC on the ACU and that the ACU had failed to maintain a crash record. Both of these findings are signs of EOS.

t. Between August 2016 and August 2017, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA confirmed ASIC EOS had occurred in another fatal crash where a 2011 Hyundai Sonata's airbags failed to deploy in Omaha, Nebraska.

769. On March 16, 2016, Carl Gauff drove his 2011 Hyundai Sonata on U.S. highway 275 (also called "L Street") in Omaha, Nebraska. His 15-year-old grandson was in the passenger seat. A drunk driver crashed a 2000 Ford Expedition head-on into Mr. Gauff's vehicle. According to the Omaha Police Department's accident re-constructionist, the drunk driver drove eastbound in the westbound lanes on the same highway at a high speed, over 40 miles per hour.

770. The airbags in the drunk driver's 16-year-old Ford Expedition went off. But the airbags in Mr. Gauff's 2011 Hyundai Sonata failed to deploy. The crash killed Mr. Gauff and knocked his grandson unconscious. His grandson was hospitalized.

771. Upon information and belief, the airbags in Mr. Gauff's Sonata should have deployed in this crash.

772. Video footage of Mr. Gauff's wrecked Sonata shows that the crash completely destroyed the front of the vehicle.

773. Hyundai USA inspected Mr. Gauff's Sonata on May 24, 2016. A photograph taken during the inspection confirms the severe damage to the front-end of the Sonata.

774. In February 2017, Hyundai USA requested ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to download the crash data from Mr. Gauff's Sonata. They tried, but failed, because the EDR tool could not establish communication with the DS84 ACU. This was a sign of EOS.

775. On August 24 or 25, 2017, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyzed the DS84 ACU from Mr. Gauff's Sonata. They observed damage consistent with EOS on the DS84 ASIC.[32]

776. [redacted]

[32] On August 23, 2016 and March 3, 2017, ZF Electronics USA and ZF Automotive USA also downloaded data from ACUs retrieved from other Kia Forte crashes with no airbag deployment. They have not disclosed whether they found evidence of EOS on these ACUs.

[redacted]

777. On September 21, 2018, NHTSA sent a letter to Hyundai USA attaching a Vehicle Owner Questionnaire submitted to NHTSA concerning Mr. Gauff's incident. The letter stated regarding this Questionnaire: "The Office of Defects Investigation (ODI) has received (1) Vehicle Owner Questionnaire (VOQ) report alleging the front airbag did not deploy in a frontal crash, due to an electrical overstress condition (EOS) of the ACU."

u. Between August 2016 and March 2018, Hyundai Korea, Hyundai USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in another Hyundai Sonata that crashed with no airbag deployment in California.

778. On August 24, 2016, a 2011 Hyundai Sonata crashed into another vehicle in California. The below photograph of the Sonata after the wreck indicates that the crash was severe. The driver of the Sonata, Cayla Collins, suffered a broken pelvis. She was hospitalized for a week.

779. Upon information and belief, Hyundai USA learned of this crash in November 2016.

780. On February 9, 2017, Hyundai USA inspected Ms. Collins' vehicle. The inspector found nine diagnostic trouble codes on the safety system, which was a sign of DS84 ASIC EOS.

781. Upon information and belief, on March 27, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA downloaded available data from the DS84 ACU in Ms. Collins' Sonata and analyzed the ACU for signs of EOS. They observed damage on the DS84 ASIC that was consistent with EOS.

782. Upon information and belief, in March or April 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA reported their findings related to EOS to Hyundai USA and Hyundai Korea.

v. Kia USA has received notice of at least two other accidents where airbags failed in Kia Class Vehicles.

783. According to a complaint filed on October 23, 2015 against Kia USA and ZF TRW Corp., a driver named Luis John Hernandez suffered serious injuries when his 2012 Kia Forte crashed into a fence and dumpster in Puerto Rico and the airbags failed to deploy.[33]

784. In June 2018, Kia USA received another consumer complaint alleging a fatal accident involving a 2012 Kia Forte that crashed in Perry, Georgia with no airbag or seatbelt deployment.

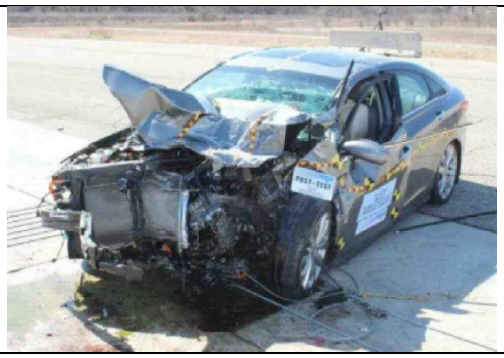
[33] The complaint alleges the driver suffered a cerebral contusion, subarachnoid hemorrhage, traumatic brain injury, and permanent disabilities impeding the ability to perform daily tasks, communicate, and remember things.

w. In March 2018, three more Sonatas experienced DS84 ACU ASIC EOS during crash tests developed by Hyundai Korea and conducted by Hyundai USA.

785. Between March 19 and 28, 2018, Hyundai USA conducted seven crash tests developed by Hyundai Korea and a third-party engineering firm. At this point NHTSA's investigation for DS84 ACUs in Hyundai-Kia Class Vehicles was open for over two years. NHTSA supervised these crash tests.

786. In three of the seven crash tests developed by Hyundai Korea and executed by Hyundai USA, the DS84 ACU in the Hyundai Sonata suffered EOS damage. In two of these tests, the vehicles with ACU failures had observable wire harness damage which may have contributed to EOSs. The third such vehicle, however, had no observable wire damage that could have caused EOS. The presence of EOS damage in the third vehicle indicates that EOS can occur even without damage to the vehicle wiring.

787. In two of these crash tests, Hyundai Sonatas crashed at 70 miles per hour into another car. No airbags deployed and the ACUs failed to save a crash record. Hyundai USA's investigation of the Ds84 ACU confirmed that ASIC EOS likely occurred, finding, "DS84 ASIC damage suspected." The below pictures of the crashed Sonatas from these tests show damage that strongly indicates the airbags should have deployed.



788. On April 11-12, 2018, Hyundai USA, NHTSA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyzed three DS84 ACUs from

the March 18-28 crash tests at ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA's shared office in Farmington Hills, Michigan. The analysis showed that, in all three ACUs, an internal electrical short occurred on the 5-volt VCC line of the DS84 ASIC. Upon information and belief, this refers to a connection between the DS84 ASIC and a power supply chip.

789. [redacted]

x. In May 2018, Kia Korea, Kia USA, Hyundai Mobis, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA discovered another Kia Forte crash with signs of EOS.

790. In early May 2018, NHTSA identified two Kia Fortes with DS84 ACUs and ASICs in salvage yards for further evaluation and asked Kia USA to conduct an ACU download.

791. On May 15-16, 2018, Kia USA tried and failed to download crash data from one of the vehicles, a 2012 Kia Forte.

792. On May 24, 2018, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, Kia Korea, Kia USA, and Hyundai Mobis attended a joint inspection of the ACU retrieved from the 2012 Kia Forte. The inspection took place at a ZF facility in the United States—presumably where other inspections had taken place: ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA's shared office in Michigan. Part of the crash record was missing, which is a sign of

ASIC EOS. Resistance measurements on the circuit board were also consistent with previous EOS events. Based on these results, NHTSA requested that Kia conduct a recall of 2010 to 2013 Kia Fortes.

4. ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, FCA, ST USA, ST Italy, and ST Malaysia knew the FCA Class Vehicles, as well as the DS84 ACUs and DS84 ASICs installed therein, were defective.

793. For many years, FCA, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, and ST Malaysia have known that the defective DS84 ACUs and ASICs in FCA Class Vehicles are uniquely vulnerable to EOS.

a. Between September 25, 2009 and September 6, 2016, FCA returned over twenty DS84 ACUs with signs of EOS on DS84 ACUs to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA.

794. According to a document produced by the ZF Defendants to NHTSA in connection with NHTSA's investigation of vehicles equipped with defective DS84 ACUs, FCA returned over twenty ACUs that showed signs of EOS in the DS84 ASIC to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA between September 25, 2009 and September 6, 2016. Excerpts of this document with relevant dates of warranty returns are collected below. Each of these warranty returns indicates observations that the DS84 ACU malfunctioned due to EOS.

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	25-Sep-09	AR45062, RMA31574, SQUIB FAULTS, PART BURNED	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	19-Nov-09	AR46093, RMA 32032, VSAT SHORT TO GROUND	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	7-Oct-08	AR47049, RMA32522, VDD SHORTED TO GROUND	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	1-May-10	AR47619, RMA32729, VDD SHORTED TO GND, PIN 7	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	9-Jun-11	AR49585, RMA34205, pulling down VUPP_Out(VRES) voltage	Airbag warning lamp on	Chrysler	Caliber
DS84	EOS	ST Micro	4-Jan-10	AR49609, RMA34284, return Squib to ST Micro analysis	Airbag warning lamp on	Chrysler	Wrangler
DS84	EOS	ST Micro	4-Apr-12	AR50384, RMA34495, internally shorted pins 61 to 62	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	15-Jan-12	AR51945, RMA34838, Squib short to ground for squib 0	Airbag warning lamp on	Chrysler	Wrangler
DS84	EOS	ST Micro	14-Sep-11	AR51952, RMA34848, Drivers seat belt is not working	Airbag warning lamp on	Chrysler	Wrangler
DS84	EOS	ST Micro	13-May-11	AR52298, RMA34986, US01 has an internal VDD-GNDshort	Airbag warning lamp on	Chrysler	Caliber
DS84	EOS	ST Micro	29-Nov-11	EOS Customer Caused VOIDING QCCAR AR53218, RMA35467	Airbag warning lamp on	Chrysler	Ram
DS84	EOS	ST Micro	11-Oct-11	EOS Customer Caused VOIDING QCCAR AR53245, RMA35578	Airbag warning lamp on	Chrysler	Caliber
DS84	EOS	ST Micro	28-Aug-11	AR53251, RMA35671, No communication	Airbag warning lamp on	Chrysler	Ram
DS84	EOS	ST Micro	26-Mar-11	RMA 35626 Part was EOS VOIDING	Airbag warning lamp on	Chrysler	Fiat 500

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	18-Mar-12	AR53893, RMA35948, hot to the touch unit powered up B220E700	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	25-Sep-12	AR54077 RMA36007, pulling down Sys_Reset line onpin5 B323E972	Airbag warning lamp on	Chrysler	Fiat 500
DS84	EOS	ST Micro	11-Sep-12	AR54343, RMA36059, SQ5 appear shorted to battery voltage	Airbag warning lamp on	Chrysler	Fiat 500
DS84	EOS	ST Micro	9-Aug-13	AR55344, RMA36223, Internal short between pins 29 & 30 B462E1418	Airbag warning lamp on	Chrysler	200/ Sebring/ Avenger
DS84	EOS	ST Micro	3-Jun-13	AR55568, RMA36358, 3 volts & should be around 22 volts B546E1664	Airbag warning lamp on	Chrysler	Compass / Patriot
DS84	EOS	ST Micro	2-Sep-13	SR2014072201, RMA, causing abnormal squib output signals B623E1930	Airbag warning lamp on	Chrysler	Compass / Patriot
DS84	EOS	ST Micro	11-Dec-15	SR2016020310, RMA (B1009E3749), U501 has an internal short	Airbag warning lamp on	Chrysler	Wrangler
DS84	EOS	ST Micro	29-Jan-16	SR2016100401, RMA (FR-16-03608), measure 17vdc instead of 23vdc.	Airbag warning lamp on	Chrysler	Wrangler
DS84	EOS	ST Micro	6-Sep-16	SR2017110503, RMA (FR-17-05688), short from pin 34 to Gnd on pin 6	Airbag warning lamp on	Chrysler	Wrangler

795. FCA has also produced a document dated September 14, 2012 that analyzes the number of warranty returns for certain Jeep vehicles related to DS84 ACUs and ASICs as of that date. The document identified 11 total DS84 ASIC

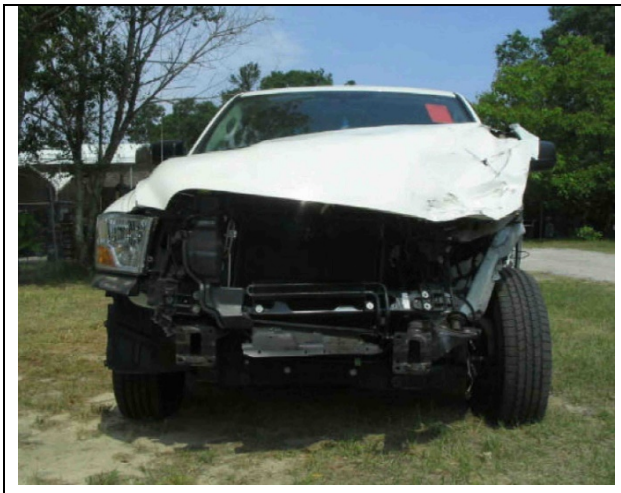
returns and provided detailed information on failure symptoms for three Jeep Wranglers. The failure symptoms for each of these three Jeep Wranglers identified burnt metal on the DS84 ASIC, which is a sign of EOS. [redacted]

b. In May 2011, FCA learned of airbag and seatbelt failures in a 2009 Dodge Ram crash with signs of ASIC EOS.

796. On May 6, 2011, John Brannon drove his 2009 Dodge Ram 1500 in Hephzibah, Georgia. Although he was wearing his seatbelt when he crashed into a vehicle that had stopped in front of him, the airbags failed to deploy, and the seatbelts failed to lock. As a result, Mr. Brannon injured his head.

797. Mr. Brannon complained to FCA on May 9, 2011.

798. On May 11, 2011, an FCA representative inspected Mr. Brannon's Ram 1500. Pictures from this inspection showed serious damage to the truck. The impact severely deformed the front-end of the Ram 1500, pushing the frame on the driver's side forward several inches. This type of damage indicates the seatbelts and airbags should have deployed.



799. The FCA inspector could not determine if the DS84 ACU recorded any diagnostic trouble codes "due to an electrical issue." Upon information and belief, this meant the crash data retrieval tool could not communicate with the Ram's DS84 ACU. This was a sign of ASIC EOS.

800. Nonetheless, FCA misleadingly concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Upon information and belief, FCA sent a letter denying the claim for compensation on May 16, 2011 and closed the case.

801. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

c. Between 2011 and 2012, FCA, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed EOS damage on a DS84 ASIC in a 2010 Jeep Wrangler with an inadvertent deployment.

802. Upon information and belief, the airbags in a 2010 Jeep Wrangler in Glenview, Illinois deployed on August 22, 2011 even though the Wrangler did not crash into anything.

803. Upon information and belief, an FCA dealer serviced this Wrangler in early September 2011, and replaced a module, presumably the DS84 ACU.

804. Upon information and belief, applicable FCA policies and procedures in this circumstance would have called for the dealer to send the DS84 ACU to FCA. Accordingly, FCA likely received this DS84 ACU in 2011 or 2012.

805. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA analyzed the DS84 ACU from this Wrangler and confirmed EOS on the DS84 ASIC. Based on the timing of a 2012 warranty analysis relating to Jeep Wranglers (discussed above) and a 2013 design review relating to Jeep Wranglers that noted issues with EOS (discussed below), this confirmation occurred in 2012 and likely precipitated the warranty analysis and design review.

d. Between 2013 and April 2015, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA and FCA learned that the driver-side curtain airbag and seatbelt in a 2012 Jeep Patriot failed during a September 2012 crash test due to EOS.

806. On September 12, 2012, the driver side airbag and seatbelt failed to activate in a 2012 Jeep Patriot crash test conducted by the Insurance Institute for Highway Safety. The Jeep crashed into a rigid barrier at 40 miles per hour in the test. A bird's eye view of the test shows the severity of this crash:

807. All of the airbags in the 2012 Jeep Patriot should have deployed given the severity of the crash into the rigid barrier.

808. The crash completely destroyed the vehicle's front end on the driver's side, as shown by the below image.

809. The Insurance Institute for Highway Safety rated this test result as "Poor" and specifically noted airbag and seatbelt failures: "The dummy's head barely contacted the frontal airbag before sliding off the left side as the steering column moved 21 cm upward and 15 cm to the right, resulting in little airbag cushioning for the chest and leaving the head vulnerable to contact with forward side structure. . . . Additionally, the seat belt allowed excessive forward excursion of the dummy's head and torso, and the driver's seat tipped forward and toward the B-pillar. The side curtain airbag did not deploy, leaving the dummy's head vulnerable to contacts with side structure and outside objects." Upon information and belief, the ACU Defect caused the side curtain airbag and seatbelt failure in this crash test.

810. Upon information and belief, FCA engineers learned of this incident no later than 2013.

811. Sometime between 2013 and April 8, 2015, the following events occurred, each of which was a sign of EOS.

a. FCA engineers obtained the ACU from this crash test and found it did not communicate with the Crash Data Recovery ("CDR") tool;

b. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA analyzed the ACU during this time and retrieved only a partial crash record; and

c. ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, and FCA concluded the DS84 ASIC in the 2012 Jeep Patriot crash test sustained EOS damage.

812. On April 8, 2015, FCA engineers informed FCA's compliance department that the engineers observed EOS in the ACU from the 2012 Jeep Patriot after the crash test.

e. Between 2012 and April 2015, FCA, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, ST USA, ST Malaysia, and ST Italy confirmed the DS84 ACU in a 2012 Dodge Avenger had failed due to DS84 ASIC EOS during a crash in the United States.

813. On December 30, 2011, the front-end of a 2012 Dodge Avenger crashed into a Ford F150 pickup truck somewhere in the United States. The crash merited full airbag deployment, but the airbags in the Avenger failed to deploy. The DS84 ACU also failed to save a crash record. Both of these failures were signs of EOS.

814. Although Defendants have produced limited information about this crash, the pictures of the wrecked Avenger confirm the accident was devastating.




815. Upon information and belief, FCA learned of this crash in 2012.

816. Well prior to April 2015, FCA's U.S. Office of General Counsel had learned of this crash.

817. Prior to April 2015, FCA's engineers had performed an analysis of the DS84 ACU retrieved from the 2012 Dodge Avenger involved in this crash and found the ACU did not communicate with the crash data retrieval tool. This was a sign of EOS. FCA's compliance department learned about this analysis by no later than April 6, 2015.

818. In April 2015, FCA's engineers informed FCA's compliance department that ASIC EOS had occurred in the DS84 ACU retrieved from the 2012 Dodge Avenger. Upon information and belief, this confirmation was based on an earlier analysis of the same ACU by ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA.

819. [redacted]

f. In March 2013, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and FCA began to discuss the need for design changes because they knew the DS84 ASIC was vulnerable to transients.

820. Six months after the September 14, 2012 warranty analysis identified three Jeep Wranglers with burnt metal on the DS84 ASIC, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, and FCA began reviewing "EOS Design" proposals for Jeep Wranglers. Upon information and belief, these Defendants began to discuss these proposals at least in part based on the warranty analysis from September 14, 2012.

821. On April 5, 2013, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA sent FCA a written update titled "JK [FCA's codename for Jeep Wranglers] EOS Robustness Update." The document discussed potential design changes, all of which fell short of replacing the DS84 ASIC with another ASIC with a stronger level of resistance to EOS, a strength possessed by competing ACU ASICs.

822. On April 15, 2013, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA sent FCA a written presentation titled "Chrysler JK [(Jeep

Wrangler)] and D-Segment [(Dodge rams)] Squib ASIC EOS Design Proposal Evaluation results."

a. The presentation states: "Dedicated team is continuing to work comprehensive FTA/5P analysis of EOS occurrences observed with ST DS84/MS84 ASICs to identify the system conditions resulting in EOS."

b. Upon information and belief, "FTA/5P analysis" refers to a type of failure analysis called a "Fault Tree Analysis" and a type of root cause analysis consisting of an analysis of 5 P's (parts, position, paper, people, and paradigms). ZF Automotive USA's, ZF Passive Safety USA's and ZF Electronics USA's dedication of an entire team to this problem confirms that FCA, ZF Automotive US. Inc., ZF Passive Safety USA, and ZF Electronics USA were aware of signs of a very serious defect.

c. The presentation states that EOS had been observed in an "EOS Design evaluation based on **Shorted Squib** high to Ground + ORC Ground shift test." Upon information and belief, this test simulated a failure mode that can lead to inadvertent airbag deployments with no crash event.

d. The presentation states that EOS had been observed in an "EOS Design evaluation based on **Shorted Satellite** high to Ground + ORC Ground shift test." Upon information and belief, this test simulated a failure mode that can lead to the nondeployment of seatbelt and airbags during a crash.

e. The presentation discusses potential design changes, all of which fell short of replacing the DS84 ASIC with another ASIC with a stronger level of resistance to EOS possessed by competing ACU ASICs. But the discussion of design changes

shows that FCA, ZF Automotive USA, and ZF Electronics USA knew the current design was insufficient to protect against EOS.

823. Upon information and belief, FCA stopped using DS84 ASICs in Dodge Rams starting with model year 2013.

824. On or around May 30, 2013, FCA received a document from ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA addressing a potential warranty concern regarding the defective DS84 ACUs. The document described a risk that the wire connecting the crash sensor to the DS84 ACU could cause EOS and recommended that further circuit protection be added to the defective DS84 ACUs in light of this risk.

825. In June 2013, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a written slide deck presentation to FCA. The presentation was titled "TRW [Occupant Restraint Controller][:] ST Octal ASIC EOS Countermeasures." The "ST Octal ASIC" is another name for the DS84 ASIC. The document described two "EOS Modes of failure."

a. The first mode of failure occurred when a "[s]horted sensor line to chassis ground," a "[g]round shift," and intermittent "[b]attery supply" were combined. Upon information and belief, ZF Passive Safety USA, ZF Electronics USA, ZF Automotive USA, and FCA knew that a foreseeable crash event can cause this combination of conditions. The document identified two "[p]otential result[s]" from this failure mode. At a minimum, the airbag warning lamp could turn on. At worst, however, the three conditions could send the "Micro in reset during a crash event." In other words, the DS84 ASIC could malfunction and stop working during a crash. This could lead to the failure to activate airbags and seatbelts.

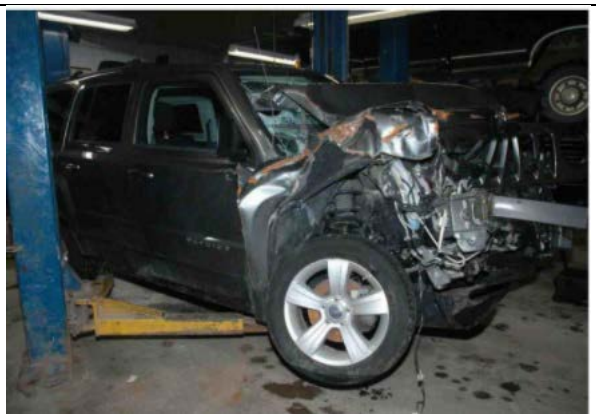
b. The second mode of failure occurred when a squib line (i.e., the electrical line connecting the DS84 ASIC to the airbag triggers) shorting to chassis ground was combined with a ground shift. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and FCA knew that this type of failure mode can occur during normal driving, without a crash. The document identified two "[p]otential result[s]" from this failure mode. At a minimum, the airbag warning lamp could turn on. At worst, however, an "[i]nadvertent deployment" could occur.

826. At least as early as 2014, FCA, ZF Passive Safety USA, ZF Automotive USA, and ZF Electronics USA began to make changes to the DS84 ACUs used on new Jeep Patriots, Compasses, and Wranglers based on concerns regarding EOS. Upon information and belief, ST Italy and ST USA were involved in the testing and analysis that led this decision. Based on ST USA's and ST Italy's analysis and input, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA altered the DS84 ACUs for these FCA Class Vehicles for the 2015 model year by adding some additional protective components to the communication lines between the crash sensors and the DS84 ASIC but otherwise leaving the design flaws of the DS84 ACUs unfixed. This inadequate stopgap measure did not fix the ACU Defect (*see* Section IV.A.9. above) but does demonstrate FCA's, ZF Automotive USA's, ZF Passive Safety USA's, ZF Electronics USA's, ST USA's and ST Italy's knowledge that the original DS84 ACU was vulnerable to EOS.

827. Although FCA made these minor changes to certain Jeep vehicles, FCA continued to distribute other new vehicles with defective DS84 ACUs that had the same lower levels of circuit protection, including the 2015 and 2016 Fiat 500, among others.

g. Between 2014 and April 2015, FCA, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Malaysia, and ST Italy confirmed ASIC EOS in a 2012 Jeep Patriot that crashed with no airbag deployment in the United States.

828. On December 20, 2013, the front end of a 2012 Jeep Patriot crashed into a Ford Expedition SUV. The Jeep was travelling at approximately 35 miles per hour. The crash merited full airbag deployment, but the airbags in the Jeep failed to deploy, and the DS84 ACU failed to record a crash record, both of which are indications of EOS. The pictures of the Jeep from an inspection show very serious damage to the front of the vehicle.



829. Upon information and belief, FCA learned of this crash in 2014.

830. Well prior to April 2015, FCA's U.S. Office of General Counsel had learned of this crash.

831. Prior to April 2015, FCA's engineers had performed an analysis of the DS84 ACU retrieved from the 2012 Jeep Patriot involved in this crash and found the ACU did not communicate with the crash data retrieval tool. This was a sign of EOS. FCA's compliance department learned about this analysis by no later than April 6, 2015.

832. In April 2015, FCA's engineers informed FCA's compliance department that ASIC EOS had occurred in the DS84 ACU retrieved from the 2012 Jeep Patriot. Upon information and belief, this confirmation was based on an earlier written analysis of the same DS84 ACU by ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA

833. [redacted]

h. In April 2014, FCA learned of airbag failures in a 2012 Dodge Ram crash with signs of EOS.

834. On April 15, 2014, Allen Corbin drove a 2012 Dodge Ram in West Virginia. He rear-ended another vehicle that was stopped at the top of a hill. The Dodge Ram's airbags failed to deploy. The crash broke Mr. Corbin's sternum. An ambulance took him to the emergency room.

835. On April 21, 2014, Mr. Corbin reported this crash to FCA.

836. In May 2014, FCA inspected Mr. Corbin's Dodge Ram. The inspector was unable to establish a connection between the DS84 ACU and a diagnostic tool, which is a sign of EOS.

837. FCA's records of the inspection confirmed: "There was front impact damage. The bumper and core support were pushed in. Core support was kinked on top, and pushed in on bottom. Left frame rail was bent. The support that goes from bulk head to core support was kinked." The below photograph confirms this damage.

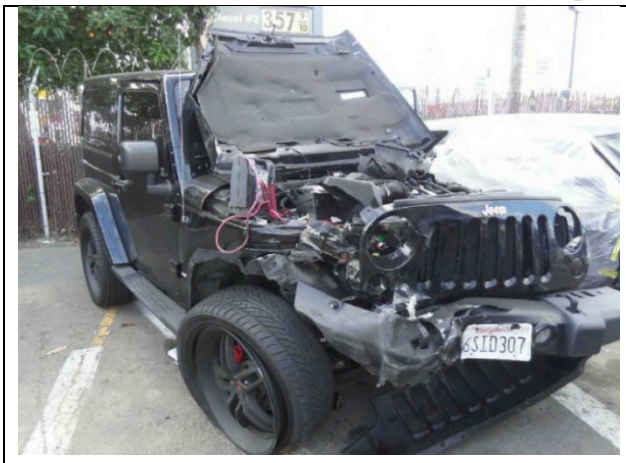
838. Nonetheless, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Upon information and belief, FCA sent a letter denying the claim for compensation in May 2014 and closed the case.

839. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

i. In October 2014, FCA learned of airbag failures in a 2014 Jeep Wrangler crash with signs of EOS.

840. On October 19, 2014, Timothy Harris drove a 2011 Jeep Wrangler. He was travelling at 50 miles per hour when he took his eyes off the road. When he looked back, he saw a semitruck approaching, swerved off the road, and crashed into a pole. None of the airbags deployed in the crash, and Mr. Harris was injured as a result.

841. The Wrangler was declared a total loss from damage from the crash. Pictures from an inspection of the vehicle showed the impact with the pole had deformed the center and passenger side of the front end of the vehicle, pushing the frame of the vehicle forward and warping the passenger-side wheel.



842. FCA sent an inspector to look at the Jeep Wrangler in November 2014. The inspector was unable to establish communication with the DS84 ACU. This was a sign of ASIC EOS.

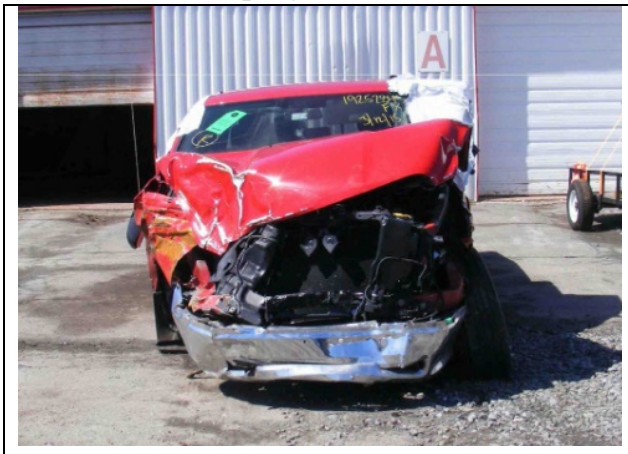
843. Nonetheless, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Upon information and belief, FCA sent a letter denying the claim for compensation on November 25, 2014, and closed the case.

844. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

j. In April 2015, FCA learned of airbag failures in a 2011 Dodge Ram.

845. On or around February 27, 2015, Shirley Voisine drove her 2011 Dodge Ram in Maine in snowy conditions. She crashed the vehicle in a large pile-up reportedly involving dozens of vehicles. None of the airbags in her Ram deployed.

846. She reported the incident to FCA in April 2015, and FCA inspected the vehicle shortly thereafter. The below photographs from the inspection confirmed catastrophic damage to her Dodge Ram. Based on these photographs, the airbags should have deployed.




847. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, FCA acknowledged it could not rule out the ACU Defect for this crash.

k. Between April 15, 2015 and October 14, 2015, FCA, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ST USA, ST Malaysia, and ST Italy confirmed ASIC EOS in a 2012 Jeep Patriot that crashed with a partial airbag failure.

848. On or around November 28, 2013, the right frontend of a 2012 Jeep Patriot crashed at approximately 30 miles per hour into a mid-sized sedan in Wisconsin. The 1st stage front airbags in the Jeep deployed but the second stage airbags failed, even though the crash merited full airbag deployment.

849. The crash did serious damage to the front-end of the Jeep Patriot, as demonstrated by the below pictures of the wrecked vehicle.

850. FCA's compliance department learned about this incident by no later than April 15, 2015. FCA's office of general counsel knew of the incident before then.

851. The police attempted to download the crash record from this Patriot's DS84 ACU, but were unable to do so. This was a sign of ASIC EOS. FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA learned of this issue in or before 2015.

852. Sometime prior to October 13, 2015, FCA sent the DS84 ACU from this Jeep Patriot to ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA observed a visible burn mark on the DS84 ASIC from this ACU. This was a sign of ASIC EOS. ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA also observed abnormally low resistance measurements, which was a further sign of ASIC EOS.

853. Upon information and belief, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA analyzed the EEPROM from the Patriot's DS84 ACU and found the EDR had an incomplete crash record. This was another sign of EOS.

854. [redacted]

855. [redacted]

[redacted]

856. By no later than October 13, 2015, ZF Passive Safety USA, ZF Automotive USA, and ZF Electronics USA finalized this written report on the DS84 ACU from this Jeep Patriot. The conclusion of this report states:

> - Visible EOS on DS84 ASIC
> - EOS confirmed via resistance measurements and supplier analysis.
> - Confirmed the near deploy flag was not set – default values present.

857. On October 14, 2015, FCA received this written report from ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA that confirmed an DS84 ASIC EOS failure had occurred on the ACU retrieved from the 2012 Jeep Patriot involved in this crash.

858. On March 9, 2016, FCA completed an analysis of the crash event timing when ASIC EOS occurred in the 2012 Jeep Patriot. According to FCA, "the data proved that the ASIC EOS occurred before the second stage deployment command was given by the [ACU], inhibiting passenger second stage airbag deployment and potentially inhibiting driver second stage airbag deployment." In other words, the second stage airbags in the Jeep Patriot failed due to ASIC EOS.

l. Between April 15, 2015 and October 28, 2015, FCA, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Malaysia, and ST Italy confirmed ASIC EOS in a 2012 Chrysler 200 convertible that crashed with no airbag deployment.

859. In or around August 2014, a 2012 Chrysler 200 convertible crashed in Maryland. The left side, front end of the Chrysler 200 crashed into an unknown vehicle at approximately 40 miles per hour. The airbags in the Chrysler 200 failed to deploy and the DS84 ACU failed to record any crash data, which are signs of EOS.

860. The crash completely destroyed the front end of the Chrysler, as demonstrated by the below images from the vehicle inspection.

861. Upon information and belief, this crash merited full airbag deployment.

862. FCA's compliance department learned about this incident by no later than April 15, 2015. FCA's office of general counsel knew of the incident before then.

863. On August 28, 2015, FCA provided ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA with the DS84 ACU retrieved from the 2012 Chrysler 200 convertible involved in this crash.

864. Between August 28, 2015 and October 25, 2015, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA analyzed the ACU. The companies found the ACU had abnormal resistance measurements, which was a sign of ASIC EOS. The companies also had to remove the EEPROM memory chip and transplant it onto a working ACU to establish communication and attempt to download a crash record. This was a further sign of EOS. After doing so, the companies found no crash record. This was a further sign of ASIC EOS.

865. [redacted]

866. By no later than October 26, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA prepared a report on the DS84 ACU received from the 2012 Chrysler 200 convertible. The report describes the project as: "Download and inspection of ORC [Chrysler's term for ACU]. Airbags did not deploy in crash." The conclusion of the report states: "No crash record present. Measurements indicative of possible EOS damage to DS84." The report also states:

"Findings consistent with prior testing shared with FCA indicating EOS caused by out of specification transients."

867. [redacted]

868. On October 28, 2015, FCA received this report from ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA. FCA concluded the report confirmed the ACU retrieved from the 2012 Chrysler 200 convertible had malfunctioned due to EOS and failed to trigger the airbags in the crash.

m. Between June 2015 and November 2015, FCA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA tests replicated two EOS failure modes.

869. In June 2015, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and FCA communicated regarding the vulnerability of the DS84 ASIC to EOS. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA acknowledged to FCA that, "ASIC EOS failure could be caused by an electrical transient generated during the crash under conditions of a front sensor signal wire and high current power feed simultaneously shorted to vehicle chassis and subsequent the power feed short opens." During this time, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA also demonstrated in testing that a transient of 1.2 Volts to -2.0 Volts with duration of less than 100 microseconds could create an ASIC EOS failure in its defective DS84 ACUs. Other, non-DS84 ACUs can withstand far greater voltage.

870. On July 29, 2015, FCA simulated the conditions of a simultaneous shorted sensor signal wire and shorted high current power feed to vehicle chassis on a Jeep Patriot. The simulation determined that even when the shorted power feed

condition was removed, transients of 1 to 2 Volts were generated and could cause an ASIC EOS failure.

871. On September 15, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a lab report to FCA confirming that the DS84 ACU resets when a negative transient creates an ASIC EOS event. As this indicated, the ACU could fail to trigger the airbags and seatbelts when a transient creates an EOS event.

872. Between October 13, 2015 and November 17, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA continued to perform transient testing for FCA. This testing found that the DS84 ASIC was approximately 1/3rd to 3/16th as resistant to transients as the MS84 ASIC used by other ACUs contemporaneously sold by ZF Electronics USA, ZF Passive Safety USA, and/or ZF Automotive USA, and that the DS84 ASIC experienced resets at a much faster rate than the MS84 ASIC did. Upon information and belief, ZF TRW Corp. and ZF Germany were aware of these findings before ZF Automotive USA and ZF Electronics USA shared them with FCA in fall 2015.[34]

n. Between April 15, 2015 and November 15, 2015, FCA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Malaysia, and ST Italy confirmed ASIC EOS failure in a 2012 Chrysler 200 that crashed with a partial airbag failure.

873. On September 18, 2013, left side, front end of a 2012 Chrysler 200 crashed at approximately 40 miles per hour into a Ford F150 pickup truck in

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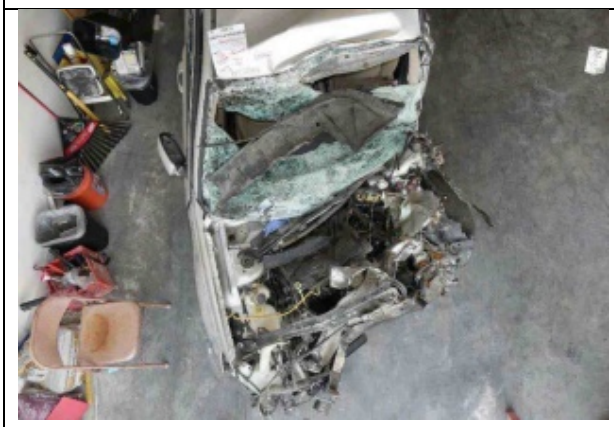
[34] The results of these tests are contained in a PowerPoint presentation produced by FCA US LLC. The title page of the presentation says, "ZF Friedrichshafen AG" under the title. Each other page of the document states: "This document is the property of ZF TRW Automotive and is disclosed in confidence. It may not be copied, disclosed to others, or used for manufacturing, without the prior written consent of ZF TRW Automotive." The phrase "ZF TRW Automotive" denotes ZF TRW Corp.

Tennessee. The crash merited full airbag deployment but none of the airbags deployed and the ACU failed to save a crash record.

874. The crash did serious damage to the front-end of the Chrysler 200, as demonstrated by the below pictures of the wrecked vehicle.



875. In or before October 2015, FCA sent ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA the DS84 ACU retrieved from this 2012 Chrysler 200. FCA informed ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA that the airbags did not deploy in the Chrysler 200 during a crash and requested a download and inspection of the DS84 ACU.

876. On October 22, 2015, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA attempted to download the crash record, but found there was no crash record. This was a sign of ASIC EOS. The diagnostic tool found active communication faults on the DS84 ACU, which stopped after replacing the

ACU with a new one. This was a further sign of ASIC EOS. The companies also found abnormally low resistance measurements on the ACU, which is yet another sign of ASIC EOS.

877. [redacted]

878. On or around November 17, 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA finalized a report on the DS84 ACU received from the 2012 Chrysler 200. The conclusion of the report states: "No crash record present. Supplier analysis confirmed electrical overstress on DS84." The report also states: "Findings consistent with prior testing shared with FCA indicating EOS caused by out of specification transients."

879. On or around November 17, 2015, FCA received a report from ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA of this report.

o. Between May 16, 2012 and September 2016, FCA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned of a 2011 Dodge Avenger with suspected EOS that crashed with no airbag deployment.

880. On May 16, 2012, the right side, front end of a 2011 Dodge Avenger crashed with a Ford F150 pickup truck. The Avenger was travelling at approximately 25 miles per hour. The crash merited full airbag deployment, but none of the airbags deployed in the Avenger.

881. Photos of the wrecked 2011 Dodge Avenger confirm that the crash destroyed the front end of the vehicle.

882. FCA's compliance department learned about this incident by no later than April 15, 2015. FCA's office of general counsel knew of the incident before then.

883. By no later than February 5, 2016, ZF Automotive USA knew the DS84 ACU from the 2011 Dodge Avenger did not communicate, which is a sign of EOS.

884. In September 2016, FCA concluded that EOS was "strongly suspected" in this incident.

p. In December 2015, FCA learned of airbag failures in a 2012 Jeep Wrangler crash with signs of EOS.

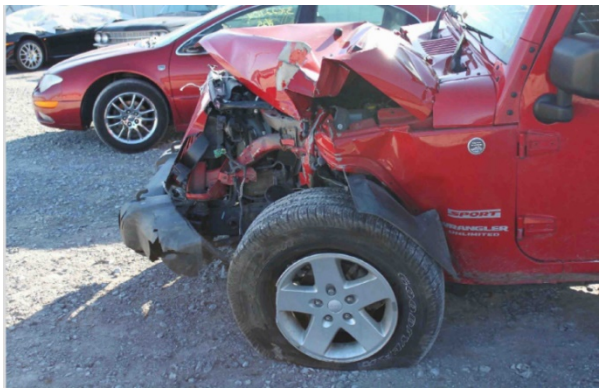
885. On November 29, 2015, Melissa Koenig drove a 2012 Jeep Wrangler in South Wales, New York. Her Wrangler crashed into a telephone pole. The airbags in her vehicle failed to deploy. Although she was wearing a seatbelt, she suffered head injuries and memory loss. These injuries indicate the seatbelt did not restrain her.

886. Ms. Koenig notified FCA of this incident on December 4, 2015.

887. On or around December 14, 2015, FCA sent an inspector to look at the Wrangler. The inspector's crash diagnostic tool could not communicate with the DS84 ACU. This was a sign of ASIC EOS.

888. When the inspector turned on the Wrangler, the airbag warning lamp was illuminated. This was another sign of ASIC EOS.

889. The pictures taken by the inspector confirm the crash had severely damaged the front end of the Wrangler, bending the frame on the driver's side.



890. Despite the severity of the crash, the apparent failure of the seatbelts to prevent a serious head injury, and failure of the ACU to communicate, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Upon information and belief, FCA sent a letter denying the claim for compensation on December 30, 2015, and closed the case.

891. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

q. Between December 15, 2015 and March 31, 2016, FCA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned of another case of suspected EOS and failed airbags involving a 2013 Chrysler 200.

892. On December 15, 2015, FCA's compliance department learned of airbag deployment failure in a 2013 Chrysler 200 that crashed into a sport utility vehicle.

893. The pictures of the wrecked 2013 Chrysler 200 show severe front end damage.




894. On February 18, 2016, a representative from FCA inspected the 2013 Chrysler 200 and found the ACU did not communicate, which is a sign of EOS.

895. On March 31, 2016, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA transferred the DS84 ASIC from the noncommunicative DS84 ACU to a new ACU and found the DS84 ASIC did not have a crash record. This was another sign of EOS.

896. In September 2016, FCA concluded that EOS was "strongly suspected" in this incident.

r. In March and April 2015, FCA learned of airbag failures in a 2012 Fiat 500 crash with signs of ASIC EOS.

897. On January 7, 2015, Wanda Ashby drove her 2012 Fiat 500 on a neighborhood street in Mission Viejo, California. Her vehicle crashed into a sport utility vehicle that stopped suddenly in front of her. The airbag failed to deploy in

the crash even though the crash was severe enough to fracture Ms. Ashby's sternum and hospitalize her for five days. Ms. Ashby's insurer declared the Fiat 500 a total loss based on the damage from the accident.

898. On March 7, 2015, Ms. Ashby notified FCA of the accident and sought compensation based on the failure of the airbags to deploy.

899. In March or April 2015, FCA inspected Ms. Ashby's Fiat 500. The inspector could not establish communication with the DS84 ACU. The diagnostic tool reported: "The ecu required to identify the vehicle (TIPMCGW) is non-responsive. This condition must be corrected before the diagnostic session can continue." This was a sign of ASIC EOS.

900. Based on photographs produced by FCA, the inspector powered up the vehicle and the dashboard stated, "airbag failure," as confirmed by the below picture. Upon information and belief, this was a sign of ASIC EOS.

901. Despite the inability to communicate with the DS84 ACU and the warning "airbag failure" on the vehicle's dashboard, FCA concluded internally "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Based on FCA's records, FCA sent a letter to Ms. Ashby denying any defect and the case was closed in April 2015.

902. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

s. In August 2015, FCA learned that airbag had not deployed in a 2014 Jeep Compass with signs of ASIC EOS.

903. In April 2015, FCA's compliance department identified a suspicious crash where the airbags failed to deploy in a 2014 Jeep Compass that had crashed into a garbage truck. Although the crash destroyed the front end of the Jeep (as the below pictures confirm), no airbags deployed.

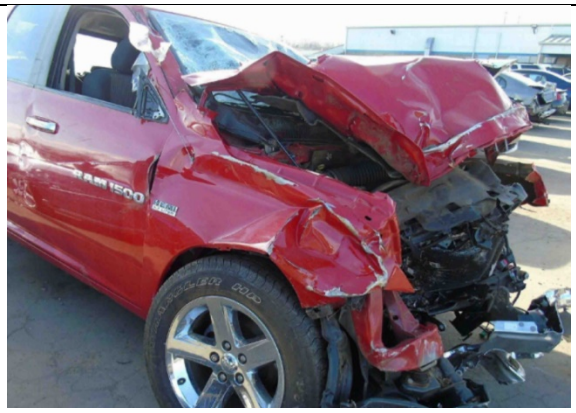
904. On August 31, 2015, FCA examined the data obtained from the EDR for this Compass. It found no crash data recorded and an internal ASIC fault noted in the diagnostic record. These were signs of ASIC EOS.

905. By no later than September 2016, FCA concluded ASIC EOS was "strongly suspected" in this crash.

t. In September 2015, FCA learned of airbag failures in a 2012 Dodge Ram crash with signs of ASIC EOS.

906. On August 15, 2015, Michael Attardo drove a 2012 Ram 1500 in Mansfield, Connecticut. He drifted across the eastbound travel lane on Route 89, and collided with a westbound vehicle before leaving the highway. After this collision, Mr. Attardo's truck continued travelling west off the roadway, collided with several trees and a stone wall, where it finally stopped. Mr. Attardo broke his neck and shoulder bone and suffered head injuries.

907. This accident was an extremely serious head-on collision on a highway. Pictures of Mr. Attardo's wrecked Ram confirm complete destruction of the front end of the vehicle. The crash severely deformed the front-end of the Ram 1500, shattered the windshield, and mangled the engine block.



908. The crash also moved the steering wheel several inches, as the below the image from an inspection confirms.

909. Given these facts about the crash, the Dodge Ram's airbags should have deployed.

910. In 2015, FCA inspected this vehicle. The inspector could not access the crash diagnostics due to electrical system damage, which upon information and belief, meant the ACU was noncommunicative. This was a sign of ASIC EOS.

911. Nonetheless, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." Upon information and belief, FCA sent a letter denying the claim for compensation. FCA closed the case in 2016.

912. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

u. By no later than July 19, 2016, FCA, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew of a September 11, 2015 crash where the airbags failed to deploy in a 2013 Dodge Avenger and there were signs of EOS.

913. On September 11, 2015, the front end of a 2013 Dodge Avenger crashed into a Jeep Grand Cherokee. The airbags in the 2013 Dodge Avenger failed to deploy. The ACU in the 2013 Dodge Avenger failed to save a crash record. The ACU failed to communicate, which is a sign of EOS.

914. Upon information and belief, FCA learned about this crash in 2015 or 2016.

915. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew of this crash by no later July 19, 2016.

v. By September 2016, FCA concluded EOS had likely occurred in another 2012 Chrysler 200 that crashed with no airbag deployment.

916. In September 2016, FCA concluded EOS was "strongly suspected" in a crash where a 2012 Chrysler 200 collided with a full-size sports utility vehicle and the airbags did not deploy. The EDR from this vehicle had not recorded any crash record, which was a sign of ASIC EOS. Pictures of the wrecked Chrysler 200 are below.

w. In December 2016, FCA learned of airbag failures in a 2016 Jeep Patriot crash with signs of ASIC EOS.

917. On December 10, 2016, Carmen Zimmer drove her 2016 Jeep Patriot in South Dakota. She was travelling at 70 miles per hour in the right lane of a road when the car in front of her suddenly changed lanes, which revealed a stopped vehicle ahead. It was too late to avoid a collision. Despite the high speed of the crash, the airbags in her Patriot failed to deploy, and Ms. Zimmer suffered chest injuries.

918. On December 14, 2016, Ms. Zimmer notified FCA of the crash.

919. In January 2017, FCA inspected Ms. Zimmer's Patriot. The inspector found several cuts in the battery cables. He attempted to connect to the ACU with a jumper box but failed. This was sign of ASIC EOS.

920. Pictures of Ms. Zimmer's wrecked Patriot confirm the crash had severely deformed the passenger-side, front-end of the vehicle.

921. Nonetheless, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." FCA sent a letter denying the claim for compensation in January 2017, and closed the case.

922. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

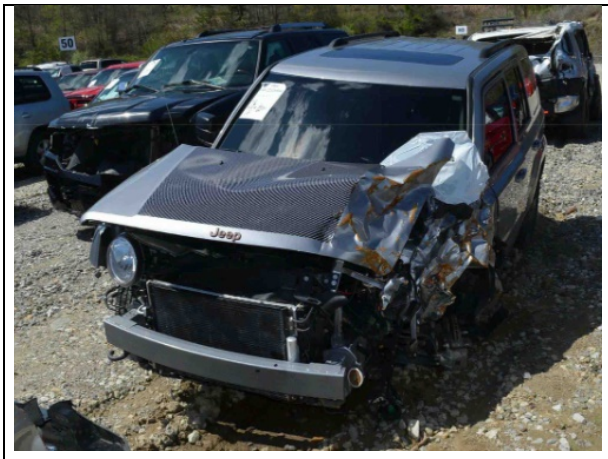
x. In March 2018, FCA learned of airbag failures in a 2017 Jeep Patriot crash with signs of ASIC EOS.

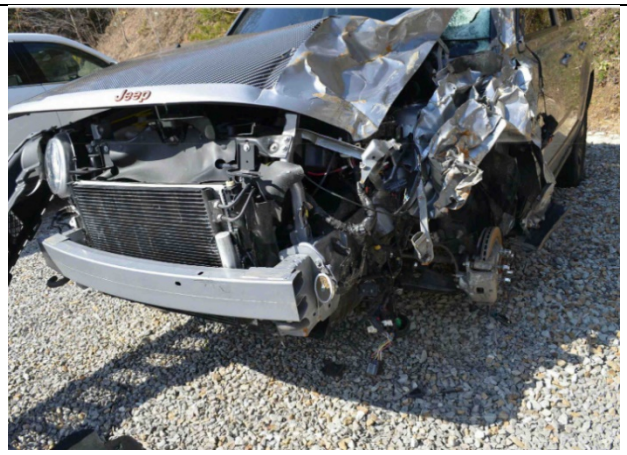
923. On March 12, 2018, Austin Kidd drove his 2017 Jeep Patriot in Kentucky. He was driving along a curve when an oncoming vehicle collided with the driver's side of his Jeep. The airbags in Mr. Kidd's Jeep failed to deploy.

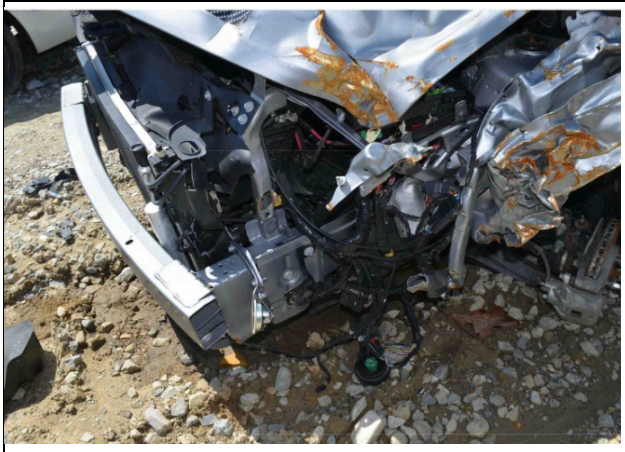
924. On March 12, 2018, Mr. Kidd and his mother reported the incident to FCA.

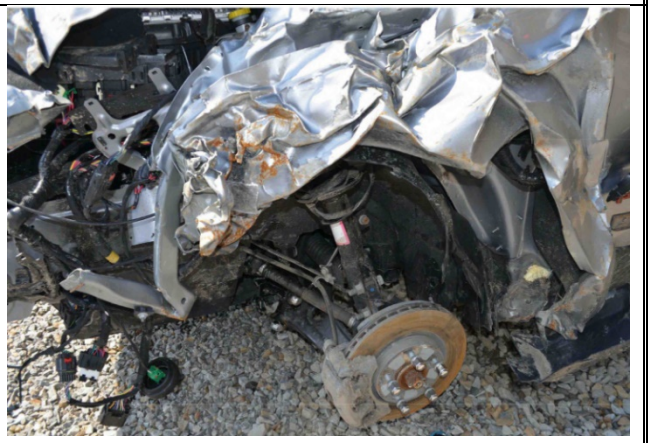
925. On March 14, 2018, FCA sent and inspector to look at the vehicle with the instruction "EDR REQUIRED." Based on photographs of the inspection, the inspector's crash data retrieval tool could not communicate with the DS84 ACU. This was a sign of ASIC EOS.

926. The inspection confirmed very severe damage to the driver's side of the vehicle, including deformation of the front-end frame. These pictures indicate the airbags in the Patriot should have deployed.









927. Despite the failure to obtain the required EDR, FCA sent a denial letter to Mr. Kidd and closed the case in May 2018.

928. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

y. In December 2018, FCA learned of airbag failures in a 2016 Jeep Wrangler crash with signs of ASIC EOS.

929. On December 20, 2018, Marissa Monroe drove her 2016 Jeep Wrangler westbound on Highway 70 at Ranchette Road in Durant, Oklahoma. Her daughter was in the passenger seat. The vehicle was travelling at approximately 55 miles per hour when a Chevy pickup suddenly stopped in front of her with no brake lights. She crashed into the pickup. Despite the high speed of this collision, the airbags in the Wrangler failed to deploy. She suffered contusions and abrasions from hitting her head on the steering wheel. The crash hospitalized her daughter with a concussion.

930. On December 21, 2018, Ms. Monroe notified FCA of this crash.

931. On or around January 4, 2019, FCA inspected Ms. Monroe's Wrangler. According to FCA's records of the inspection: "EDR data collection was attempted, but was unsuccessful due to damage to the subject vehicle's electrical system." Upon information and belief, the inspector's crash data retrieval tool could not communicate with the DS84 ACU, which was a sign of ASIC EOS.

932. Pictures of Ms. Monroe's wrecked Wrangler confirm the crash severely deformed the passenger-side, front-end of the vehicle.

933. Nonetheless, FCA concluded internally: "there is no indication that this accident or the injuries were the result of a design or manufacturing defect." FCA sent a letter denying the claim for compensation on January 11, 2019, and closed the case.

934. When FCA produced documents to NHTSA in 2019 in response to NHTSA's investigation of the ACU Defect, however, FCA acknowledged it could not rule out the ACU Defect for this crash.

5. ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, ST Malaysia, Toyota Japan, Toyota Engineering USA, Toyota Sales USA, and Toyota USA knew the Toyota Class Vehicles, as well as the DS84 ACUs and DS84 ASICs installed therein, were defective.

935. For many years, Toyota Japan, Toyota Sales USA, Toyota Engineering USA, Toyota USA, ZF Electronics USA, ZF Passive Safety USA, Automotive US Inc., ST USA, ST Italy, and ST Malaysia have known that the defective DS84 ACUs and ASICs in Toyota Class Vehicles are uniquely vulnerable to EOS.

a. Between 2010 and 2016, the Toyota Defendants returned several Toyota vehicles with DS84 ACUs that malfunctioned due to EOS.

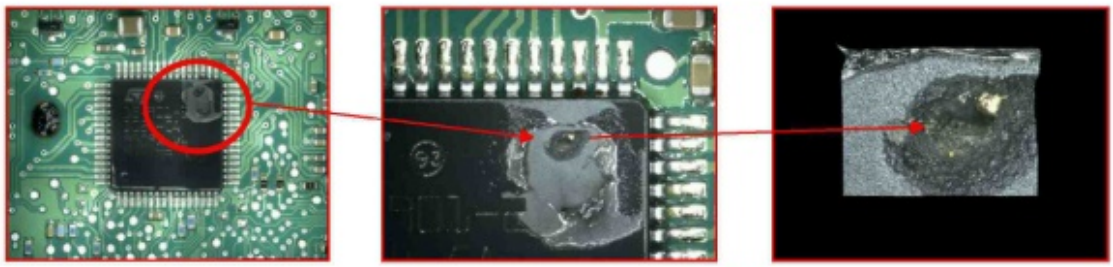
936. According to a document produced by ZF Defendants to NHTSA in connection with NHTSA's investigation of vehicles equipped with the DS84 ASIC,

Toyota Japan and Toyota Engineering USA returned multiple vehicles to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA that showed signs of EOS in the DS84 ASIC between May 20, 2010 and October 25, 2016. Relevant excerpts of this document are reproduced below. Upon information and belief, Toyota Japan, Toyota Engineering USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had access to all the information in the below chart.

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	20-May-10	Component Damaged	Airbag warning lamp on	Toyota	Corolla
DS84	EOS	ST Micro	4-Jun-12	AR54218, RMA36039, shorted internally between pins 6&7 B317E941	Airbag warning lamp on	Toyota	Unknown
DS84	EOS	ST Micro	16-Dec-13	AR55622, RMA36414, shorted out of circuit B593E1800	Airbag warning lamp on	Toyota	Corolla
DS84	EOS	ST Micro	12-Dec-13	SR2015120208, RMA (B984E3583), Pin 36 measures 95ohms to ground	Airbag warning lamp on	Toyota	Avalon
DS84	EOS	ST Micro	20-Sep-14	SR2016060601, RMA (FR-16-01359), shorted between pins 6 & 7 outcircuit	Airbag warning lamp on	Toyota	Avalon
DS84	EOS	ST Micro	5-Aug-16	SET-334 U600 pin7 is short to pin6	Airbag warning lamp on	Toyota	Corolla
DS84	EOS	ST Micro	25-Oct-16	Defective squib ASIC	Airbag warning lamp on	Toyota	Augo
DS84	EOS	ST Micro	1-Feb-16	SFT-116 waveform of U600 pin51 abnormal	Airbag warning lamp on	Toyota	Corolla

937. According to a document produced by Toyota USA to NHTSA, Toyota Engineering USA made a warranty claim relating to an ACU with a DS84 ASIC on or around January 2014. Toyota Engineering USA made this claim

because the airbag warning lamp was on in a recently sold Toyota Class Vehicle. Toyota Engineering USA returned the part to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA's office in Marshall, Illinois. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA examined the DS84 ACU and found "severe damage was noted on one of the internal devices, U600" which is another name for the DS84 ASIC. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA concluded "[t]he most likely source of this damage is customer induced EOS (electrical overstress)." The unit "[f]ailed multiple tests," including an "[i]nitial [f]unctional [t]est." ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA noted this DS84 ASIC failure in a report dated January 16, 2014, which it sent back to Toyota Engineering USA. The document included pictures of visible EOS damage on the DS84 ASIC, which are reproduced below. Upon information and belief, Toyota Japan had access to this document.



b. In 2015, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA added further diodes to European Toyota vehicles after EOS occurred in vehicles made by other manufacturers.

938. In or around 2015, ZF Electronics USA added 1 ampere Schottky diodes to DS84 ACUs made for European Toyota vehicles.

939. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA later explained this decision to Toyota Japan as follows: "ZF core development team decided to upgrade the Schottky Di[ode] and updated core

design after learning about vehicle noise (negative surge) during a crash from cases of other [Original Equipment Manufacturers]" – i.e., other Vehicle Manufacturers. Accordingly, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew the .12 ampere diodes used in Toyota Class Vehicles were insufficient to protect against these types of observed negative surges.

940. Despite this knowledge, ZF Electronics USA did not make the same design change from European Toyota vehicles to the DS84 ACUs made for Toyota Class Vehicles.

c. In or around February 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Toyota Japan that EOS had been observed on DS84 ASICs in field events involving vehicles made by two other manufacturers.

941. Upon information and belief, in February 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA shared a slide deck presentation dated February 5, 2016 with Toyota Japan. Upon information and belief, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany all had a role in drafting, editing, and/or approving the slide deck before ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA shared it with Toyota Japan.[35]

[35] This allegation is based on ZF Automotive USA's acknowledgment in a 573 Defect Report filed in 2018 that it "communicate[d] with customers regarding EOS and contact with NHTSA" in January 2016. Marc Bolitho, the Director of Passive Safety Electronics and Engineering for ZF TRW Corp., also signed a declaration dated March 14, 2016 acknowledging that portions of a February 5, 2016 slide deck presented to NHTSA was "shared with customers or the applicable component supplier under circumstances that the shared information is retained as confidential by them." Toyota USA produced a copy of the February 5, 2016 presentation that contained Japanese notes.

942. The February 5, 2016 slide deck presentation informed Toyota Japan that two other vehicle manufacturers had field incidents in the United States with confirmed EOS on DS84 ACUs.

943. The February 5, 2016 slide deck presentation also informed Toyota Japan that bench testing had replicated two types of failures in DS84 ASICs due to EOS, and that "[t]hese multipoint failure modes can cause EOS to the ASIC that may impact ACU function during a crash event."

d. Between June 29, 2016 and November 18, 2016, Toyota Japan, Toyota USA, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ST USA, ST Italy, and ST Malaysia learned that a DS84 ACU had malfunctioned due to EOS in a Toyota vehicle that crashed in Turkey with no airbag deployment.

944. In early to mid-June 2016, a 2013 Toyota Auris equipped with a DS84 ACU crashed in Turkey and the airbag failed to deploy.

945. Upon information and belief, the Toyota Auris is the European version of the Toyota Corolla, a Class Vehicle, and the two models share a common or very similar platform for the purposes of the passive safety system.

946. One week after the crash, the customer took the vehicle to a dealer, which referred the issue to a nonparty Turkish entity, Toyota Türkiye Pazarlama ve Satış A.Ş.

947. A technical service engineer named Orhan Oguzhan inspected the vehicle on July 25, 2016 and authored a field technical report. The ACU data included diagnostic trouble codes detected in the ACU and the airbag warning lamp was on. He concluded: "the probable cause is the IC [(integrated circuit)] failure inside the ECU."

948. On August 16, 2016, Toyota Motors U.K. shipped the DS84 ACU from the Turkish incident and the accompanying field technical report describing the crash to the ZF Peterlee Laboratory located in the United Kingdom. Non-party

TRW Systems Ltd., another subsidiary of ZF Germany, operated the lab. Accordingly, TRW Systems Ltd. received notice of the crash and nondeployment event.

949. An engineer named Glenn Casamayor authored a report originally dated August 25, 2016 on behalf of TRW Systems Ltd. This report was subsequently revised by Steven Youmans, an analysis engineer at TRW Systems Ltd., as well as another TRW Systems Ltd. employee identified as "K Taylor." The last revision to the memo is dated November 18, 2016.

950. Using the term "U600" to refer to the DS84 ASIC, the TRW Systems Ltd. report concluded: "The returned unit has damaged U600 from electrical overstress most likely caused by a beyond specification transient from the vehicle." This conclusion was based on the following evidence of EOS on the DS84 ASIC.

a. "An internal visual inspection was carried out on the returned unit. The unit was checked under x-ray and stereo microscope. A damaged U600 was noted. X-Ray inspection revealed broken pin 44 wire bond."

b. Pictures identified a "Burnt U600 Package."

c. "ASIC U600 was removed and replaced with a known good device. On retest it was then possible to communicate and no faults were logged."

d. "External Visual Inspection: Burnt marks was [sic] observed on the external package . . . ."

e. "X-ray; Fused wire at Pin 44(VSATS) was observed during X-ray analysis."

f. "Internal visual inspection; Burnt mark was observed on the die surface at area A, B and C."

951. The TRW Systems Ltd. report included a "supplier analysis" that confirmed images of EOS with a decapsulation analysis, among other analyses.

Upon information and belief, the supplier analysis reflected the contents of a separate failure analysis developed by and distributed among ST USA, ST Italy, ST Malaysia. Upon information and belief, ST USA, ST Italy, and ST Malaysia also sent this report to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA.

952. Although the lab that employed the authors of this report was operated by non-party TRW Systems Ltd., upon information and belief, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had access to the report described above. The ZF Defendants' production of warranty data to NHTSA confirms this access because the data includes warranty claims listing Peterlee as the relevant plant.

953. After receiving the TRW Systems Ltd. report, Toyota Motors Europe received a report from Sally Humbert, a Quality Assurance function engineer working for Toyota Motor UK. Ms. Humbert's report stated under the header: "Overstress possible [sic] related to crash impact one week before [illegible] lamp on. Beyond negative transient." Ms. Humbert hand-signed the report and dated her signature November 18, 2016.

954. Non-party Toyota Motor Europe received a copy of the TRW Systems Ltd. report by no later than November 29, 2016. Upon information, Toyota Japan and Toyota USA had access to and were aware of this report. This is a reasonable inference because Toyota USA later produced a copy of it to NHTSA.

955. Upon information and belief, Toyota Japan, Toyota USA, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA knew that problems with the Toyota Auris would likely translate to problems with the Toyota Corolla, because they each knew Toyota Auris is the European version of the Toyota Corolla and the two vehicles are very similar.

e. In July 2016, Toyota USA learned that the airbags had failed to deploy in a crash in New Haven, Vermont with signs of ASIC EOS in a DS84 ACU.

956. On July 9, 2016, a 2014 Corolla was travelling at 50 miles per hour on a highway in New Haven, Vermont, when it crashed into the rear of another vehicle that stopped suddenly in front of the Corolla.

957. The crash was severe. The collision knocked the driver unconscious. She suffered serious injuries to her lungs, forehead, sternum, shoulder, and hip that required hospitalization.

958. The front end of the Corolla showed signs of damage to the vehicle's electrical system. The inspector reported that the battery was severely damaged and its case was broken, the electrical wiring harness was destroyed, and many of the wires in the electrical harness were severed.

959. The driver complained to Toyota USA on July 9, 2016.

960. On July 29, 2016, an inspector retained by Toyota USA attempted to perform an investigation of the Corolla's Event Data Recorder, but was unable to obtain a crash record. This was a sign of ASIC EOS, particularly when coupled with the failure of the airbags, the highspeed of the collision, and the signs of disruption to the electrical system that could contribute to EOS.

961. Despite this evidence, Toyota USA legal claims administrator Delve Caballero mailed a letter to the customer on August 16, 2016 that denied any defect in the vehicle. This letter stated: "The Supplemental Restraint System (SRS) front airbags will deploy in response to abrupt frontal deceleration from severe frontal impacts and help prevent fatal injuries or reduce the extent of serious head or chest injuries. They do not deploy in every collision involving frontal impact. This accident did not meet the criteria for front airbag deployment."

962. Upon information and belief, no Defendant performed a physical analysis of the DS84 ACU and ASIC from this vehicle despite the signs of EOS described above, as no Defendant has produced any documents showing that a physical analysis was performed.

f. In August and September 2017, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST Italy, ST USA, and ST Malaysia discussed three DS84 ASICs from Toyota Corollas that had been damaged by EOS.

963. [redacted][36]

964. [redacted]

965. [redacted]

[36] [redacted] employment relationship with ST Italy is evidenced by the fact that he assigned a patent for one of his inventions to ST Italy.

966. [redacted]

967. [redacted]

968. [redacted]

969. [redacted]

g. Between August 2, 2017 and August 10, 2018, Toyota Japan, Toyota USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, and ST Malaysia learned that a DS84 ACU had malfunctioned due to EOS in a Toyota vehicle that crashed in Portugal with no front airbag deployment.

970. On July 13, 2017, a 2016 Toyota Auris with a DS84 ACU crashed into a Mazda pickup truck in Portugal.

971. According to a memorandum produced by Toyota USA, this crash was a "[h]eavy frontal accident." The knee airbags deployed, but the frontal driver and passenger airbags did not. This was a sign of ASIC EOS because driver and passenger airbags should deploy when knee airbags deploy, particularly during a

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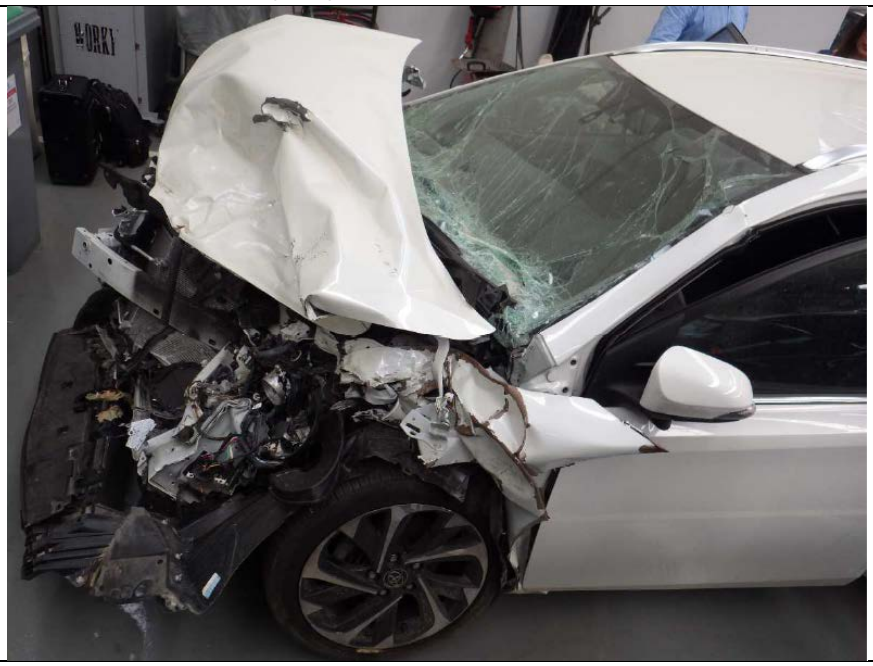
[37] [redacted]

[38] [redacted]

serious accident. The below photograph of the wreckage confirms this was a serious accident. The crash seriously injured the driver of the Auris.



972. By no later than August 2, 2017, non-party Toyota Motor Europe received a report about a product liability case concerning this crash.

973. Between August 2, 2017 and July 2, 2018, the following events occurred:

a. Toyota Motor Europe attempted to retrieve crash data from the Auris's ACU but could not do so, which is a sign of EOS.

b. Toyota Motor Europe sent the retrieved DS84 ACU to ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA and requested a further investigation.

c. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA found damage consistent with a damaged DS84 ASIC on the ACU and sent the retrieved DS84 ASIC to ST USA or ST Italy for analysis.

d. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA retrieved a partial crash record from the DS84

ACU by placing the crash record chip into a working ACU. The partial crash record showed the frontal airbags were commanded to deploy. The fact that the airbags did not deploy despite this record was strong evidence that the DS84 ACU had malfunctioned during the crash and failed to execute the command to deploy the airbags.

e. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA observed a visible abnormality on the external packaging of the DS84 ASIC, called the "conformal coating," which is a sign of EOS.

974. On July 2, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA created an engineering report describing an analysis of the ACU from the Toyota Auris that crashed in Portugal, which includes numerous signs of EOS listed immediately below.

a. The report's summary states: "Analysis findings are consistent with a damaged DS84 ASIC."

b. The report states: "ZF transplanted the eeprom [(i.e., the crash memory component)] to a recipient ECU [(i.e., a new ACU)] and downloaded the crash record. The CDR report indicated the frontal airbags were commanded to deploy." The analysis of the crash data also found "[o]ne reset recorded." Both of these findings were signs of EOS.

c. The report included a picture of a "[d]isturbance in DS84 conformal coating."

d. The report included a picture of discolored pins.

e. The report included an analysis of resistance measurements, which indicated the ASIC suffered from EOS. This analysis stated: "The DS84 ASIC likely has an internal short on Vcc as

indicated by the 3.3 [Ohm] measurement." Upon information and belief, "Vcc" is a reference to a power supply connected to the DS84 ASIC.

975. On August 6, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent the July 2, 2018 report to a quality engineer at Toyota USA by email. The quality engineer then forwarded the memo to several of his colleagues at Toyota USA, and wrote to a Toyota USA compliance employee: "Attachments include TRW Portugal case of improper Airbag Non deployment seen to the DS84 ASIC chip. . . . Could you confirm with your counterpart at Toyota Japan if they are aware of the Portugal case?" Upon information and belief, Toyota USA then communicated with Toyota Japan about the Portugal case.

976. [redacted]

977. [redacted]

978. Between July 2, 2018 and August 10, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA received a copy of the ST failure analysis of the DS84 ASIC from the Portugal crash.

979. [redacted]

[redacted]

a. [redacted]

b. [redacted]

c. [redacted]

d. [redacted]

980. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a copy of the August 10, 2018 updated report to Toyota Japan and Toyota USA in August 2018.

981. On or around September 12, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA provided a document entitled "Electrical Overstress Hypothesis" to Toyota Japan and Toyota USA. The document explained how EOS occurred in the Portugal crash. The document states: "Likely initiation point is an out of specification negative transient introduced due to an external Short of DSI Channel." The DSI channel is the communication line connecting the crash sensors to the ACU.

982. In other words, the likely cause of the DS84 ACU failure in the Portugal crash was transient current flowing from the crash sensors to the ACU. This was the same failure mode that had caused recalls of FCA and Hyundai-Kia vehicles.

983. On September 18, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA updated the report on the Portugal case again to include this conclusion: "After review of the ASIC by ST Micro, the hypothesis is confirmed. EOS was caused by a beyond specification transient on the DSI_OH satellite input" (i.e., a transient on the crash sensor communication line).

984. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a copy of the September 18, 2018 updated report to Toyota Japan and Toyota USA in September 2018.

985. The July 2, 2018; August 10, 2018; and September 18, 2018 reports by ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA all have a legend that states "© ZF Friedrichshafen AG, 2018." Based on this legend, ZF Friedrichshafen AG was aware of the contents of the memo and approved transmittal of the memo to Toyota USA and Toyota Japan.

986. On October 16, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA informed Toyota Japan and Toyota USA that the fused wires observed on the DS84 ASIC from the Portugal crash were similar to fused wires on DS84 ASIC that suffered damage from transient testing.

987. A July 2019 slide deck presentation shared between Toyota Japan and Toyota USA stated that the wire harness from the Auris that crashed in Portugal was collected and "there was no trace" of "wire disconnection and connecting with the other part." Accordingly, there was evidence that issues with the wire harness were not the cause of the EOS damage suffered by the DS84 ASIC.

988. Upon information and belief, Toyota Japan, Toyota USA, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA knew that problems

with the Toyota Auris would likely translate to problems with the Toyota Corolla, because they each knew the Toyota Auris is the European version of the Toyota Corolla and the two vehicles are very similar.

h. Between December 19, 2017 and November 2018, Toyota Japan, Toyota USA, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA learned a DS84 ACU had malfunctioned due to EOS in a Toyota vehicle that crashed in Morocco with no airbag deployment.

989. On November 27, 2017, a 2015 Toyota Auris with a DS84 ACU crashed in Morocco. The airbags failed to deploy despite the very severe nature of the crash. The crash seriously injured the driver of the Auris.

990. On December 19, 2017, Toyota's Moroccan subsidiary received a complaint reporting a head-on collision in Morocco involving a 2015 Auris with a DS84 ACU in which the airbags did not deploy. A later memorandum summarizes the complaint as follows:

> [The driver] was severely injured on her way to work while driving under the speed limit when another car from the opposite direction diverged to her line and caused a head-on collision. [The driver] instantly lost consciousness due to the force of the impact as none of her car's airbags deployed, then was transported to the hospital via ambulance. . . . Immediately after [the driver's] arrival at the hospital, doctors told her family that her situation is highly critical and urgent brain surgery essential to save her life. Not only had she suffered serious brain, lung, and liver injuries, but she also had been admitted in severe Coma for several weeks. . . .
>
> Based on the doctors' notes, here are [the driver's] injuries caused by the accident and the defective airbag:
>
> ●Diplopia
> ●Cranial impact with PCI tutorage
> ●Epistaxis Otorrhagia
> ●Traumatic brain injury (hemispheric subdural hematoma)

- Temporal Bone Fracture
- Fracture of the right mastoiditis
- Fracture sinus sphenoidal
- Fayeks lung contusion
- Liver subcapsular hematoma
- Right surrehale hematoma

After the accident she does not remember anything.

991. On April 27, 2018, a technical specialist working for Toyota's Moroccan subsidiary submitted a field report to several other non-party Toyota subsidiaries and to Toyota Japan. Toyota's Moroccan subsidiary shipped the recovered parts, including the DS84 ACU recovered from the Auris, to Toyota Japan.

992. Following receipt of the parts, Toyota Japan determined there was no crash record present on the ACU, which is a sign of EOS on the DS84 ASIC.

993. On November 14, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA created an "Analysis Report" about the DS84 ACU retrieved from the Auris that crashed in Morocco with no airbag deployment. Emanuel Goodman, a long-time employee of ZF Passive Safety USA who also served as a technical specialist for ZF Electronics USA, authored the memo. The memo describes multiple signs of EOS, listed below:

a. The memo included an analysis of resistance measurements that found "[l]ow impedance on Vcc and Vsat measurements." Upon information and belief, "Vcc" and "Vsat" refers to the connections between two power supplies and the DS84 ASIC.

b. The memo noted that "four (4) resets" had occurred.

c. The memo also noted that no crash record was present..

d. The memo noted two "[P]ossible burn mark[s]" on the DS84 ASIC." Although the report is written in English, the version of the memo produced by Toyota has Japanese translations that,

upon information and belief, were used by Toyota Japan employees to understand the report. Later written materials sent by ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to Toyota Japan would state regarding this November 2018 analysis: "EOS damage visible on the DS84 ASIC" without any suggestion that EOS damage was merely "possible."

994. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a copy of the November 14, 2018 report to Toyota Japan and Toyota USA in November 2018.

995. The November 14, 2018 Analysis Report has a legend attributing the copyright interest in the Report to ZF Friedrichshafen AG. Based on this legend, ZF Germany was aware of the contents of the memo and approved transmittal of the memo to Toyota Japan.

996. Upon information and belief, Toyota Japan, Toyota USA, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA knew that problems with the Toyota Auris would likely translate to problems with the Toyota Corolla, because they each knew Toyota Auris is the European version of the Toyota Corolla and the two vehicles are very similar.

i. Between April 12, 2018 and July 16, 2018, Toyota Japan and Toyota USA learned a DS84 ACU had malfunctioned with significant signs of EOS in a Toyota vehicle that crashed in Spain with no driver-side front airbag deployment.

997. On April 12, 2018, a 2015 Toyota Auris equipped with a DS84 ACU crashed in Spain. The incident involved a high-speed frontal collision with a tractor and semi-trailer, which was travelling at approximately 35 miles per hour. The knee airbag deployed but the driver airbag in the Auris failed to deploy. The crash killed the driver of the Auris. The crash completely destroyed the front end of the Auris,

as demonstrated by the below image of the wreckage. Based on these facts, the airbags should have deployed during this crash.

998. On April 26, 2018, non-party Toyota España S.L.U. retrieved the crash record, but found no events (i.e., no crashes) recorded. This was a sign of EOS.

999. Afterwards, non-party Toyota Motor Europe attempted to read the crash record, but experienced the same problem.

1000. On July 16, 2018, Toyota Motor Europe informed quality engineers at Toyota Japan about details of the crash, including the failure of the front driver airbags: that, on April 23, 2018, the Spanish police had requested assistance with downloading data from the DS84 ACU in the Auris that crashed with no airbag deployment; and that the April 26, 2018 effort to obtain crash data had failed. Sometime between July 16, 2018 and September 17, 2018, Toyota USA learned this information as well.

1001. On February 7, 2019, Toyota Japan Project Manager Michiteru Kato further discussed by email the missing crash data from the Spanish Auris that crashed with no airbag deployment with a Toyota Motor Europe employee. On the

same day, Toyota Japan employee Daisuke Uchida forwarded an email confirming the same issue to Toyota USA employee Matt Begley.

1002. The inability to obtain crash data from this Auris was a sign of EOS.

1003. Upon information and belief, Toyota Japan and Toyota USA knew that problems with the Toyota Auris would likely translate to problems with the Toyota Corolla, because they each knew Toyota Auris is the European version of the Toyota Corolla and the two vehicles are very similar.

j. In 2017, Toyota Sales USA learned that a Toyota Avalon's airbags had failed to deploy during a crash in Florida and observed signs of ASIC EOS during an inspection.

1004. On May 20, 2017, a Toyota Avalon was travelling at approximately 70 miles per hour on a highway in Florida behind a semi-truck when it crashed into the truck. The pictures of the wreckage show severe damage to the Avalon. The airbags in the Avalon did not deploy.

1005. Toyota Sales USA inspected the vehicle on June 20, 2017. The inspector observed five airbag diagnostic trouble codes in the system. Moreover, the data retrieved from the Event Data Recorder had no record of the crash. These were signs of ASIC EOS.

k. Between May 10, 2017 and September 2018, Toyota USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA observed signs of EOS in a 2012 Corolla that crashed in California with no airbag deployment.

1006. On May 10, 2017, a 2012 Toyota Corolla traveled on I-15 northbound in California at an estimated speed of 70 miles per hour. The Corolla crashed into a

three-axle tank truck. The crash completely destroyed the front-end of the Corolla, as the below images of the wreckage show. The driver's airbags did not deploy despite the very severe nature of this crash. The crash killed the driver.

1007. After two attempts to retrieve crash data from the DS84 ACU in the 2012 Corolla failed – both of which are signs of EOS – the ACU was shipped to ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA at Farmington Hills, Michigan. Upon information and belief, Toyota USA arranged for this shipment.

1008. On September 6, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA inspected the DS84 ACU retrieved from the 2012 Corolla. The Event Data Recorder chip was removed and placed into a working ACU. This allowed ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to retrieve data from the chip. The fact that this step was necessary to retrieve the data was a sign of ASIC EOS.

1009. Because the crash data retrieved from the DS84 ACU was not consistent with information known about the crash (such as the impact speed), Toyota USA speculated that the crash data may relate to an earlier crash from 2015 and that the earlier crash may have turned off the Event Data Recorder. This conclusion, however, did not explain the two unsuccessful attempts to extract the

crash data and the need to re-install the Event Data Recorder chip into a working ACU to extract the data. EOS of the ASIC, by contrast, would explain those problems.

1010. Upon information and belief, no Defendant checked the interior of the DS84 ACU or DS84 ASIC for burn marks. Defendants have produced no documents or information showing that anyone took these important steps.

l. Between May 2018 and October 2018, Toyota USA, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA learned that the airbags failed in a fatal Toyota Corolla crash in California with several signs of DS84 ASIC EOS.

1011. On May 21, 2018, a 2018 Toyota Corolla was travelling at 60-70 miles per hour on I-15 in Perry, California. The Corolla crashed into a stationary Ford Expedition. Pictures of the wrecked Corolla confirm the crash was very serious. Given the damage sustained to the front of the Toyota, and the fact it impacted a vehicle nearly twice as heavy, the airbags should have deployed. None of the airbags deployed in the Corolla. The crash killed the driver of the Corolla.

Figure 1. Front of the Toyota.

Figure 2. Front and right side of the Toyota.

1012. On May 30, 2018, the California Highway Patrol asked Toyota USA how to read and download the crash data from a 2018 Corolla DS84 ACU.

1013. On May 31, 2018, the California Highway Patrol emailed Toyota USA pictures of the wrecked Toyota Corolla.

1014. On June 6, 2018, Toyota USA attempted to retrieve the crash data from the DS84 ACU in the Corolla. Toyota USA's field technician could not retrieve the data, despite several attempts. This was a sign of ASIC EOS.

1015. Prior to July 11, 2018, the California Highway Patrol was able to obtain data from the Corolla's Event Data Recorder by removing the chip from the malfunctioning DS84 ACU in the Corolla and transplanting the chip into a working ACU. The retrieved data, however, had no record of the crash. This was a sign of EOS.

1016. On July 11, 2018, the California Highway Patrol informed Toyota USA: "it appears the subject airbag ECU did not see the collision, as it reported no events recovered or recorded. . . . At this time, we have a high level of concern regarding the functionality of the supplemental restraint system at the time of collision."

1017. On July 17, 2018, Toyota USA held a conference call with Toyota Japan concerning this crash and the California Highway Patrol's questions. Upon information and belief and an email from Toyota USA employee Nicholas Evans, Toyota USA reviewed the EDR data with the missing crash record during this call.

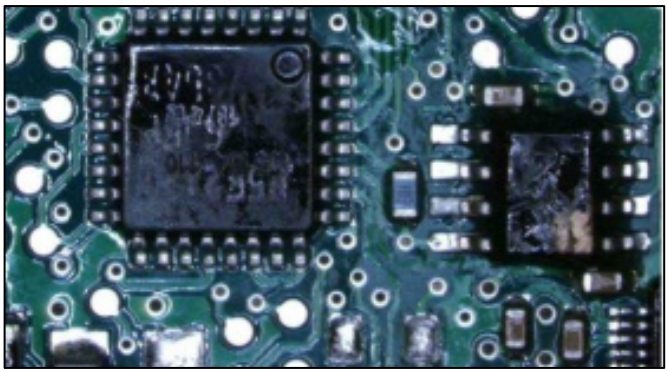
1018. On September 17, 2018, NHTSA sent Toyota USA an information request about fatal accidents involving non-deployment events in Toyota vehicles with DS84 ACUs.

1019. On September 20, 2018, NHTSA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Toyota USA and Toyota Japan attended an inspection of the 2018 Corolla at ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA's shared facility at Farmington Hills, Michigan. Emanuel Goodman, a longtime employee of ZF Passive Safety USA who also served as a technical specialist for ZF Electronics USA, identified burn marks on the EDR chip. He also measured the resistance of certain points on the DS84 ACU's circuit

board and found one location with abnormal resistance. Mr. Goodman identified an electrical short related to the DS84 ASIC, which is a sign of ASIC EOS.

1020. The information retrieved from the EDR during the September 20, 2018 inspection confirmed that there was no crash record and that the DS84 ACU had reset. Both were signs of EOS.

1021. Below are pictures of the burned chips observed during the September 20, 2018 inspection. Upon information and belief, the distressed square circuit is the DS84 ASIC, and the burned rectangular circuit to the right is a power supply circuit connected to the DS84 ASIC.



1022. On September 27, 2018, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Toyota Japan and Toyota USA held a conference call. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA told Toyota Japan and Toyota USA that the ACU had short-circuited during resistance testing and there was no crash record on the ACU.

1023. On or shortly before October 8, 2018, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent a written presentation to Toyota USA and Toyota Japan that discussed the data retrieved from the September 20, 2018 inspection.

1024. California Highway Patrol investigators authored a report regarding the Toyota Corolla from the crash described in the preceding paragraph that states:

> The ACM [(i.e., "Airbag Control Module," another term for ACU)] in the Toyota did not command deployment of any

> supplemental restraints, nor did it record a non-deployment event as a result of this collision. Per 49 CFR 563, the ACM installed in the Toyota was required, at a minimum; to record a non-deployment 'event' as long as the 'trigger threshold' (longitudinal change velocity of 5 miles per hour within 150 millisecond interval) was met. Given the damage sustained to the front of the Toyota, and the fact it impacted a vehicle nearly twice as heavy, it would be expected that at the very least, a non-deployment event would have been recorded by the ACM installed in the Toyota. . . . Due to this apparent failure of the ACM installed in the Toyota to comply with federal regulations, on September 11, [2018], NHTSA Investigator Perry took custody of the surrogate ACM and the ACM removed from the Toyota for testing and analysis.

Toyota USA received a copy of this report on November 27, 2018.

1025. Based on documents produced by Toyota USA, and on information, and belief, members of a Toyota Japan research and development team called 23J held a conference call on October 11, 2018 with ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA Notes to this call record a discussion of the May 2018 California crash. Based on these notes, and on information and belief, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA told Toyota Japan that there was "[a]bsolutely no EDR data" (i.e., crash data) and that "[u]nexpected reset occurred once." Both were signs of EOS.

m. Between March and April 2019, Toyota USA, Toyota Sales USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA learned of signs of EOS in a 2019 Corolla that crashed in Chicago with no airbag deployment.

1026. On January 25, 2019, a 2019 Toyota Corolla crashed into a stationary school bus in Chicago, Illinois. The airbags in the Corolla did not deploy. The crash injured the driver and passenger in the Corolla, and caused severe damage to the vehicle, as demonstrated by the below picture of the wreckage.

1027. On March 11, 2019, NHTSA notified ZF Electronics USA, ZF Automotive USA, ZF Electronics USA, and Toyota USA that NHTSA had been monitoring salvage yards for other vehicles with signs of DS84 ASIC EOS damage and had identified the 2019 Corolla from the crash in Chicago. NHTSA requested a time to test the vehicle.

1028. When NHTSA attempted to recover the crash data from the ACU's EDR, the crash data retrieval tool could not communicate with the ACU, which is a sign of ASIC EOS.

1029. On March 30, 2019, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA removed the EDR chip from the malfunctioning DS84 ACU and transplanted the chip to a working ACU. This allowed recovery of the EDR data. During the inspection, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA observed abnormal resistance measurements on the ACU circuit board, which indicated a short. These were all signs of ASIC EOS.

1030. On April 15, 2019, an inspector investigated the Corolla for Toyota Sales USA or Toyota USA and found wires in the crash sensors had severed.

1031. Upon information and belief, the Chicago incident is one of the two Toyota Corolla crashes for which NHTSA's opening resume for the 2019 Engineering Analysis claimed, "EOS is suspected as the likely cause of the non-deployments."

n. In late May 2019, Toyota USA, Toyota Japan, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA learned that the DS84 ACUs reset in more than 1/5 of the Toyota Class Vehicles that were subject to direct transient testing.

1032. On May 29-31, 2019, several employees of ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Toyota USA, and Toyota Japan attended transient testing performed on Toyota Class Vehicles.

1033. During this testing, direct transients were applied to 49 vehicles: 16 MY 2018 Corollas, 19 MY 2012 Corollas and 14 MY 2016 Tacomas. 13 of these 49 vehicles experienced ACU resets; 2 of the 13 that experienced resets were Tacomas, while the rest were Corollas.

o. In late May 2019, Toyota USA, Toyota Japan, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned that a DS84 ACU in a 2018 Toyota Corolla malfunctioned and failed to deploy the second stage airbags during a crash test due to ASIC EOS.

1034. In late May 2019, the second stage front airbags in a 2018 Toyota Corolla failed to deploy in a crash test where the Corolla crashed into a stationary Ford Expedition at 70 miles per hour. All the airbags should have deployed.

1035. The Corolla was fixed with instruments to measure transients and detected transients of -1.52 volts and -.47 volts.

1036. The DS84 ACU in the Corolla lost communication during the crash, which is a sign of ASIC EOS.

1037. The DS84 ACU in the Corolla reset, which is a sign of ASIC EOS.

1038. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Toyota Japan, and Toyota USA attended this crash test and were aware of the evidence of EOS.

p. In the first week of June 2019, Toyota USA, Toyota Japan, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA learned that a crash test generated a transient surge in a Toyota Tacoma.

1039. In the first week of June 2019, three more Toyota Class Vehicle crash tests were conducted. In one of these tests, a 2017 Toyota Tacoma crashed into the rear of a stationary Ford Expedition while travelling at 70 miles per hour.

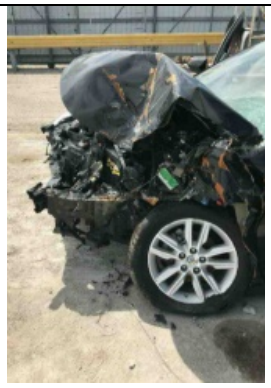
1040. Although the airbags deployed and the DS84 ACU did not reset, the test measured a transient surge that went through the DS84 ASIC.

1041. Upon information and belief, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Toyota Japan, and Toyota USA attended this crash test and were aware of the transient surge.

q. By the summer of 2019, Toyota USA had learned of signs of DS84 ASIC EOS in a 2014 Toyota Avalon that crashed in Kansas with no airbag deployment.

1042. On January 25, 2019 in Wichita, Kansas, a 2014 Toyota Avalon crashed into a vehicle stopped in the road while it waited to turn left. The Avalon was travelling at approximately 40 miles per hour on Ridge Road. The crash was severe, based on the images of the wrecked Avalon below. No airbags deployed in the Avalon, despite the severe nature of the crash. The crash hospitalized the driver of the Avalon.





1043. On April 10, 2019, an inspector for Toyota USA inspected the wreckage of this vehicle. The EDR data recovered from the Avalon had no record of the crash. This was a sign of ASIC EOS.

1044. By the summer of 2019, Toyota USA confirmed that the ACU had abnormal resistance measurements and that the DS84 ASIC had visible burn marks. Both observations were signs of ASIC EOS in the Avalon.

r. Between April and the summer of 2019, Toyota USA and Toyota Japan learned that a 2013 Toyota Avalon had crashed with no airbag deployment and several other signs of ACU ASIC EOS in Pittsburgh, Pennsylvania.

1045. On March 28, 2019, a 2013 Toyota Avalon traveled at 35 to 40 miles per hour on Ingomar Road in Pennsylvania, when it crashed into the rear end of a vehicle stopped in front of its path. The driver reportedly suffered whiplash and neck pain.

1046. On April 1, 2019, the driver reported to Toyota USA that the airbags had failed to deploy in the Avalon. A photograph of the wreckage is below.

1047. Toyota USA inspected the vehicle on April 11, 2019 and, by its own account, "identified two locations on the DS84 [ASIC] with evidence of possible damage." Toyota USA found "[c]onformal coating appears to have abnormality in multiple locations." These were signs of EOS. Toyota USA also found the crash data was missing, which is another sign of ASIC EOS. Toyota USA then "sent the ECU [(i.e., ACU)] to Japan for further investigation." Upon information and belief and based on this statement by Toyota USA, Toyota Japan received and analyzed the damaged ACU.

1048. Sometime in the summer of 2019, Toyota USA confirmed damage to the front sensor wiring harness of this Avalon and a burn mark on the surface of the DS84 ASIC. Both were signs that ASIC EOS had occurred in this vehicle.

s. In December 2019, Toyota Japan, Toyota Sales USA, and Toyota USA learned that two airbags failed to deploy in two Toyota Corolla crash tests with signs of DS84 ASIC EOS.

1049. On December 11, 2019, Toyota Japan conducted a crash test on a 2017 Toyota Corolla in Japan. For this test, a 2017 Toyota Corolla crashed into the rear of a stationary 2017 Ford Expedition at 60 miles per hour. The airbags should have deployed in this crash test, but no airbags deployed in the Corolla. Toyota Japan could not initially communicate with the EDR. The failure of the airbags and the

inability to communicate with the Event Data Recorder were signs that DS84 ASIC EOS had occurred.

1050. On December 11, 2019, non-party Toyota Technical Center conducted a very similar crash test in Ann Arbor, Michigan. In this crash test, a 2017 Toyota Corolla crashed into the rear of a stationary 2017 Ford Expedition while travelling at 60 miles per hour. All the airbags should have deployed in this crash test, but the passenger side seat cushion airbag did not deploy. Toyota Technical Center was unable to communicate with the Event Data Recorder. The failure of the passenger side seat cushion airbag and the inability to communicate with the Event Data Recorder were signs that DS84 ASIC EOS had occurred.

1051. In early January 2020, Toyota USA confirmed that the DS84 ASIC from the ACU from one of these crash tests was damaged. This was further proof that DS84 ASIC EOS had occurred.

6. ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, ST Malaysia, Honda USA, Honda Japan, and Honda Engineering USA have known the Honda Class Vehicles, as well as the DS84 ACUs and DS84 ASICs installed therein, were defective.

1052. For many years, Honda Japan, Honda USA, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, and ST Malaysia have known that the defective DS84 ACUs in Honda Class Vehicles are uniquely vulnerable to EOS.

a. Between 2012 and 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA received at least 17 warranty claims for Honda vehicles with DS84 ASICs that showed signs of EOS.

1053. According to a document produced by ZF Defendants to NHTSA in connection with NHTSA's investigation of vehicles equipped with the DS84 ASIC, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA received at

least 17 warranty claims for Honda vehicles that showed signs of EOS in the DS84 ASIC between July 29, 2012 and January 4, 2015. The relevant portions of the document have been reproduced below.

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	29-Jul-12	EOS, Voiding	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	30-May-12	AR54020, RMA35988, abnormal comm.pins42&43 B264E840	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	17-Nov-12	WARRANTY return from HONDA 4823KM	Airbag warning lamp on	Honda	Fit
DS84	EOS	ST Micro	5-Oct-12	AR55451, RMA36275, High Side FET fault pin s18 & 19at-40C B489E1511	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	10-Aug-13	SR2014061122, RMA, Short to Battery faults quib 5 B602E1846	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	19-Jun-14	SR2014102301, RMA (B695E2253), short to battery fault Squib3, pin51	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	2-Jan-15	link to ecu-11-f010	Airbag warning lamp on	Honda	Fit
DS84	EOS	ST Micro	14-Nov-13	SR2015042902, RMA (B826E2881), short to battery fault on squib	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	7-Jan-15	SR2015060311, RMA (B842E2966), low resistance between VDD pins 7&6	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	24-Oct-14	SR2015092359, RMA (B926E3327), Asic faults for all DSI lines	Airbag warning lamp on	Honda	FIT
DS84	EOS	ST Micro	7-Sep-14	SR2015092807, RMA (B930E3351), appears to have overheated	Airbag warning lamp on	Honda	Civic

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	14-Jan-15	SR2015100110, RMA (B930E3347), U700 has a short to battery	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	19-Oct-14	SR2015122301, RMA (B995E3634), No signals present at U700	Airbag warning lamp on	Honda	Acura TL
DS84	EOS	ST Micro	23-Apr-15	SR2016011404, RMA (B999E3655), losing communication on its DSI_3	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	24-Nov-15	SR2016020806, RMA (B1007E3708), pulling down the VUPP_Out voltage	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	12-Sep-14	SR2016030205, RMA (FR-16-00155), short to battery fault	Airbag warning lamp on	Honda	Acura TL
DS84	EOS	ST Micro	3-Dec-14	SR2016041401, RMA (FR-16-00628), Fire Supply Open faults	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	25-Mar-16	link305-The waveform is different	Airbag warning lamp on	Honda	Fit
DS84	EOS	ST Micro	1-Oct-16	SR2016101209, RMA (FR-16-03652), battery fault pins 54 and 55	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	17-Mar-15	SR2016121101, RMA (FR-16-05070), internally shorted SQ HI 6 pin 6 & 7	Airbag warning lamp on	Honda	Civic
DS84	EOS	ST Micro	4-Jan-15	SR2017012612, RMA (FR-17-00108), EOS - VOIDING	Airbag warning lamp on	Honda	CRV
DS84	EOS	ST Micro	6-Jan-16	All the failed suibs configured at the ASIC0 U700	Airbag warning lamp on	Honda	K-Car
DS84	EOS	ST Micro	8-Jun-15	found U700 pin2 and pin14 abnormal	Airbag warning lamp on	Honda	Unknown

Component	Analysis Category	Supplier Name	Receipt Date	Short Description Verbatim	Reason for Return	Customer	Vehicle
DS84	EOS	ST Micro	2-May-17	SFT-136 waveform of pin48(AOUT) abnormal	Airbag warning lamp on	Honda	K-Car

1054. Upon information and belief, Honda Japan and Honda Engineering USA knew about these warranty returns, because it has access to all warranty claims made by its subsidiaries.

b. Between 2012 and the present, Honda USA received over 300 consumer complaints about airbag failures in Honda Class Vehicles.

1055. Between 2012 and the present, Honda USA received over 300 consumer complaints involving the Honda Class Vehicles, nondeployment of airbags, and serious injury. Honda USA produced a chart to NHTSA tracking these complaints in the second half of 2019. Relevant portions of this chart are reproduced below.

	Model	Model Year	A Owner/Fleet Reports	G Lawsuits
Acura	RLX	2014	1	
		2015		
		2016		
		2017		
		2018		
		2019		
	RLX Hybrid	2014		
		2015		
		2016		
		2017		
		2018		
		2019		
	TL	2012	3	2

		2013	2	
		2014	1	
	TLX	2015	4	
		2016	1	
		2017		
	TSX	2012	5	1
		2013	1	
		2014		
	TSX Sport Wagon	2012		
		2013		
		2014		
Honda	Accord (2 Dr)	2013	2	
		2014	2	
		2015	4	
	Civic (4 Dr)	2012	37	4
		2013	42	
		2014	32	
		2015	39	
	Civic GX (4 Dr)	2012	1	
		2013		
		2014		
		2015		
	Civic Hybrid (4 Dr)	2013		
		2014		1
		2015		
	Civic Si (4 Door)	2012		
		2013		
		2014		
		2015		
	CR-V	2012	8	
		2013	14	
		2014	21	
		2015	28	
		2016	15	
	Fit	2012	6	
		2013	4	
		2014		

		2015	13	
		2016	3	
		2017		
	Fit EV	2013		
		2014		
	Ridgeline	2012	2	
		2013	1	
		2014	1	

1056. Records produced by Honda USA indicate that it did not inspect the DS84 ACUs from these crashes to rule out EOS as a cause for the nondeployments. Two illustrative examples are described below.

a. On February 10 and 13, 2017, the brother of the driver of a 2013 Accord TSX reported to Honda USA that his sister died when the Accord's airbags failed to deploy. The Accord crashed into a barrier and his sister broke her back and suffered a hyperextension of the artery in her neck. She died in the hospital shortly after the crash. The brother reported that the vehicle had travelled around 50 miles per hour. Honda USA's record of the investigation history does not indicate that it retrieved the crash data or the DS84 ACU from this accident to determine whether EOS prevented airbag deployment.

b. On or around December 19, 2018, Honda USA received a complaint that the driver of a 2016 Honda CR-V fell asleep while driving on a highway, veered off the road, hit a guard rail, and crashed into a tree. The airbags failed to deploy. The driver ejected from the vehicle and died. Honda USA's record of the investigation history does not indicate that it retrieved the crash data or the DS84 ACU from this accident to confirm whether EOS prevented airbag deployment.

c. In 2012 and 2013, ZF Electronics USA, ZF Automotive USA, ZF Passive Safety USA, Honda Japan, ST Italy, ST USA, and ST Malaysia observed EOS damage to a DS84 ASIC in a Honda Accord that experienced an DS84 ACU failure and second stage airbag failure during a crash test in Japan.

1057. On or around December 3, 2012, Honda Japan conducted a crash test in Japan of a 2013 Honda Accord intended for sale in Australia. The Accord was equipped with a DS84 ACU.

1058. In the test, the Accord crashed into a deformable barrier while traveling at approximately 35 miles per hour. Upon information and belief, all the airbags should have deployed during this crash. Instead, only a partial deployment occurred, in that the first stage front airbags deployed but the second stage airbags did not.

1059. Honda Japan observed the DS84 ACU from the Accord after the crash test and found the following evidence of ASIC EOS:

a. The EDR did not record any operation for the second stage airbag ignitor;

b. The ACU had abnormal heat during analysis, which indicated "[o]vercurrent energizing condition" and "[i]nternal failure in the unit"; and

c. A transistor on the ACU "had burnout."

1060. After the crash test, Honda Japan asked ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to analyze the ACU. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA identified failures in the DS84 ASIC and transistor.

1061. [redacted]

[redacted]

1062. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA then provided Honda Japan with a theory for why the DS84 ASIC and DS84 ACU failure occurred: (1) the crash caused a ground shift in the chassis (i.e. the vehicle frame), (2) the crash caused interruptions in the supply from the car battery, which resulted in an in-rush of current upon recovery, and (3) the crash caused the front crash sensors to sever and short to ground. These three phenomena resulted in a flow of transient electricity to the DS84 ASIC, which caused the ASIC to fail due to EOS.

1063. Throughout 2013, following this analysis of the Accord crash test (and the below Canadian incident), ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and Honda Japan discussed whether to modify the design of the DS84 ACU in light of the risks of EOS.

d. In 2013, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and Honda Japan learned that another DS84 ACU in a 2012 Honda Civic malfunctioned due to EOS during a crash on a Canadian highway.

1064. On or around March 15, 2013, a 2012 Honda Civic vehicle crashed on a Canadian highway.

1065. Although airbags may have deployed in the crash, which is not clear from the limited information produced in discovery, Honda Japan encountered issues with downloading crash data from the DS84 ACU installed in Civic. Honda Japan then asked for ZF Passive Safety USA's, ZF Electronics USA's and ZF Automotive USA's assistance with the DS84 ACU.

1066. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA downloaded data from the ACU, but found only a partial crash record. It could not communicate with the supplemental restraint system through the ACU. These were signs of EOS.

1067. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA concluded that the partial crash record occurred due to internal damage to the DS84 ASIC that was similar to the December 2012 Accord crash test. The companies shared this conclusion with Honda Japan.

e. In 2014, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Honda Japan, ST Italy, ST USA, and ST Malaysia observed EOS damage to a DS84 ASIC in a Honda City that experienced a DS84 ACU failure during a crash test in Japan.

1068. On January 13, 2014, Honda Japan conducted a crash test in Japan on a 2014 Honda City intended for sale in Japan.

1069. Upon information and belief, the Honda City is very similar to the Honda Fit, a Class Vehicle. Both types of vehicles were equipped with DS84 ACUs. According to the ZF Defendants, the vehicles use the same "platform"—i.e., they are effectively the same for the purposes of ACU design.

1070. In the crash test, the Honda City crashed into a barrier at approximately 40 miles per hour.

1071. Although some airbags may have deployed in this crash test,[39] the DS84 ACU in the Honda City stopped communicating afterwards and failed to shut off the vehicle's high voltage battery or disengage the door locks. This was a sign of EOS.

[39] The limited number of documents produced about this crash test state that some airbags deployed but are silent as to whether the passenger second-stage airbag deployed. The crash data for the operation of the passenger airbags was missing from the EDR.

1072. The DS84 ACU was missing some crash data for the wreck, including the activity of the left-side airbag. This was another sign of EOS.

1073. Following this crash test, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA conducted tests on the malfunctioning ACU.

1074. [redacted]

1075. The DS84 ASIC and DS84 ACU failure in the Honda City crash test occurred only 87 microseconds after the impact occurred – meaning barely any time separated the failure from the point at which deployment signals for the airbags are sent by the ASIC.

1076. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA proposed the following explanation for the failure to Honda Japan: The front crash sensors shorted to ground during the crash and released a negative transient that exceeding the protection of a Schottky and Zenner diode. This caused the DS84 ASIC to suffer EOS. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA informed Honda Japan of this.

f. Prior to February 27, 2014, ZF Automotive USA, ZF Electronics USA, ST USA, ST Italy, and ST Malaysia ran a bench test that replicated ASIC EOS damage on a DS84 ACU, and shared their findings with Honda Japan

1077. In or around February 27, 2014, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA sent Honda Japan a written analysis discussing "TRW Bench Test Results." Upon information and belief, the bench test

involved transient testing on the configuration of the DS84 ACU used in Honda Class Vehicles (and other Honda global vehicles) in a laboratory environment—i.e., outside of a vehicle. The written analysis of the results reported to Honda Japan included: "Damage isolated to DS84. Electrical bench measurements show same internal short to VDD as seen on crash test unit. Part sent to ST Micro for analysis." Upon information and belief, the phrase "crash test unit" refers to the DS84 ACU that suffered EOS in the Honda City crash test in Japan that Honda Japan conducted. Upon information and belief, VDD refers to a power supply component connected to the DS84 ASIC. When EOS occurs on the DS84 ASIC, it can also short.

1078. [redacted]

1079. [redacted]

g. Honda Japan, ZF Electronics USA, ZF Electronics US LLC, ST USA, ST Italy, and STMicroelectronics, SDN BHD are withholding documents and information concerning additional Honda Civic Field Events with signs of DS84 ASIC EOS in DS84 ACUs from prior to February 27, 2014.

1080. Honda USA has produced a document dated February 27, 2014, which, upon information and belief, ZF Automotive USA and ZF Electronics USA prepared for Honda Japan.

1081. The document identified ZF Automotive USA as the copyright holder of the information discussed therein.

1082. [redacted]

1083. [redacted]

h. Between 2014 and February 5, 2016, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., and ZF Germany learned that a Honda Jazz with a DS84 ACU in Asia experienced an inadvertent airbag deployment.

1084. Upon information and belief, in 2014, the airbags in a Honda Jazz with a DS84 ACU deployed while the car was driving, without any crash event. The ACU is the component that controls with airbags deploy, and should never

command deployment without a crash event. As evidenced by the prior recalls of TRW ACUs due to EOS and other DS84 ASICs with observed EOS in vehicles that experienced inadvertent deployments, an inadvertent airbag deployment without a crash event can be a sign of ASIC EOS.

1085. Although this incident occurred in Asia, the Honda Jazz is part of the same vehicle "platform" as the Honda Fit, a Class Vehicle. Upon information and belief, this means they share common design, engineering, and production efforts, and therefore observed ACU malfunctions in one platform are evidence of a defect in another platform.

1086. ZF Germany was aware of this incident because it is the copyright holder of a February 5, 2016 slide deck presentation with a chart which that listed an inadvertent deployment event for Honda vehicles.[40] The document identifies ZF Germany as the author of the slide deck by listing its corporate name immediately under the title of the deck on the first page.

1087. Upon information and belief, ZF Passive Safety USA and ZF Electronics USA knew about this incident because they designed the DS84 ACU and provided quality assurance to Honda Japan, and its affiliates, which include assisting with the analysis of ACU malfunctions.

1088. Upon information and belief, ZF Automotive USA was aware of this incident because it attended the meeting where the February 5, 2016 slide deck presentation was used.

1089. Upon information and belief, ZF TRW Corp. was aware of this incident because, Marc Bolitho, a longtime employee of ZF Passive Safety USA who held himself out as the Director of Passive Safety Engineering for ZF TRW Corp., is one of several authors of the slide deck presentation.

1090. Upon information and belief, Honda Japan was aware of this incident.

[40] Although this slide deck refers to Honda Japan as "OEM B," other information produced by the ZF Defendants confirms that "OEM B" refers to Honda Japan

1091. The Honda and ZF Defendants have not produced any documents reflecting their analysis of the DS84 ACU and DS84 ASIC from this incident with a Honda Jazz.

i. On or around February 27, 2014, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA informed Honda Japan that the standard used to test for an electrical phenomenon related to EOS were not sufficient to simulate "actual vehicle condition[s]."

1092. In early 2014, Honda Japan asked ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA to provide test results for the DS84 ACUs under an electrical engineering standard called AECQ100. This standard tests the results for latch-up effect, an electrical phenomenon in microchips that can lead to EOS.

1093. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA provided Honda Japan with a written response on around February 27, 2014. The response stated that the DS84 ASIC was tested under this standard at plus or minus 100 milli-Amps. But the response also stated: "However, actual vehicle condition can supply large amount of current to the ASIC when negative transient occurs. Therefore, results seen for [the Honda City] crash test could not be observed during ACEQ100 testing." In other words, the latch-up test did not simulate the type of latch-up effect that could occur under real world conditions during a 40 mile-per-hour crash with a barrier.

j. Following these three global incidents, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA agreed to inadequate design changes to some, but not all, Class Vehicles.

1094. After the three DS84 ACU malfunctions in Honda vehicles described above, Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA agreed to change the design of the DS84 ACUs for some of the

following Class Vehicles going forward: Accords, CRVs, and Fits.[41] These changes confirmed an agreement by Honda Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA that the three DS84 ACU malfunctions abroad were relevant to ACUs in the United States, and that the observed malfunctions were serious enough to necessitate design changes.

1095. The remaining Class Vehicles were not altered. No Defendant took any steps to fix the Accords, CRVs and Fits that had already been sold.

1096. Upon information and belief, the DS84 ACU design change involved increasing the strength of Schottky diodes and adding a resistor on the crash sensor communication lines. This change did not address the root cause of the defect: the relative vulnerability of the DS84 ASIC to transients. NHTSA's investigation into the models with this design change and numerous public consumer complaints regarding failed airbags in these same vehicles further indicates an uncured defect in the Unrecalled Honda Class Vehicles with the DS84 ACUs. *See* Exhibit 5 (10606730, 10904988, 10904991, 11006304, 11006609, 11209214, 11230881, 11232553, 11297555). Honda USA has also received over 70 complaints that airbags failed to deploy in these model vehicles during accidents with serious injuries.

1097. [redacted]

a. [redacted]

[41] Based on the incomplete, limited-discovery information available at this time, these changes may apply to some 2015 Honda Accords, 2015–2017 Honda CR-Vs, and 2016–2017 Honda Fits with DS84 ACUs.

b. [redacted]

1098. Upon information and belief, Honda USA knew about this design change because Honda Japan informs Honda USA when changes to American vehicle designs are made.

k. In or around February 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA informed Honda Japan that EOS had been observed on DS84 ASICs in field events involving vehicles made by two other manufacturers.

1099. Upon information and belief, in February 2016,[42] ZF Automotive USA shared a slide deck presentation dated February 5, 2016 with Honda Japan. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, ZF

[42] This allegation is based on ZF Automotive USA's acknowledgment in a 573 Defect Report filed in 2018 that it "communicate[d] with customers regarding EOS and contact with NHTSA" in January 2016. Marc Bolitho, the Director of Passive Safety Electronics and Engineering for ZF TRW Corp., also signed a declaration dated March 14, 2016 acknowledging that portions of a February 5, 2016 slide deck presented to NHTSA were "shared with customers or the applicable component supplier under circumstances that the shared information is retained as confidential by them."

Electronics USA, ZF TRW Corp., and ZF Germany all had a role in drafting, editing, and/or approving the slide deck presentation before ZF Automotive USA shared it with Honda Japan.

1100. The February 5, 2016 slide deck presentation informed Honda Japan that two other vehicle manufacturers had field incidents in the United States with confirmed EOS on DS84 ACUs.

1101. The February 5, 2016 slide deck presentation also informed Honda Japan that bench testing had replicated two types of failures in DS84 ASICs due to EOS, and that "[t]hese multipoint failure modes can cause EOS to the ASIC that may impact ACU function during a crash event."

l. Defendants are presently withholding information about two additional investigations into incidents that involved Honda vehicles and potential EOS in DS84 ACUs.

1102. Upon information and belief and based upon joint interrogatory answers by the domestic ZF Defendants, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA have investigated two other global incidents for potential EOS. One involved a Honda Civic with an "incident" that occurred in Brazil on November 18, 2016. Another involved a Honda City with an "incident" that occurred in Thailand on April 6, 2017.

1103. Upon information and belief, Honda Japan and its affiliates would not have involved ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA in an investigation that did not have troubling signs of EOS, because Honda Japan and other vehicle manufacturers know how to obtain and interpret EDR data from an ACU when the ACU is working properly. When an EDR has complete information, there is no need to involve the supplier, which suggests a more complex investigation and analysis was required.

1104. Upon information and belief, one of these two incidents involved an inadvertent deployment. This belief is based upon the fact that a presentation dated

March 8, 2018 produced by the ZF Defendants (described in more detail below) confirms the existence of two inadvertent deployments in Honda vehicles with DS84 ASICs. This is an increase of one incident relative to those identified in the February 5, 2016 presentation described above.

1105. Defendants have produced no other information about the investigation into the Brazil and Thailand incidents.

m. Based on the Toyota recall, Hyundai Korea, Hyundai USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, Honda Japan, and Honda USA knew that even relatively "high levels" of circuit protection around the DS84 ASIC are insufficient to cure the defect.

1106. On April 19, 2019, NHTSA filed a public document describing the investigation into the DS84 ACU Defect. The document noted that the recalled Hyundai and Kia Class Vehicles included "the lowest levels of ASIC protection" and the recalled FCA vehicles used "a mid-level form of ASIC protection." The document also noted: "ODI has identified two substantial frontal crash events (one fatal) involving Toyota products where EOS is suspected as the likely cause of the non-deployments. The crashes involved a MY 2018 and a MY 2019 Corolla equipped with the subject ACU that incorporated higher levels of ASIC protection. Additionally, both ACUs were found to be non-communicative (meaning the ACU's Event Data Recorder could not be read) after the crash, a condition found in other cases where EOS occurred with other [vehicle manufacturers]." Upon information and belief, Honda USA, Honda Japan, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., and ZF Germany all read this document.

1107. On January 17, 2020, Toyota submitted a 573 Defect Report to NHTSA that announced its intention to recall 2,891,976 vehicles based on an admitted defect with the DS84 ACU. The recalled Toyota vehicles were equipped with versions of the ACU with same level of circuit protection as most Honda Class

Vehicles. Upon information and belief, Honda USA, Honda Japan, Honda Engineering USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., and ZF Germany all read this document and knew that the DS84 ACUs in the majority of Honda Class Vehicles had the same levels of circuit protection as the DS84 ACUs that prompted the recall of Toyota Class Vehicles.

n. In March 2020, Honda USA, Honda Japan, and ZF Electronics USA analyzed a DS84 ACU from a Honda Civic that crashed in Florida and found signs of DS84 ASIC EOS.

1108. On or around February 24, 2018, a 2012 Honda Civic crashed in Florida. Upon information and belief, the airbags in the vehicle did not deploy.

1109. Upon information and belief, Honda USA learned of this crash and asked ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to investigate the DS84 ACU. According to an EDR analysis produced by Honda USA, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA had to transplant the Event Data Recorder chip into another ACU to download the information. This would only have been done if the DS84 ACU from the Honda Civic was noncommunicative. Upon information and belief, the DS84 ACU retrieved from the 2012 Honda Civic was noncommunicative, which is a sign of EOS.

1110. On March 12, 2020, ZF Electronics USA downloaded the information on the Event Data Recorder chip retrieved from the 2012 Honda Civic. There was no data for the crash event. This is a further sign of EOS.

1111. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA shared the Event Data Recorder analysis with Honda USA. Upon information and belief, Honda USA shared the analysis with Honda Japan.

1112. Aside from the EDR analysis, no Defendant has produced any information about this crash or any further analysis thereof.

7. ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, ST Malaysia, Mitsubishi Japan, and Mitsubishi USA knew the Mitsubishi Class Vehicles, as well as the DS84 ACUs and DS84 ASICs installed therein, were defective.

1113. For many years, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, ST Malaysia, Mitsubishi Japan, and Mitsubishi USA were aware of the risk of EOS in the DS84 ACUs in Mitsubishi Class Vehicles.

a. Between 2014 and 2019, Mitsubishi USA received over 50 consumer complaints about non-deployment events in Mitsubishi Class Vehicles.

1114. Between 2014 and 2019, Mitsubishi USA received over 50 consumer complaints about non-deployment events in Mitsubishi Class Vehicles.

1115. The documents produced by Mitsubishi USA in discovery indicate its practice was to close consumer complaints without sending an inspector to investigate the vehicle for an ACU malfunction. Virtually none of the customer complaint records produced by Mitsubishi USA indicate that Mitsubishi USA took this basic step to confirm its DS84 ACUs were functioning properly and not defective.

b. In or around February 2016, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA informed Mitsubishi Japan and Mitsubishi USA that EOS had been observed on DS84 ASICs in field events involving vehicles made by two other manufacturers.

1116. Upon information and belief, in February 2016, ZF Automotive USA shared a slide deck presentation dated February 5, 2016 with Mitsubishi USA and Mitsubishi Japan. Upon information and belief, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany all had

a role in drafting, editing, and/or approving the slide deck before ZF Automotive USA shared it with Mitsubishi USA and Mitsubishi Japan.[43]

1117. The February 5, 2016 slide deck presentation informed Mitsubishi USA and Mitsubishi Japan that two other vehicle manufacturers had field incidents in the United States with confirmed EOS on DS84 ACUs.

1118. The February 5, 2016 slide deck presentation also informed Mitsubishi USA and Mitsubishi Japan that bench testing had replicated two types of failures in DS84 ASICs due to EOS, and that "[t]hese multipoint failure modes can cause EOS to the ASIC that may impact ACU function during a crash event."

c. In 2017, Mitsubishi USA, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ST USA, ST Malaysia, and ST Italy confirmed that EOS occurred in a DS84 ACU in a Mitsubishi Class Vehicle.

1119. In May of 2017, Mitsubishi USA shipped the DS84 ACU recovered from a 2017 Mitsubishi Lancer to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA. Upon information and belief, Mitsubishi USA sent them the device for analysis because a consumer took the car to a dealer when the ACU had malfunctioned.

1120. On May 25, 2017, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA received the ACU.

1121. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA performed an initial analysis and found the DS84 ACU failed three separate

[43] This allegation is based on ZF Automotive USA's acknowledgment in a 573 Report filed in 2018 that it "communicate[d] with customers regarding EOS and contact with NHTSA" in January 2016. Marc Bolitho, a longtime employee of ZF Passive Safety USA who also served as the Director of Passive Safety Electronics and Engineering for ZF TRW Corp., also signed a declaration dated March 14, 2016 acknowledging that portions of a February 5, 2016 slide deck presented to NHTSA were "shared with customers or the applicable component supplier under circumstances that the shared information is retained as confidential by them." Mitsubishi USA produced a copy of the February 5, 2016 presentation in discovery.

tests. Upon information and belief, they then sent the malfunctioning DS84 ACU or component parts thereof to ST USA, ST Italy, and ST Malaysia.

1122. [redacted]

1123. Upon information and belief and based on written materials prepared by ZF Electronics USA, ZF Passive Safety USA and ZF Automotive USA from 2013, EOS failures on the DS84 ASIC can occur when a squib ASIC shorts, and the ignition generates a spike. The SD40 is one of the squib ASICs on the DS84 ACU.

1124. Because the SD40 ASIC is physically near the DS84 ASIC on the particle board, the SD40 ASIC is part of the DS84 ASIC's family of chips, the NHTSA investigation has touched upon the SD40 ASIC, and the chip suffered similar EOS failures, it is further evidence of the ACU Defect at issue in this litigation.

d. Based on the Toyota recall, Mitsubishi Japan, Mitsubishi USA, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA knew that even relatively "high levels" of circuit protection around the DS84 ASIC are insufficient to cure the defect.

1125. On April 19, 2019, NHTSA upgraded its preliminary investigation concerning DS84 ACUs to a type of investigation called an "Engineering

Analysis." In connection with this decision, NHTSA expanded the scope of the investigation to include the Mitsubishi Class Vehicles.

1126. Also on April 19, 2019, NHTSA filed a public document describing the investigation. The document noted that the recalled Hyundai and Kia Class Vehicles included "the lowest levels of ASIC protection" and the recalled FCA vehicles used "a mid-level form of ASIC protection." The document also noted: "ODI has identified two substantial frontal crash events (one fatal) involving Toyota products where EOS is suspected as the likely cause of the non-deployments. The crashes involved a MY 2018 and a MY 2019 Corolla equipped with the subject ACU that incorporated higher levels of ASIC protection. Additionally, both ACUs were found to be non-communicative (meaning the ACU could not be read with an Event Data Recorder) after the crash, a condition found in other cases where EOS occurred with other [vehicle manufacturers]."

1127. Upon information and belief, Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA all read this document, and understood that Mitsubishi Class Vehicles were equipped with, at best, a mid-level form of ASIC protection described by NHTSA.

1128. On January 17, 2020, Toyota submitted a 573 Defect Report to NHTSA announcing its intention to recall 2,891,976 vehicles based on an admitted defect with the DS84 ACU. The recalled Toyota vehicles were equipped with versions of the ACU with same level of circuit protection as most Honda Class Vehicles. Upon information and belief, Mitsubishi USA, Mitsubishi Japan, ZF Electronics USA, and ZF Automotive USA all read this document and knew that the DS84 ACUs in Mitsubishi Class Vehicles had lower levels of circuit protection than the DS84 ACUs that prompted the recall of Toyota Class Vehicles.

E. Defendants schemed to defraud Plaintiffs and other similarly situated consumers by making misleading statements about Class Vehicle safety, airbags, and seatbelts.

1. Each Class Vehicle has several "in-vehicle" safety labels that misleadingly assured consumers that the airbags and seatbelts would function properly during a crash.

1129. Defendants know, and have known, that properly functioning airbags and seatbelts, and vehicle safety in general, are important attributes to consumers in deciding to purchase or lease a vehicle. This collective understanding informed the Vehicle Manufacturer Defendants' marketing strategy for and representations to consumers about the Class Vehicles, as reflected throughout the informational labels and representations included in ***every*** Class Vehicle.

1130. As described in detail below, these safety representations include window stickers affixed to each Class Vehicle at the point of sale or lease and made available online; certification labels that uniformly communicate compliance with motor vehicle safety standards in every Class Vehicle; and in-vehicle safety information about airbags and their location within the vehicles. On the whole, these window stickers, safety labels, and information uniformly and misleadingly communicated to consumers prior to their decision to purchase or lease a Class Vehicle that the Class Vehicles were safe and had properly-functioning airbags and seatbelts when in fact, they did not.

a. With their co-conspirators' knowledge, Honda USA, Toyota USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA distributed Class Vehicles with Monroney labels that had misleading assurances regarding safety.

1131. In the United States, automobile dealers must sell or lease new vehicles with window stickers that provide important information about a vehicle's features, including its safety features, and performance characteristics. *See* 15 U.S. Code § 1232. These window stickers are commonly called "Monroney labels."

Every Class Vehicle had a Monroney label affixed to it at the point of its original sale or lease at a dealership. The labels are large—approximately the size of a standard sheet of paper—and prominently displayed on the vehicles, typically taped to a window.

1132. Monroney labels are also important resources for used vehicle purchasers because they can also be affixed to used cars at the point of sale, and they are readily available online, including at https://monroneylabels.com. Upon information and belief, used car dealers often provide printed Monroney labels to consumers when offering the vehicles for sale or lease. Given this common practice, Monroney labels informed the sale or lease of used Class Vehicles as well.

1133. Although dealers displayed the Class Vehicles with Monroney labels prior to sale and lease, they did not author the labels and had no control over, or input in, the contents of the Monroney labels. Instead, the domestic subsidiaries within the Defendant Vehicle Manufacturer groups control the contents of the Monroney labels for their respective Class Vehicles. Specifically:

a. Honda USA was responsible for drafting and approving the content of the Monroney labels for all Honda Class Vehicles.

b. Toyota USA and Toyota Sales USA were jointly responsible for drafting and approving the content of the Monroney labels for Toyota Class Vehicles.

c. Mitsubishi USA was responsible for drafting and approving the contents of the Monroney labels for Mitsubishi Class Vehicles.

d. FCA was responsible was responsible for drafting and approving the content of the Monroney labels for FCA Class Vehicles that shipped after June 10, 2009.[44]

[44] FCA's bankrupt predecessor, Chrysler LLC, drafted and approved Monroney labels for vehicles shipped prior to this date.

e. Hyundai USA was responsible for drafting and approving the contents of the Monroney labels for Hyundai Class Vehicles.

f. Kia USA was responsible for drafting and approving the contents of the Monroney labels for Kia Class Vehicles.

1134. Nor did the dealers themselves affix the labels to Class Vehicles. Instead, domestic subsidiaries within the Defendant Vehicle Manufacturer groups affixed the Monroney labels to their respective Class Vehicles before shipping them across the United States to the dealers. Specifically, upon information and belief:

a. Honda USA affixed Monroney labels to all Honda Class Vehicles prior to shipping them to Honda dealers.

b. Toyota Sales USA affixed Monroney labels to all Toyota Class Vehicles prior to shipping them to Toyota dealers.

c. Mitsubishi USA affixed Monroney labels to all Mitsubishi Class Vehicles prior to shipping them to Mitsubishi dealers.

d. FCA affixed Monroney labels to all FCA Class Vehicles shipped after June 10, 2009,[45] prior to shipping them to FCA dealers.

e. Hyundai USA affixed Monroney labels to all Hyundai Class Vehicles prior to shipping them to Hyundai dealers.

f. Kia USA affixed Monroney labels to all Kia Class Vehicles prior to shipping them to Kia dealers.

1135. When Honda USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA shipped their Class Vehicles with Monroney labels to dealers, they knew that U.S. law prohibited automobile dealers from removing the Monroney labels from the Class Vehicles, and that only consumers are allowed to remove the labels.

[45] FCA's bankrupt predecessor, Chrysler LLC, affixed Monroney labels to vehicles shipped prior to this date.

1136. Upon information and belief, Honda USA, Toyota USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA tell automobile dealers to display Class Vehicles with Monroney labels approved by the respective domestic entities, as described in the preceding paragraph. Upon information and belief, this instruction is part of written policies or contracts that Honda USA, Toyota USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA provide to the authorized dealers who sell or lease their respective vehicle models.

1137. Exhibit 7 contains a compendium of Monroney labels for the Class Vehicles, including both images of original Monroney labels and versions of the labels publicly available on monroneylabels.com. On information and belief, the original printed Monroney labels for the Class Vehicles included the same content as pertains to safety and airbags as the exemplar Monroney labels from monroneylabels.com.

1138. Although no law required them to do so, Honda USA, Toyota USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA voluntarily chose to include information about airbags or seatbelts on all Monroney labels for Class Vehicles, typically under a heading for "SAFETY" or "STANDARD FEATURES." Representative examples are detailed below.

a. On the Monroney label for the 2013 Chrysler 200, FCA featured "Advanced Multistage Front Airbags" and "Supplemental" Front Seat and Side Curtain Airbags amongst the included "SAFETY FEATURES." Exhibit 7 at 5. FCA also used identical language on the Monroney labels for the 2014 and 2015 Chrysler 200. Exhibit 7 at 6-7.

b. Likewise, on the Monroney label for the 2013 Fiat 500, FCA again touted the "Advanced Multistage Front Airbags" and

"Supplemental" Front Seat and Side Curtain Airbags amongst the "SAFETY FEATURES" in the vehicle. Exhibit 7 at 29.

c. On the Monroney label for the 2016 Hyundai Sonata Sport, Hyundai USA listed the included "ADVANCED SAFETY TECHNOLOGY" such as "Front, Front Side Impact, Side Curtain & Driver Knee Airbags" and "Front Seatbelt Pre-Tensioners." Exhibit 7 at 53.

d. Hyundai USA also featured the "Dual Stage Driver And Passenger Front Airbags" and "Dual Stage Driver And Passenger Seat-Mounted Side Airbags" along with "Outboard Front Lap And Shoulder Safety Belts" with "pretensioners" on the Monroney label for the 2018 Hyundai Sonata. Exhibit 7 at 55.

e. Likewise, Kia USA featured "Dual Front Advanced Airbags & Driver's Knee Airbag" and the "Dual Front Seat-Mounted Side & Full-Length Curtain Airbags" under the header SAFETY on the Monroney label for the 2020 Kia Optima SX Turbo. Exhibit 7 at 103.

f. Kia USA also listed the "Dual Stage Driver And Passenger Seat-Mounted Side Airbags" and "Outboard Front Lap And Shoulder Safety Belts" with "Pretensioners" as amongst the "SAFETY" features on the Monroney label for the 2014 Kia Sedona. Exhibit 7 at 109.

g. On the Monroney label for the 2014 Mitsubishi Lancer, Mitsubishi USA included "ADVANCED DUAL FRONT AIRABGS," "FRONT SEAT MOUNTED SIDE AIRBAGS," "SIDE CURTAIN AIRBAGS" and a "DRIVER'S SIDE KNEE

AIRBAG" amongst the featured "SAFETY & SECURITY FEATURES" in the vehicle. Exhibit 7 at 110.

h. Similarly, as to the 2016 Mitsubishi Lancer ES, Mitsubishi USA touted the "Advanced dual-stage front airbags with occupant seat position sensors" as well as the "Height-adjustable front shoulder belts with pretensioner" as a "Safety & Security" feature on the Monroney label. Exhibit 7 at 112.

i. On its Monroney label for the 2012 Honda Civic Sedan, Honda USA lists "SAFETY" equipment including "Front & rear side curtain airbags" and "3-point seat belts in all seating positions" with a "front automatic tensioning system." Exhibit 7 at 35.

j. As to the 2016 Honda CR-V, Honda USA noted "Dual Stage Driver And Passenger Front Airbags," "Dual Stage Driver And Passenger Seat-Mounted Side Airbags," and "Outboard Front Lap And Shoulder Safety Belts - inc: Rear Center 3 Point, Height Adjusters and Pretensioners" on its label regarding the "SAFETY" attributes of the vehicle. Exhibit 7 at 43.

k. Toyota USA and Toyota Sales USA featured "SAFETY" equipment on the Monroney label for the 2013 Toyota Sequoia, listing "Driver & front passenger advanced airbags w/occupant classification sensor" and "Driver & front passenger seatbelt pretensioners & force limiters." Exhibit 7 at 148.

l. Similarly, Toyota USA and Toyota Sales USA described "Driver & front passenger advanced airbags w/passenger airbag cut-off switch," "Driver & front passenger seat-mounted side airbags" and "Front & rear side curtain airbags - 3-point seat belts w/emergency locking retractor at all seating positions -inc: front seat belt pretensioners, force limiters & adjustable shoulder

anchors, automatic/emergency locking retractor for front passenger & rear seat belts" on the Monroney label for the 2012 Toyota Tacoma. Exhibit 7 at 152.

m. Additional examples of Monroney labels with the same or similar representations about vehicle airbags, seatbelts, and safety are attached hereto as Exhibit 7.

1139. These descriptions of airbags and seatbelts in Class Vehicles on Monroney labels were false and misleading because they conveyed to any reasonable consumer that the Class Vehicles had properly functioning airbags and seatbelts that would protect occupants during a crash, when, in fact, the Class Vehicles have defective safety systems that can fail or malfunction during crashes due to EOS.

1140. Upon information and belief, Honda USA, Toyota USA, Toyota Sales USA, Mitsubishi USA, FCA, Hyundai USA, and Kia USA chose to include misleading descriptions of the airbags and seatbelts on their Monroney labels because they wanted to encourage Class Members to purchase or lease the Class Vehicles and knew that airbags, seatbelts, and vehicle safety are critically important to consumers when deciding to purchase or lease a vehicle.

1141. In addition, the Monroney labels for all Class Vehicles featured the "Government 5-Star Safety Ratings" and include a star rating in the crash categories "Front Crash – Driver" and "Front Crash – Passenger." These statements on every Monroney label were misleading because they suggested to any reasonable consumer that the vehicle's passenger safety system did not suffer from a defect and would perform its intended function to protect them during a crash. Because of the defective DS84 ACUs and ASICs in the Class Vehicles, this was not true.

1142. All Defendants knew that dealers sold or leased Class Vehicles with Monroney labels with these kinds of misrepresentations about airbags, seatbelts,

and vehicle safety, because every major participant in the automotive industry is familiar with the standard practice of including this type of information on Monroney labels.

a. As sophisticated and well-funded corporate entities that derive billions of dollars in revenue from the sale of vehicles to U.S.-based dealers Honda Japan, Hyundai Korea, Kia Korea, Toyota Japan, and Mitsubishi Japan were each specifically aware that their subsidiaries distributed the Class Vehicles with Monroney labels that included information about safety and safety features.

b. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the U.S. automotive industry, Hyundai Mobis Co., Ltd., ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were each specifically aware that the Vehicle Manufacturer Defendants distributed the Class Vehicles with Monroney labels that included information about safety and safety features. For example, in a June 14, 2010 press release from ZF TRW Corp., the company boasted that its airbag systems and components help vehicles "earn the highest rating" in the NHTSA crash test rating featured on Monroney labels, which it described as evidence of its capacity to provide "competitive solutions" to manufacturers.

1143. As the above examples make clear, the Monroney labels for the Class Vehicles uniformly, and wrongly, assured Plaintiffs and Class members that the Class Vehicles were safe. The statements and information on the labels suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and

airbags when necessary during a crash. This was false and misleading because the DS84 ACUs and ASICs installed in the Class Vehicles were, in fact, defective and posed an unreasonable risk to the safety of vehicle occupants. Had Defendants disclosed the defective nature of the DS84 ACUs and ASICs, or that seatbelts and airbags may fail to activate in some moderate to severe crashes, on the Monroney labels of the Class Vehicles, Plaintiffs would have seen such a disclosure.

b. With their co-conspirators' full knowledge, Honda Japan, Honda Engineering USA, Hyundai Korea, Kia Korea, FCA, Toyota Japan, and Mitsubishi Japan affixed misleading safety certification labels to many Class Vehicles and approved similar labels in the remainder.

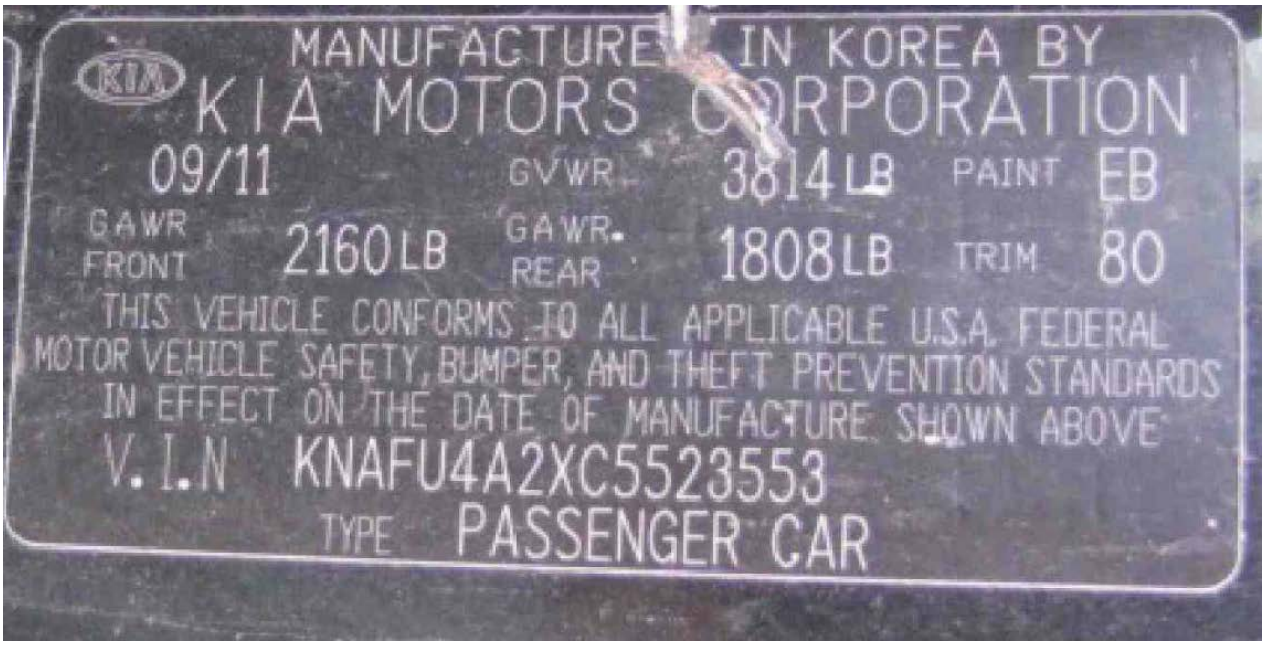
1144. To sell the Class Vehicles in the United States, the Vehicle Manufacturer Defendants certified "that the vehicle or equipment complies with applicable motor vehicle safety standards prescribed." 49 U.S.C. § 30115. Vehicle manufacturers make this representation through a label "permanently fixed to the vehicle[s]" that they make, sell and/or distribute. They "may not issue the certificate if, in exercising reasonable care," they have "reason to know the certificate is false or misleading in a material respect." 49 U.S.C. § 30115; *see also* 49 U.S.C. § 30112.

1145. Because they could not have been lawfully sold or leased without it, ***all*** Class Vehicles have a permanent label that certifies compliance with the safety regulations prescribed by NHTSA under Chapter 301. As passenger vehicles, the permanent label on each Class Vehicle must state: "This vehicle conforms to all applicable Federal motor vehicle safety, bumper, and theft prevention standards in effect on the date of manufacture shown above." 49 CFR § 567.4(g)(5).

1146. As described further below, the false and misleading certification labels in the Class Vehicles were drafted and placed—or directly approved for placement—in the Class Vehicles by the following Defendants and non-parties: Honda Japan, Honda Engineering USA, Hyundai Korea, Kia Korea, FCA, Toyota

Japan, and Mitsubishi Japan. Without these entities placing or approving the misleading certifications in the Class Vehicles, Plaintiffs and Class members could not have purchased or leased them.

a. Kia Korea placed this certification in all Kia Class Vehicles manufactured in South Korea. For these Kia Class Vehicles, the certification expressly identified Kia Korea as the certifying manufacturer, as demonstrated by the below picture of a certification from a Kia Class Vehicle made in South Korea.



b. Upon information and belief, Kia Korea also directly approved the placement of this same certification in Kia Class Vehicles manufactured in the United States, including by Kia Georgia, Inc., its U.S. manufacturing plant located in West Point, Georgia. Although Kia Georgia, Inc.'s name would have likely appeared on certifications placed on Kia Class Vehicles made there, Kia Georgia, Inc. has no discretion as to the design of the Kia Class Vehicles. Instead, Kia Korea required Kia Georgia,

Inc. and all its subsidiaries to manufacture Kia models strictly in accordance with Kia Korea's design.

c. Hyundai Korea placed this certification in Hyundai Class Vehicles manufactured in South Korea. For these Hyundai Class Vehicles, the certification expressly identified Hyundai Korea as the certifying manufacturer.

d. Upon information and belief, Hyundai Korea also directly approved the placement of this same certification in Hyundai Class Vehicles manufactured in the United States by Hyundai Motor Manufacturing Alabama Inc., its U.S. manufacturing plant located in Montgomery, Alabama. Although Hyundai Motor Manufacturing Alabama Inc.'s name would have likely appeared on certifications placed on Hyundai Class Vehicles made there, Hyundai Motor Manufacturing Alabama Inc. has no discretion as to the design of the Hyundai Class Vehicles. Instead, Hyundai Korea required Hyundai Motor Manufacturing Alabama Inc. and all its subsidiaries to manufacture Hyundai models strictly in accordance with Hyundai Korea's design.

e. FCA placed this certification in FCA Class Vehicles manufactured in the United States after June 10, 2009.[46] For Class Vehicles manufactured on or after April 1, 2014, the certification label would identify "FCA US LLC." For Class Vehicles manufactured between June 10, 2009 and March 31, 2014, the certification label would identify "Chrysler Group LLC." This is FCA's old name for the same corporate entity.

[46] For Class Vehicles manufactured prior to June 10, 2009, FCA's bankrupt predecessor Chrysler LLC, was responsible for the certification label.

f. Upon information and belief, FCA also directly approved the placement of this same certification in FCA Class Vehicles manufactured in Mexico by FCA Mexico on or after June 1, 2009.[47] Although FCA Mexico would have likely appeared on certifications placed on FCA Class Vehicles made there, FCA Mexico has no discretion as to the design of the FCA Class Vehicles. Instead, FCA required FCA Mexico to manufacture FCA models strictly in accordance with FCA's design.

g. Toyota Japan placed this certification in Toyota Class Vehicles manufactured in Japan. For these Toyota Class Vehicles, the certification expressly identified Toyota Japan as the certifying manufacturer.

h. Upon information and belief, Toyota Japan also directly approved the placement of this same certification in Toyota Class Vehicles manufactured in the United States by production plants, including in Indiana by Toyota Motor Manufacturing Indiana, Inc.; Kentucky by Toyota Motor Manufacturing Kentucky, Inc.; Texas by Toyota Motor Manufacturing Texas, Inc.; and Mississippi by Toyota Motor Manufacturing Mississippi, Inc., and in Toyota Class Vehicles manufactured in Mexico by Toyota Motor Manufacturing de Baja California, and in Canada by Toyota Motor Manufacturing Canada, Inc. Although the name of the manufacturing subsidiary would have likely appeared on certifications placed on Toyota Class Vehicles, none of these Toyota subsidiaries have any discretion as to the design of the Toyota Class Vehicles. Instead, Toyota

[47] For Class Vehicles manufactured prior to June 10, 2009, FCA's bankrupt predecessor Chrysler LLC, was responsible for the certification label.

Japan required its manufacturing subsidiaries to manufacture Toyota models strictly in accordance with Toyota Japan's design.

i. Honda Japan placed this certification in Honda Class Vehicles manufactured in Japan. For these Honda Class Vehicles, the certification expressly identified Honda Japan as the certifying manufacturer. Honda Engineering USA placed this certification in Honda Class Vehicles manufactured in Ohio. For these Honda Class Vehicles, the certification expressly identified Honda Engineering USA as the certifying manufacturer.

j. Upon information and belief, Honda Japan also directly approved the placement of this same certification in Honda Class Vehicles manufactured in the United States, by its manufacturing entities, including in Alabama by Honda Manufacturing of Alabama, Indiana by Honda Manufacturing of Indiana, LLC, and in Canada, by Honda of Canada Mfg. Although the name of the manufacturing subsidiary would have likely appeared on certifications placed on Honda Class Vehicles, none of these Honda subsidiaries have any discretion as to the design of the Honda Class Vehicles. Instead, Honda Japan required its manufacturing subsidiaries to manufacture Honda models strictly in accordance with Honda Japan's design.

k. Upon information and belief, Mitsubishi Japan placed this certification in Mitsubishi Class Vehicles manufactured in Japan. For all Mitsubishi Class Vehicles, the certification identified Mitsubishi Japan as the certifying company.

1147. Upon information and belief, all major participants in the automotive industry know that automobile manufacturers include certifications of compliance

with federal safety standards in every vehicle sold or leased in the United States, because the inclusion of such certifications is standard practice in the industry.

a. As sophisticated and well-funded corporate entities whose primary activities focused on the sale and/or manufacture of vehicles in the U.S., Mitsubishi USA, Toyota USA, Toyota Sales USA, Hyundai USA, Kia USA, Honda USA, and Honda Engineering USA each knew that their parent companies placed permanent labels certifying conformance to safety standards on many Class Vehicles, and approved their manufacturing subsidiaries' placement of similar certifications on the remaining Honda, Toyota, Kia, Hyundai, and Mitsubishi Class Vehicles.

b. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the U.S. automotive industry, Hyundai Mobis Co., Ltd., ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were each specifically aware that the Vehicle Manufacturer Defendants placed permanent labels with assurances about conformance to safety standards on every Class Vehicle.

1148. These certification labels on the Class Vehicles were misleading because they indicated to any reasonable consumer that the Occupant Restraint System would perform its intended function during a crash and did not suffer from a defect. *See* 49 C.F.R. § 571.208 (S4.1.5.4, S4.1.5.5) (Federal motor vehicle safety standards requiring Occupant Restraint Systems with airbags and seatbelts). This was not true because of the defective DS84 ACUs and ASICs and the risk of EOS during a crash.

c. With their co-conspirators' knowledge, Mitsubishi Japan, Hyundai Korea, Kia Korea, Toyota Japan, Honda Japan, Honda Engineering USA, and FCA installed airbag readiness indicators that misled vehicle occupants about the actual readiness of the safety systems in the Class Vehicles.

1149. The Class Vehicles contain "readiness indicator[s]" meant to provide vehicle drivers and occupants with important notice of the airbag system's current operating condition. They are often referred to as an "airbag warning lamp." The lamp is supposed to "monitor [the occupant protection system's] own readiness." 49 C.F.R. § 571.208 (S4.5.2). Indeed, as NHTSA has expressly recognized, real-time monitoring and indication of readiness for the "electrical circuitry" responsible for airbag deployment is necessary because they are some of the "most critical elements" to ensure proper function of the passenger safety system. *See* 35 Fed. Reg. 16928 (1970).

1150. Upon vehicle ignition, the ACU is supposed to conduct a self-check of the airbag system's electrical components for malfunctions. During this self-check, the readiness indicator will momentarily blink on and then off to indicate normal operation of the system. Conversely, if there is a problem with the system, the lamp will remain illuminated. An illuminated readiness indicator is designed to inform the driver and vehicle occupants of a problem that may interfere with the intended performance of airbags. Accordingly, when not illuminated, the vehicle's readiness indicator communicates that the airbags are ready to deploy during a crash.

1151. Typically, the icon used for this light resembles a driver wearing a seatbelt, being hit with an airbag.

1152. The Vehicle Manufacturers Defendants worked jointly with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to design and include the readiness indicators in the Class Vehicles. Specifically, the entities responsible for vehicle design—Mitsubishi Japan, Hyundai Korea, Kia Korea, Toyota Japan, Honda Japan, and FCA—worked with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA to develop, test, and implement the readiness indicator systems in the Class Vehicles, including setting the inputs that will cause it to illuminate to warn vehicle occupants of a malfunction. Honda Engineering USA, for its part, installed the readiness indicator in the vehicles it manufactured in the United States.

1153. As each of these Defendants knew, the readiness indicator is, by its very nature, designed to *communicate* with vehicle occupants about the safety and operating status of the airbag system. Further illustrating that purpose, the indicator is required to be placed in a position that is "*clearly visible* from the driver's designated seating position" in order to communicate a problem with the system without impediment. 49 C.F.R. § 571.208 (S4.5.2) (emphasis added).

1154. The Vehicle Manufacturer Defendants manufactured and shipped each Class Vehicle with a readiness indicator that falsely assured Plaintiffs and Class Members that the Occupant Restraint System would function properly in a crash. Because of the defective DS84 ACUs and ASICs in all Class Vehicles, the safety systems in Class Vehicles are not ready to operate in all crashes where they should.

Accordingly, the airbag warning lamp should have illuminated at or prior to the point of sale or lease.

1155. Upon information and belief, all major participants in the automotive industry know that all vehicles sold or leased in the U.S. will have readiness indicators, because the inclusion of readiness indicators is standard practice in the U.S. market.

a. As sophisticated and well-funded corporate entities that exclusively participate in the North American automobile industry, Mitsubishi USA, Toyota USA, Toyota Sales USA, Hyundai USA, Kia USA, Honda USA, and Honda Engineering USA were each specifically aware that the Class Vehicles were manufactured with readiness indicators to communicate the "readiness" of the passenger safety system to vehicle occupants as described above.

b. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the automotive industry, ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were each specifically aware that the Vehicle Manufacturer Defendants placed readiness indicators that would assure functioning safety systems to vehicle occupants in each Class Vehicle. Indeed, as alleged above, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA, worked directly on the feature with the Vehicle Manufacturers.

d. With their co-conspirators' knowledge, Honda Japan, Honda Engineering USA, Hyundai Korea, Kia Korea, FCA, Toyota Japan, and Mitsubishi Japan equipped the Class Vehicles with misleading in-vehicle labeling.

1156. The interiors of the Class Vehicles also contain prominent labels that alert the driver and passengers to the vehicle's airbag system. For example, steering wheels and passenger dashboards typically have imprinted labels identifying the airbag and safety restraint system (or "SRS"). They usually look like the below labels from the 2015 Mitsubishi Lancer:

1157. Further, the Class Vehicles each had a label permanently affixed to the sun visor in the vehicles, which depicted a deployed airbag and a prominent yellow header stating "WARNING." These sun visor labels provide information about

where the airbags are located in the vehicle, and about the dangers of placing young children in the front seats due to the risks of airbag deployment for small occupants.

1158. These in-vehicle labels that communicate the inclusion and placement of airbags in the vehicles are misleading because consumers reasonably understand what an airbag is and why it is installed in vehicle. By definition, an airbag system has only one purpose: to deploy to protect vehicle occupants during a crash. By informing consumers with these imprints and labels that the vehicle has an airbag system, these labels misled consumers to believe that the Class Vehicles had *working and safe* airbag systems instead of defective ones that sometimes fail, including during severe frontal collisions.

1159. Finally, as the manufacturers, Honda Japan, Honda Engineering USA, Hyundai Korea, Kia Korea, FCA, Mitsubishi Japan, and Toyota Japan were also specifically required to include in their Class Vehicles warning labels that alerted consumers of the need to perform airbag maintenance. For example, S4.5.1 of 49 C.F.R. § 571.208 states:

> Air bag maintenance or replacement information. If the vehicle manufacturer recommends periodic maintenance or replacement of an inflatable restraint system, as that term is defined in S4.1.5.1(b) of this standard, installed in a vehicle, that vehicle shall be labeled with the recommended schedule for maintenance or replacement. The schedule shall be specified by month and year, or in terms of vehicle mileage, or by intervals measured from the date appearing on the vehicle certification label provided pursuant to 49 CFR Part 567. The label shall be permanently affixed to the vehicle within the passenger compartment and lettered in English in block capital and numerals not less than three thirty-seconds of an inch high. This label may be combined with the label required by S4.5.1(b) of this standard to appear on the sun visor. If some regular maintenance or replacement of the inflatable restraint system(s) in a vehicle is recommended by the vehicle manufacturer, the owner's manual shall also set forth the recommended schedule for maintenance or replacement.

1160. The airbag maintenance labels included in Class Vehicles were misleading because all Class Vehicles required maintenance and repair of the DS84 ACU at the point of sale or lease, due to the existence of a defect. None of the labels accurately described that immediate maintenance or repair was necessary.

1161. As designers and manufacturers of Class Vehicles, Honda Japan, Hyundai Korea, Kia Korea, FCA, Mitsubishi Japan, and Toyota Japan placed or directed the placement of these labels in the Class Vehicles that notified Plaintiffs and Class members about the airbag systems in their Class Vehicles.

a. Kia Korea placed these labels on all Kia Class Vehicles manufactured in South Korea. For Kia Class Vehicles made by Kia Georgia in the United States, Kia Korea authored the vehicle designs that required the inclusion of these labels. Kia Georgia had no discretion or input as to the placement of the labels or the design of the vehicle safety systems.

b. Hyundai Korea placed these labels on all Hyundai Class Vehicles manufactured in South Korea. For Hyundai Class Vehicles made by Hyundai Motor Manufacturing Alabama Inc. in the United States, Hyundai Korea authored the vehicle designs that required inclusion of these labels. Hyundai Motor Manufacturing Alabama Inc. had no discretion or input as to the placement of the labels or the design of the vehicle safety systems.

c. FCA placed these labels on all FCA Class Vehicles manufactured in the United States on or after June 10, 2009. For FCA Class Vehicles made by FCA Mexico on or after June 10, 2009, FCA authored the vehicle designs that required inclusion of these labels. FCA Mexico had no discretion or input as to the

placement of the labels or the design of the vehicle safety systems.[48]

d. Toyota Japan placed these labels in Toyota Class Vehicles manufactured in Japan. For Toyota Class Vehicles manufactured in the North America, Toyota subsidiaries[49] added the labels but Toyota Japan authored the designs that required inclusion of them. None of these Toyota subsidiaries had any discretion or input ass to the placement of the labels or the design of the vehicle safety systems.

e. Honda Japan placed these labels in Honda Class Vehicles manufactured in Japan. Honda Engineering USA placed these labels in Honda Class Vehicles it manufactured in Ohio. For other Honda Class Vehicles manufactured in the North America, Honda subsidiaries[50] added the labels but Honda Japan authored the designs that required inclusion of them. None of these Honda subsidiaries had any discretion or input ass to the placement of the labels or the design of the vehicle safety systems.

f. Mitsubishi Japan placed these labels in all Mitsubishi Class Vehicles.

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[48] FCA's bankrupt predecessor Chrysler LLC was responsible for labels on Class Vehicles made prior to June 10, 2009.

[49] The Toyota manufacturing subsidiaries include Toyota Motor Manufacturing Indiana, Inc.; Toyota Motor Manufacturing Kentucky, Inc.; Toyota Motor Manufacturing Texas, Inc.; Toyota Motor Manufacturing Mississippi, Inc.; Toyota Motor Manufacturing de Baja California; and Toyota Motor Manufacturing Canada, Inc.

[50] The Honda manufacturing subsidiaries include Honda Manufacturing of Alabama, Honda of America Mfg. Inc., Honda Manufacturing of Indiana, LLC, and Honda of Canada Mfg.

1162. Upon information and belief, all major participants in the automotive industry know that automobile manufacturers include certifications of compliance with federal safety standards in every vehicle sold or leased in the United States. The inclusion of permanent labels identifying the location of airbags in vehicles sold in the United States is a basic fact known to every major participant automotive industry.

a. As sophisticated and well-funded corporate entities that exclusively participate in the North American automobile industry, Mitsubishi USA, Toyota USA, Toyota Sales USA, Hyundai USA, Kia USA, Honda USA, and Honda Engineering USA were each specifically aware that their parent companies placed permanent labels identifying the location of airbags in every Class Vehicle.

b. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the automotive industry, ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were each specifically aware that the Vehicle Manufacturer Defendants placed permanent labels identifying the location of airbags in every Class Vehicle.

2. Each of the Vehicle Manufacturer Defendants also made false and misleading statements about the Class Vehicles' safety in their consumer-facing marketing.

1163. The Vehicle Manufacturer Defendants also touted the Class Vehicles as safe in national advertising directed at consumers through multiple marketing channels. This advertising uniformly indicated to any reasonable consumer that the Class Vehicles were safe and had airbags and seatbelts that would function properly and reliably in a crash. These representations about the Class Vehicles were false

and misleading because of the DS84 ACU Defect in the Class Vehicles and the risks of EOS and airbag and seatbelt failure due to that defect.

1164. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the automotive industry, ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were each aware that the Vehicle Manufacturer Defendants advertised the safety of the Class Vehicles to consumers.

1165. Indeed, on February 3, 2004, ZF TRW Corp. filed a prospectus for the sale of common stock with the SEC. This prospectus confirmed ZF TRW Corp.'s specific awareness of consumer reliance on statements by vehicle manufacturers about the safety of vehicles. Specifically, the prospectus stated:

a. "85 percent of recent auto purchasers stated that they look for vehicle safety information before making their final decision – up from 68 percent in 1999."

b. "More than half of recent purchasers looked for information about the safety features of prospective vehicles such as air bags or anti-lock brakes. Nearly one in five respondents sought crash test results."

c. "Based on a recent TRW Automotive-sponsored survey, 74 percent of respondents indicated that vehicle safety features and options are more important to them today than 5 years ago."

1166. Similarly, in a presentation copyright to ZF Automotive USA and dated 2008, ZF Automotive USA observed that "Safety is important to . . . consumers," that "J.D. Power lists safety as the most desired aspect of vehicle features," and that "consumers regularly look for vehicle safety information before making their purchase decision." As such, "safety products and features help differentiate vehicles" and "advertising and marketing heavily focus[] on safety."

Likewise, in a presentation copyright to TRW Automotive in 2012, TRW repeated these same observations from the 2008 presentation, and added that "NCAP/IIHS safety ratings" are 'Important factors in studies on buying behavior." As with the prospectus, these presentations affirm ZF Automotive USA's focus and understanding of the importance of vehicle safety to consumers.

a. Brochures and marketing for the Class Vehicles misrepresented the vehicles as safe with reliable airbags and seatbelts.

1167. The Vehicle Manufacturer Defendants communicated information about the Class Vehicles directly to consumers in brochures. These vehicle brochures were made available to consumers through authorized dealerships, online, and through the mail. In general, brochures for the Class Vehicles were replete with representations about airbags, seatbelts, and passenger safety systems, as well as general representations that the Class Vehicles were safe. All of these representations were false and misleading for the reasons explained herein.

1168. As sophisticated and well-resourced members of the automotive industry, all of the Defendants were aware of the ubiquitous practice of printing and distributing vehicle brochures, and that vehicle safety and safety systems would feature prominently therein.

i. Brochures and marketing for the Toyota Class Vehicles.

1169. Toyota Sales USA authored and then distributed misleading brochures and other marketing for the Toyota Class Vehicles via mail and wire.

1170. As a sophisticated and well-resourced member of the automotive industry, Toyota Japan was aware that vehicle safety, including airbags, is an important feature for consumers, and that its subsidiary conducted consumer marketing that reassured consumers about the safety of the Toyota Class Vehicles.

1171. Toyota Sales USA distributed the brochures to Toyota dealerships throughout the United States, and also made them available to consumers online and through the mail. The brochures misrepresented the safety of the Class Vehicles, including as to the functionality, reliability, and performance of their airbags and seatbelts.

1172. In a brochure from the 2012 Toyota Avalon, Toyota Sales USA specifically noted the vehicle's "Seven Airbags… Avalon's advanced Supplemental Restraint System (SRS) is a marvel of safety technology. Employing sophisticated sensors, the system includes seven airbags: driver and front passenger airbags, front and rear side curtain airbags, front seat-mounted side airbags for the driver and front passenger, and a driver knee airbag." These statements were false and/or misleading because they assured consumers that the Avalon had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Avalon was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1173. In a brochure for the 2013 Sequoia, Toyota Sales USA highlighted the "Comprehensive airbag system that senses impact severity, adjusting airbag deployment accordingly." These statements were false and/or misleading because they assured consumers that the Sequoia had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sequoia was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1174. In the brochure for the 2011 Toyota Corolla Matrix, Toyota Sales USA described the "Advanced Airbag System –Standard on every Matrix, the system senses impact severity in certain types of frontal collisions and adjusts airbag deployment accordingly." These statements were false and/or misleading because they assured consumers that the Matrix had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Matrix was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1175. A brochure from Toyota Sales USA for the 2012 Toyota Tacoma boasted of the "Comprehensive Airbag System – Should trouble prove unavoidable, Tacoma provides a comprehensive airbag system that includes driver and front passenger airbags with the Advanced Airbag System, driver and front passenger seat-mounted side airbags and front and rear side curtain airbags." These statements were false and/or misleading because they assured consumers that the Tacoma had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Tacoma was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1176. In a brochure for the 2012 Toyota Tundra, Toyota Sales USA said "There's Only One Way To Work: Safety First – You don't take chances on the job site, and you don't have to take chances on the way there either. In four crash tests conducted by the Insurance Institute for Highway Safety (IIHS) — front, side, rear and roof strength — Tundra Double Cab earned the top rating. In fact, Tundra was the first full-size pickup truck ever named a Top Safety Pick by the IIHS. And no

wonder: Tundra comes equipped with driver and front outboard passenger airbags, side curtain and front seat-mounted side airbags, and driver and front outboard passenger knee airbags." These statements were false and/or misleading because they assured consumers that the Tundra had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Tundra was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1177. In addition to the brochures, similarly misleading marketing for the Toyota Class Vehicles was distributed through the Toyota website (maintained by and copyrighted to Toyota Sales USA), and press releases, print media including magazines and newspapers, television and radio advertisements, and internet and social media. This advertising, the dates and authors of which are identified in the attached exhibit, likewise misrepresented the safety of the Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts. *See* Exhibit 8 (collecting exemplars).[51] This advertising was false and misleading

[51] For this and similar Complaint exhibits submitted for other Defendants, Plaintiffs note that courts commonly accept charts and compendia attached to pleadings with representative examples as sufficient to plead fraud with the requisite particularity under Fed. R. Civ. P. 9(b). *See, e.g., Bay City Surgery Ctr., Inc. v. ILWU-PMA Welfare Plan Bd. of Trustees*, No. CV 156209 MWF AFMX, 2018 WL 1942379, at *5 (C.D. Cal. Mar. 28, 2018) (describing conclusion that plaintiff "adequately stated its fraud claims based on representative examples of the types of fraud alleged"); *State Farm Mut. Ins. Co. v. Elite Health Centers Inc.*, 2017 WL 877396, at *7 (E.D. Mich. 2017) (finding that the complaint's allegations and exhibits, including a chart detailing the fraudulent services purportedly rendered, put the defendants on sufficient notice at the pleading stage); *State Farm Mut. Auto. Ins. Co. v. Lewin*, 535 F. Supp. 3d 1247, 1258 (M.D. Fla. 2021) ("the chart attached as an exhibit to the complaint lists the various allegedly fraudulent claims . . . [t]his is sufficient").

because it assured any reasonable consumer that the Toyota Class Vehicles' passenger safety systems would function properly and reliably, which was not true because the Toyota Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicles' airbags and seatbelts to fail.

1178. For example, in an October 2015 press release about the 2016 Toyota Avalon Hybrid, Toyota Sales USA wrote "Safety In All Directions. The Avalon comes equipped with 10 standard airbags." These statements were false and/or misleading because they assured consumers that the Avalon had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Avalon was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1179. A September 26, 2014 press release about the 2016 Toyota Sequoia from Toyota Sales USA, described the Sequoia's safety features, stating, in part: "The 2015 Sequoia is equipped with a dual stage advanced front air bag system, seat-mounted side airbags for the driver and front passenger, roll-sensing side curtain airbags for all three seating rows, plus driver and front passenger knee airbags." These statements were false and/or misleading because they assured consumers that the Sequoia had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sequoia was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

ii. Brochures and marketing for the Hyundai and Kia Class Vehicles.

1180. Hyundai USA and Kia USA authored and then distributed misleading brochures and other marketing for the Hyundai and Kia Class Vehicles via mail and wire.

1181. As sophisticated and well-resourced members of the automotive industry, Kia Korea and Hyundai Korea were aware that vehicle safety, including airbags, is an important feature for consumers, and that their subsidiaries conducted consumer marketing that reassured consumers about the safety of the Hyundai-Kia Class Vehicles.

1182. Hyundai USA and Kia USA distributed the brochures to Hyundai and Kia dealerships throughout the United States, and also made them available to consumers online and through the mail. The brochures misrepresented the safety of the Hyundai-Kia Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts.

1183. For example, Hyundai USA stated that in a brochure for the 2012 Hyundai Sonata that "an intelligent airbag system deploys and inflates front airbags in relation to driver/passenger height, weight and impact speed." These statements were false and/or misleading because they assured consumers that the Sonata had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sonata was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1184. In the brochure for the 2014 Sonata, Hyundai USA stated the vehicles were equipped with a "6-airbag safety system with advanced dual front airbags and Occupant Classification System." These statements were false and/or misleading

because they assured consumers that the Sonata had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sonata was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1185. Hyundai USA's 2016 Sonata brochure stated that "Sonata's safety features not only include seven airbags, but technologies that help drivers avoid accidents in the first place." These statements were false and/or misleading because they assured consumers that the Sonata had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sonata was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1186. In the brochure for the 2012 Forte, which includes the Forte sedan, hatchback and the Forte Koup, Kia USA promised a "comprehensive list of advanced safety systems" that were "standard equipment in every Forte" including an "advanced system" that "monitors the severity of an impact, the presence of a front passenger and seat-belt use, and then controls airbag inflation accordingly." It further touted that "Forte's safety systems are designed to help minimize injury when a traffic accident is unavoidable," because, in addition to front seat seat-belt pretensioners, the "[d]ual front airbags, front-seat mounted side airbags and side curtain airbags for both front and rear seating positions are managed by an advanced sensor system." These statements were false and/or misleading because they assured consumers that the Kia Forte had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the

seatbelts and airbags during a collision. This was false because the Forte was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1187. As to the 2014 Kia Sedona, Kia USA assured consumers "Six airbags placed throughout the cabin are designed to help protect occupants in certain collisions. They include dual front advanced, dual front seat-mounted side, and full-length side-curtain airbags. The advanced front airbag system monitors the severity of a frontal impact, the presence of a front passenger and seat-belt use, and then controls airbag inflation accordingly." These statements were false and/or misleading because they assured consumers that the Kia Sedona had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Sedona was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1188. In a brochure for the 2015 Optima, Kia USA assured that its "advanced system monitors the severity of certain impacts, the presence of a front passenger and seat-belt use, and then controls airbag inflation accordingly." It further boasted that the Optima is equipped with "[a]n advanced airbag system helps protect driver and passenger with dual front, front seat-mounted side, and full-length side curtain airbags." These statements were false and/or misleading because they assured consumers that the Kia Optima had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Optima was equipped with a defective DS84 ACU and ASIC, both of which had a

defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1189. In the brochure for the 2012 Optima and Optima Hybrid, Kia USA lauded its "Advanced Safety Systems – All Optimas have a long list of standard safety features, including . . . Dual front airbags, front-seat-mounted side airbags and side curtain airbags are managed by an advanced sensor system," and specifically pointed out the "Airbag & Seat-Belt Sensors – This advanced system monitors the severity of an impact, the presence of a front passenger and seat-belt use, and then controls airbag inflation accordingly." These statements were false and/or misleading because they assured consumers that both the Kia Optima and the Optima Hybrid had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Optima and Optima Hybrid were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicles' airbags and seatbelts to fail.

1190. In addition to the brochures, similarly misleading marketing for the Hyundai-Kia Class Vehicles was distributed through the Hyundai and Kia websites, maintained by, and copyrighted to Hyundai USA and Kia USA, press releases, print media including magazines and newspapers, television and radio advertisements, and internet and social media. This advertising, the dates, and authors of which are identified in the attached exhibit, likewise misrepresented the safety of the Hyundai-Kia Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts. *See* Exhibit 9 (collecting exemplars). This advertising was false and misleading because it assured any reasonable consumer that the Hyundai-Kia Class Vehicles' passenger safety systems would function properly and reliably, which was not true because of the defective DS84 ACU and ASIC in the Hyundai-Kia Class Vehicles.

iii. Brochures and marketing for the FCA Class Vehicles.

1191. FCA (formerly known as Chrysler Group LLC) authored and then distributed misleading brochures and other marketing for the FCA Class Vehicles via mail and wire.

1192. As a sophisticated and well-resourced member of the automotive industry, Stellantis was aware that vehicle safety, including airbags, is an important feature for consumers, and that their subsidiaries conducted consumer marketing that reassured consumers about the safety of the FCA Class Vehicles.

1193. FCA disseminated the brochures through FCA dealerships throughout the United States, and also made them available to consumers online and through the mail. The brochures misrepresented the safety of the FCA Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts.

1194. For example, in the brochure for the 2015 Jeep Compass, FCA states:

> **STANDARD SUPPLEMENTAL FRONT-SEAT MOUNTED SIDE AIR BAGS[8]**
>
> Each side air bag[8] has its own sensor to autonomously trigger the air bag[8] on the side where the impact occurs.
>
> **ADVANCED MULTISTAGE FRONT AND SIDE-CURTAIN AIR BAGS[8]**
>
> These air bags[8] provide nearly instantaneous occupant protection by matching air bag[8] output to crash severity.

The brochure also includes this image of the airbags deploying to suggest that they will work during a crash. These statements were false and/or misleading because they assured consumers that the 2015 Jeep Compass had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the

2015 Jeep Compass was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

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1195. FCA's brochure for the 2016 Jeep Compass similarly states:

> Peace of mind will take you far – Supplemental front-seat-mounted side air bags: Each side has its own sensor to autonomously trigger the air bags on the side where the impact occurs. Standard on all models.
>
> Advanced multistage front and side-curtain air bags: Provide nearly instantaneous occupant protection by matching air bag output to crash severity. Standard on all models.
>
> Advanced multistage driver and front passenger air bags.

These statements were false and/or misleading because they assured consumers that the 2016 Jeep Compass had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the 2016 Jeep Compass was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1196. FCA's brochure for the 2012 Jeep Patriot similarly states:

> Advanced multi stage front and side curtain air bags. These air bags provide nearly instantaneous occupant protection by matching air bag output to crash severity. Standard.
>
> Standard advanced multistage front and side-curtain air bags and available supplemental side air bags help protect your most important cargo. These systems all work together to help keep you moving safely forward in all types of weather.

These statements were false and/or misleading because they assured consumers that the 2012 Jeep Patriot had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the 2012 Jeep Patriot was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the FCA Class Vehicle's airbags and seatbelts to fail.

1197. In a brochure for the 2016 Jeep Wrangler, FCA touted "ADVANCED MULTISTAGE FRONT AIR BAGS: Provide nearly instantaneous occupant protection by matching air bag output to crash severity. Standard." The brochure continued by noting that each trim level came equipped with "[a]dvanced multistage driver and front-passenger air bags." These statements were false and/or misleading because they assured consumers that the 2016 Jeep Wrangler had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the 2016 Jeep Wrangler was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1198. In a brochure for the 2012 Jeep Liberty, FCA boasted: "HEAD OUT WITH CONFIDENCE, KNOWING LIBERTY'S ROBUST SET OF SAFETY AND SECURITY SYSTEMS CAN GIVE YOU AND YOUR PASSENGERS PEACE OF MIND ON THE ROAD AND ON THE TRAIL." The brochure continued by touting the vehicle's "AIR BAG SYSTEMS" and explained in detail that "[y]ou and your passengers gain all-around security with Liberty's side-curtain and advanced multistage driver and front-passenger air bags. Supplemental side-curtain air bags with roll-sensing technology add to the safety of outboard occupants." These statements were false and/or misleading because they assured consumers that the 2012 Jeep Liberty had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the 2012 Jeep Liberty was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1199. In addition to the brochures, FCA distributed similarly misleading marketing for the FCA Class Vehicles through the FCA website, maintained by and copyrighted to FCA, press releases, print media including magazines and newspapers, television and radio advertisements, and internet and social media. This advertising, the dates, and authors of which are identified in the attached exhibit, likewise misrepresented the safety of the Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts. *See* Exhibit 10 collecting exemplars). This advertising was false and misleading because it assured any reasonable consumer that the FCA Class Vehicles' passenger safety systems would function properly and reliably, which was not true because of the defective DS84 ACU and ASIC in the FCA Class Vehicles.

iv. Brochures and marketing for the Honda Class Vehicles.

1200. Honda USA authored and then distributed misleading brochures and other marketing for the Honda Class Vehicles via mail and wire.

1201. As a sophisticated and well-resourced member of the automotive industry, Honda Japan was aware that vehicle safety, including airbags, is an important feature for consumers, and that their subsidiaries conducted consumer marketing that reassured consumers about the safety of the Honda Class Vehicles.

1202. Honda USA disseminated the brochures through Honda dealerships throughout the United States, and also made them available to consumers online and through the mail. The brochures misrepresented the safety of the Honda Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts.

1203. In a brochure for the 2014 Honda CR-V, Honda USA, Inc., boasted that "Airbags Abound" as "The CR-V is equipped with dual -stage, multiple - threshold front airbags, side - curtain airbags with rollover sensor, and front side airbags with passenger-side Occupant Position Detection System (OPDS). And they

all come standard." In that same brochure, it continued, "[w]herever you're headed in your CR-V, nothing's more important than arriving there safely. That's why safety features come standard, ***no exceptions***. And we're proud to say the CR-V achieved a 5-Star Overall Vehicle Score from the National Highway Traffic Safety Administration (NHTSA). So when you're out there chasing down everything you always wanted to do, know you've got Honda's unwavering commitment to safety around you." (emphasis added). These statements were false and misleading because they assured consumers that the CR-V had functioning and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the CR-V was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1204. In a brochure for the 2015 Accord, Honda USA, similarly expressed that it was "Always thinking about safety –Because, of all the things you need the Accord to do, nothing's more important than getting you where you need to go safely." As the brochure continued, the 2015 Accord came equipped with dual-stage, multiple-threshold front airbags (SRS), Smartvent Side airbags, and side curtain airbags with rollover sensor, to provide protection in the event of a crash. These statements were false and misleading because they suggested to any reasonable consumer that the passenger safety systems and airbags would function properly, which was not true because of the defect and the risks of airbag and seatbelt failures that occur due to EOS.

1205. In a vehicle brochure for the 2018 Acura RLX, Honda USA, touted the vehicle's safety as follows: "Never compromise safety. We always put safety first, so when it comes to helping to protect our passengers, we ask ourselves one simple question: 'Is it safe enough for our own families to ride in?' It's our greatest goal to one day drive in a zero-collision society, and the RLX was designed and engineered

with that goal in mind. For us, safety is personal." In the same brochure, Honda noted the "Advanced Front Airbags" system. These statements were false and misleading because they suggested to any reasonable consumer that the airbags would function properly, which was not true because of the defect and the risks of airbag and seatbelt failures that occur due to EOS. Honda repeated these same statements in the brochure for the 2019 Acura RLX.

1206. In a brochure for the 2013 Honda Civic (and Civic Hybrid), Honda USA, stated that "[w]ith its impressive array of standard safety features, every Civic is designed to help protect you and your passengers, no matter what model or trim." In that same brochure, Honda noted "SIX AIRBAGS—Every 2013 Civic features front, front side and side curtain airbags with a rollover sensor." The brochure continued that the 2013 Civic (and Civic Hybrid) came equipped with an "AUTOMATIC TENSIONING SYSTEM—The front seat belts are equipped with an automatic tensioning system that is designed to tighten the seat belts in a moderate-to-severe frontal impact." These statements were false and misleading because they suggested to any reasonable consumer that the Civic (and Civic Hybrid) had working and reliable airbags and seat belts that would perform their intended function during a collision. This was false because the Civic (and Civic Hybrid) was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1207. In a brochure for the 2015 Honda Civic (and Civic Hybrid), Honda USA, boasted "Your safety is our priority. When it comes to safety, we never stop improving. The Civic earned the highest possible score of "Good" across all five safety tests from the Insurance Institute for Highway Safety (IIHS), making it a 2015 TOP SAFETY PICK" In that same brochure, Honda noted "Six Airbags – Every 2015 Civic features front, front side and side curtain airbags with a rollover sensor. Side airbags include SmartVent® technology, which is designed to vent the

airbag if it encounters an out-of-position occupant." These statements were false and misleading because they suggested to any reasonable consumer that the 2015 Civic (and Civic Hybrid) had working and reliable airbags that would perform their intended function during a collision. This was false because the 2015 Civic (and Civic Hybrid) was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags to fail.

1208. In addition to the brochures, similarly misleading marketing for the Honda Class Vehicles was distributed through the Honda website, maintained by, and copyrighted to Honda USA, press releases, print media including magazines and newspapers, television and radio advertisements, and internet and social media. This advertising, the dates, and authors of which are identified in the attached exhibit, likewise misrepresents the safety of the Honda Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts. *See* Exhibit 11 (collecting exemplars). This advertising was false and misleading because it assured any reasonable consumer that the Honda Class Vehicles' passenger safety systems would function properly and reliably, which was not true because of the defective DS84 ACU and ASIC in the Honda Class Vehicles.

v. Brochures and marketing for the Mitsubishi Class Vehicles.

1209. Mitsubishi USA authored and then distributed misleading brochures and other marketing for the Mitsubishi Class Vehicles via mail and wire.

1210. As a sophisticated and well-resourced member of the automotive industry, Mitsubishi Japan was aware that vehicle safety, including airbags, is an important feature for consumers, and that its subsidiary conducted consumer marketing that reassured consumers about the safety of the Mitsubishi Class Vehicles.

1211. Mitsubishi USA disseminated the brochures through Mitsubishi dealerships throughout the United States, and also made them available to consumers online and through the mail. The brochures misrepresented the safety of the Mitsubishi Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts.

1212. In a brochure for the 2014 Mitsubishi Lancer, Mitsubishi USA touted the vehicle's "Seven-Airbag Safety" and explained in detail that "Lancer's Supplemental Restraint System (SRS) consists of seven airbags, including a dual-stage front, a front-seat side, and side impact curtain airbags. Lancer also features a standard driver-side knee airbag, which helps stabilize the driver's legs and lower body in the event of a collision." These statements were false and/or misleading because they assured consumers that the Lancer had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Lancer was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1213. In a brochure for the 2013 Mitsubishi Outlander, Mitsubishi USA touted the vehicle's "Dual Advanced Front Airbags—Dual advanced front airbags with seat position and occupant sensors help protect the driver and front passenger by sensing the severity of the impact, the position of the driver's seat and the weight of the front passenger's seat to provide the appropriate level of front airbag deployment. In the event of a crash in which the passenger seat is unoccupied, the passenger airbag will not deploy." This statement was false and/or misleading because it assured consumers that the Outlander had working and reliable airbags, and therefore would have suggested to any reasonable consumer that the vehicle's airbags would perform their intended function of activating during a collision. This was false because the 2013 Outlander was equipped with a defective DS84 ACU

and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags to fail.

1214. In a brochure for the 2013 Mitsubishi Lancer, Mitsubishi USA touted the vehicle's "Seven-Airbag Safety" and explained in detail that "Lancer's Supplemental Restraint System consists of seven airbags, including a dual-stage front, a front-seat side, and side-impact curtain airbags. Lancer also features a standard driver's-side knee airbag. In an accident, it helps cushion the blow and stabilizes the legs and lower body of the driver." These statements were false and/or misleading because they assured consumers that the Lancer had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Lancer was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1215. In a brochure for the 2015 Mitsubishi Lancer, Mitsubishi USA touted the vehicle's "Seven-Airbag Safety" and explained in detail that "Lancer's Supplemental Restraint System (SRS) consists of seven airbags, including a dual-stage front, a front-seat side, and side curtain airbags. Lancer also features a standard driver-side knee airbag, which helps stabilize the legs and lower body of the driver in the event of a collision." These statements were false and/or misleading because they assured consumers that the Lancer had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Lancer was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1216. In a brochure for the 2016 Mitsubishi Lancer, Mitsubishi USA touted the vehicle's "Seven-Airbag Safety" and explained in detail that "Lancer's Supplemental Restraint System (SRS) consists of seven airbags, including a dual-stage front, a front-seat side, and side curtain airbags. Lancer also features a standard driver-side knee airbag, which helps stabilize the legs and lower body of the driver in the event of a collision." These statements were false and/or misleading because they assured consumers that the Lancer had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Lancer was equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail.

1217. In addition to the brochures, Mitsubishi USA provided consumers with similarly misleading marketing for the Mitsubishi Class Vehicles through the Mitsubishi website, maintained by and copyrighted to Mitsubishi USA, press releases, print media including magazines and newspapers, television and radio advertisements, and internet and social media. This advertising, the dates, and authors of which are identified in the attached exhibit, likewise misrepresented the safety of the Mitsubishi Class Vehicles, including as to the functionality, reliability, and performance of airbags and seatbelts. *See* Exhibit 12 (collecting exemplars). This advertising was false and misleading because it assured any reasonable consumer that the Mitsubishi Class Vehicles' passenger safety systems would function properly and reliably, which was not true because of the defective DS84 ACU and ASIC in the Mitsubishi Class Vehicles.

b. Manuals for the Class Vehicles present detailed information on the passenger safety systems that misled consumers to think the vehicles were safe.

1218. The Vehicle Manufacturer Defendants also distributed owners' manuals for each of the Class Vehicles. These manuals contain affirmative statements about ACUs, airbags, and seatbelts and their intended functions during a crash. These statements are misleading or untrue in light of the defective DS84 ACUs and ASICs in the Class Vehicles.

1219. As sophisticated and well-funded corporate entities that generate billions of dollars in annual revenue from work in the automotive industry, ST USA, ST Italy, ST Malaysia, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany were aware the Vehicle Manufacturer Defendants distributed the Class Vehicles with manuals containing information about the vehicles' passenger safety systems.

i. Toyota Manuals.

1220. Toyota Japan and Toyota Sales USA authored and then distributed numerous manuals for the Toyota Class Vehicles via mail and wire. These manuals for the Toyota Class Vehicles are available on Toyota's website, for which Toyota Sales USA is responsible and holds the copyright. The versions of the manuals on Toyota Sales USA website do not themselves list copyright information, which is typically placed on the inside cover page of the physical manuals. Other publicly available manuals include these pages and identify Toyota Japan as the copyright holder. As such, Plaintiffs allege on information and belief that both Toyota Sales USA, which makes the manuals available to consumers on its website, and Toyota Japan, the copyright holder for the manuals, are responsible for the content and approval of the manuals. In addition, given their role in the distribution, marketing, and sale of the Class Vehicles, Toyota Sales USA and Toyota USA knew that

Toyota Japan's manuals included information about the passenger safety systems and airbags in Toyota Class Vehicles.

1221. These manuals contain affirmatively misleading statements that assured consumers that the Toyota Class Vehicles had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Toyota Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail. Manuals for the Toyota Class Vehicles are available on Toyota's website, for which Toyota Sales USA is responsible and holds the copyright. They are also typically included in the Toyota Class Vehicles at the time of sale or lease. A chart summarizing misleading statements in manuals for the Toyota Class Vehicles is attached hereto at Exhibit 13. Each of the statements in the attached chart is misleading for the same reasons stated immediately above.

1222. In the manual for the 2012 Toyota Avalon, Toyota Japan and Toyota Sales USA explained: "Your vehicle is equipped with "ADVANCED AIRBAGS" designed based on US motor vehicle safety standards (FMVSS208). The airbag system controls airbag deployment power for the driver and front passenger . . . In certain types of severe frontal or side impacts, the SRS airbag system triggers the airbag inflators. A chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the motion of the occupants." It further stated "The SRS airbags inflate when the vehicle is subjected to certain types of severe impacts that may cause significant injury to the occupants. They work together with the seat belts to help reduce the risk of death or serious injury," and "Driver airbag/front passenger airbag can help protect the head and chest of the driver and front passenger from impact with interior components." These statements were false and

misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Toyota Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1223. Toyota Japan and Toyota Sales USA described in the manual for the 2011 Toyota that "The SRS airbag system is controlled by the airbag sensor assembly. The airbag sensor assembly consists of a safing sensor and an airbag sensor. In certain types of severe frontal or side impacts, the SRS airbag system triggers the airbag inflators." The manual further added "The SRS front airbags will deploy in the event of an impact that exceeds the set threshold level (the level of force corresponding to an approximately 12 - 18 mph [20 - 30 km/h] frontal collision with a fixed wall that does not move or deform)." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Toyota Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1224. Toyota Japan and Toyota Sales USA stated in the 2012 Toyota Sequoia manual "Your vehicle is equipped with ADVANCED AIRBAGS designed based on US motor vehicle safety standards (FMVSS208). The airbag system controls airbag deployment power for the driver and front passenger." It explained that "The main SRS airbag system components are shown above. The SRS airbag system is controlled by the airbag sensor assembly. The airbag sensor assembly consists of a safing sensor and an airbag sensor. In certain types of severe frontal or side impacts, the SRS airbag system triggers the airbag inflators." (emphasis added). These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not

suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

ii. Hyundai and Kia Manuals.

1225. Hyundai USA and Kia USA also authored and then distributed via mail and wire numerous manuals for the Hyundai and Kia Class Vehicles. Given their role in the distribution, marketing, and sale of the Hyundai and Kia Class Vehicles, Hyundai Korea and Kia Korea knew that their subsidiaries' vehicle manuals included information about the passenger safety systems and airbags.

1226. These manuals contain affirmatively misleading statements that assured consumers that the Hyundai and Kia Class Vehicles had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Hyundai and Kia Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail. Manuals for the Hyundai and Kia Class Vehicles are available on Hyundai's and Kia's websites. They are also typically included in the Hyundai and Kia Class Vehicles at the time of sale. Charts summarizing misleading statements in manuals for the Hyundai and Kia Class Vehicles are attached hereto at Exhibits 14 and 15. Each of the statements in the attached chart is misleading for the same reasons stated immediately above.

1227. The manual for the 2012 Hyundai Sonata by Hyundai USA explained that "your vehicle is equipped with a Supplemental Restraint (Air Bag) System and lap/shoulder belts at both the driver and passenger seating positions," and that "[t]he purpose of the SRS is to provide the vehicle's driver and/or the front

passenger with additional protection than that offered by the seat belt system alone in case of a frontal impact of sufficient severity. The SRS uses sensors to gather information about the driver's seat position, the driver's and front passenger's seat belt usage and impact severity." The manual continues, "[f]ront airbags are designed to inflate in a frontal collision depending on the intensity, speed or angels or impact of the front collision." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Hyundai Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1228. In the manual for the 2014 Sonata, Hyundai USA included the information above, and also detailed that "[g]enerally, air bags are designed to inflate by the severity of a collision and its direction. These two factors determine whether the sensors send out an electronic deployment/inflation signal." It continued, "[f]ront airbags will completely inflate and deflate in an instant. It is virtually impossible for you to see the air bags inflate during an accident. It is much more likely that you will simply see the deflated air bags hanging out of their storage compartments after the collision. The SRSCM continually monitors all SRS components while the ignition switch is ON to determine if a crash impact is severe enough to require air bag deployment or pre-tensioner seat belt deployment. A fully inflated airbag, in combination with a properly worn seat belt, slows the driver's or the passenger's forward motion, reducing the risk of head and chest injury. After complete inflation, the air bag immediately starts deflating, enabling the driver to maintain forward visibility and the ability to steer or operate other controls." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and

airbags during a collision, when in fact the Hyundai Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1229. In the manual for the 2015 Hyundai Sonata, Hyundai USA explained that "your vehicle is equipment with an Advanced Supplemental Restraint System (SRS) and lap/shoulder belts at both the driver and passenger seating positions. The purpose of the SRS is to provide the vehicle's driver and front passengers with additional protection than that offered by the seat belt system alone. The SRS uses sensors to gather information about the driver's and front passenger's' seat belt usage and impact severity." It continued "the advanced SRS offers the ability to control the air bag inflation within two levels. A first stage level is provided for moderate-severity impacts. A second stage level is provided for more severe impacts. According to the impact severity, the seat belt usage, the SRS Control Module (SRSCM) controls the air bag inflation." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Hyundai Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1230. In the manual for the 2017 Hyundai Sonata, Hyundai USA explained that "The front air bags are designed to supplement the three-point seat belts. For these air bags to provide protection, the seat belts must be worn at all times when driving. Your vehicle is equipped with an Advanced Supplemental Restraint System (SRS) and lap/shoulder belts at both the driver and passenger seating positions. The purpose of the SRS is to provide the vehicle's driver and front passenger with additional protection than that offered by the seat belt system alone. . . According to the impact severity, and seat belt usage, the SRS control Module (SRSCM) controls the air bag inflation." It continued "The SRSCM continually monitors all SRS components while the Engine start/stop button is in the ON

position to determine if a crash impact is severe enough to require air bag deployment or pre-tensioner seat belt deployment. During a frontal collision, sensors will detect the vehicle's deceleration. If the deceleration rate (measured in g-force) is high enough, the control unit will inflate the front air bags. The front air bags help protect the driver and front passenger by responding to frontal impacts in which seat belts alone cannot provide adequate restraint. Air bag deployment depends on a number of factors including vehicle speed, angles of impact and the density and stiffness of the vehicles or objects which your vehicle impacts during a collision. The front air bags will completely inflate and deflate in an instant . . . When the SRSCM detects a sufficiently severe impact to the front of the vehicle, it will automatically deploy the front air bags." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Hyundai Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1231. In the manual for the 2010 Kia Forte, Kia USA explained that in its models "[a]dvanced air bags are combined with pre-tensioner seat belts to help provide enhanced occupant protection in frontal crashes," and that "[t]he SRSCM continually monitors all SRS components while the ignition is ON to determine if a crash impact is severe enough to require air bag deployment or pre-tensioner seat belt deployment." The manual further explained that "[f]ront air bags are designed to inflate in a frontal collision depending on the intensity, speed or angles of impact of the front collision," and that "[t]he advanced SRS offers the ability to control the air bag inflation with two levels. A first stage level is provided for moderate-severity impacts. A second stage level is provided for more severe impact." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a

defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Kia Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1232. In the manual for the 2014 Kia Optima Hybrid, Kia USA included the information above, and also detailed that "[t]he retractor pre-tensioner is a supplemental system of the seat belts. The purpose of the retractor pre-tensioner is to tighten the shoulder belt against the occupant's upper body in certain frontal collisions" and that "[t]he pretensioner seat belts may be activated together with the air bags upon a severe enough collision." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Kia Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1233. In the manual for the 2020 Kia Optima, Kia USA explained the "vehicle is equipped with driver's and front passenger's pre-tensioner seat belts (retractor pretensioner and EFD (Emergency Fastening Device)). The pre-tensioner seat belts may be activated when a frontal collision is severe enough, together with the air bags" and "[w]hen the SRSCM detects a sufficiently severe impact to the front of the vehicle, it will automatically deploy the front air bags." As in earlier manuals, the 2020 Optima owner's manual also assured that "[t]he purpose of the SRS is to provide the vehicle's driver and/or the front passenger with additional protection than that offered by the seat belt system alone in case of a frontal impact of sufficient severity," and that "[a] fully inflated air bag, in combination with a properly worn seat belt, slows the driver's or the passenger's forward motion, reducing the risk of head and chest injury." These statements were false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its

intended function of activating the seatbelts and airbags during a collision, when in fact the Kia Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

iii. FCA Manuals.

1234. FCA (formerly known as Chrysler Group LLC) also authored and then distributed numerous manuals via mail and wire for the FCA Class Vehicles. These manuals contain affirmatively misleading statements that assured consumers that the FCA Class Vehicles had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the FCA Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the FCA Class Vehicle's airbags and seatbelts to fail. Manuals for the FCA Class Vehicles are available on FCA's website. They are also typically included in the FCA Class Vehicles at the time of sale. A chart summarizing misleading statements in manuals for the FCA Class Vehicles is attached hereto at Exhibit 16. Each of the statements in the attached chart is misleading for the same reasons stated immediately above.

1235. In a manual for the 2015 Jeep Compass, FCA explained that "[t]his vehicle has Advanced Front Air Bags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's Advanced Front Air Bag is mounted in the center of the steering wheel. The passenger's Advanced Front Air Bag is mounted in the instrument panel, above the glove compartment. The words SRS AIRBAG are embossed on the air bag covers." As the manual continues, "[t]he Advanced Front Air Bag system has multistage driver and front passenger air bags. This system provides output appropriate to the severity and type of collision

as determined by the Occupant Restraint Controller (ORC), which may receive information from the front impact sensors. The first stage inflator is triggered immediately during an impact that requires air bag deployment. This low output is used in less severe collisions. A higher energy output is used for more severe collisions." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the FCA Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1236. In a manual for the 2016 Jeep Compass, FCA explained that "[t]his vehicle has Advanced Front Air Bags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's Advanced Front Air Bag is mounted in the center of the steering wheel. The passenger's Advanced Front Air Bag is mounted in the instrument panel, above the glove compartment. The words 'SRS AIRBAG' or 'AIRBAG' are embossed on the air bag covers." As the manual continues, "[t]he Advanced Front Air Bag system has multistage driver and front passenger air bags. This system provides output appropriate to the severity and type of collision as determined by the Occupant Restraint Controller (ORC), which may receive information from the front impact sensors or other system components. The first stage inflator is triggered immediately during an impact that requires air bag deployment. A low energy output is used in less severe collisions. A higher energy output is used for more severe collisions." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the FCA Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1237. In a manual for the 2012 Jeep Patriot, FCA explained that "[t]his vehicle has Advanced Front Air Bags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's Advanced Front Air Bag is mounted in the center of the steering wheel. The passenger's Advanced Front Air Bag is mounted in the instrument panel, above the glove compartment. The words SRS AIRBAG are embossed on the air bag covers. The Driver and Front Passenger Advanced Front Air Bags are certified to the new Federal regulations for Advanced Air Bags." The manual continues, "[a]long with seat belts and pretensioners, Advanced Front Air Bags work with the knee bolsters to provide improved protection for the driver and front passenger. Side air bags also work with seat belts to improve occupant protection." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the FCA Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1238. In a manual for the 2016 Jeep Wrangler, FCA explained that "[t]his vehicle has Advanced Front Air Bags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's Advanced Front Air Bag is mounted in the center of the steering wheel. The passenger's Advanced Front Air Bag is mounted in the instrument panel, above the glove compartment. The words "SRS AIRBAG" or "AIRBAG" are embossed on the air bag covers." As the manual continues, "[t]he Advanced Front Air Bag system has multistage driver and front passenger air bags. This system provides output appropriate to the severity and type of collision as determined by the Occupant Restraint Controller (ORC), which may receive information from the front impact sensors or other system components. The first stage inflator is triggered immediately during an impact that requires air bag deployment. A low energy output is used in less severe collisions.

A higher energy output is used for more severe collisions." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the FCA Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1239. In a manual for the 2012 Jeep Liberty, Chrysler Group LLC explained that "[t]his vehicle has Advanced Front Air Bags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's Advanced Front Air Bag is mounted in the steering wheel. The passenger's Advanced Front Air Bag is mounted in the instrument panel, above the glove compartment. The words SRS/ AIRBAG are embossed on the air bag covers. These air bags are certified to the new Federal regulations for Advanced Air Bags." The manual continues, "[a]long with seat belts and pretensioners, Advanced Front Air Bags work with the knee bolsters to provide improved protection for the driver and front passenger. Side air bags also work with seat belts to improve occupant protection." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the FCA Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

iv. Mitsubishi Manuals.

1240. Mitsubishi Japan also authored and then distributed numerous manuals for the Mitsubishi Class Vehicles via mail and wire. The manuals are copyright to Mitsubishi Japan and are stamped "printed in Japan." Given its role in the distribution, marketing, and sale of the Class Vehicles, Mitsubishi USA also knew

that Mitsubishi Japan's manuals included information about the passenger safety systems and airbags in Mitsubishi Class Vehicles.

1241. These manuals contain affirmatively misleading statements that assured consumers that the Mitsubishi Class Vehicles had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Mitsubishi Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the vehicle's airbags and seatbelts to fail. Manuals for the Mitsubishi Class Vehicles are available on Mitsubishi USA's website. They are also typically included in the Mitsubishi Class Vehicles at the time of sale and lease. A chart summarizing misleading statements in manuals for the Mitsubishi Class Vehicles is attached hereto at Exhibit 17. Each of the statements in the attached chart is misleading for the same reasons stated immediately above.

1242. In a manual for the 2013 Outlander, Mitsubishi Japan explained that "[t]his vehicle is equipped with a Supplemental Restraint System (SRS), which includes airbags for the driver and passengers. The SRS front airbags are designed to supplement the primary protection of the driver and front passenger seat belt systems by providing those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions. The SRS front airbags, together with sensors at the front of the vehicle and sensors attached to the front seats, form an advanced airbag system. The SRS side airbags and the curtain airbags are also designed to supplement the seat belts. The SRS side airbags provide the driver and front passenger with protection against chest injuries by deploying the bag on the side impacted in moderate to severe side impact collisions." As the manual continues, "[t]he front airbags are designed to deploy when the vehicle suffers a moderate to severe frontal impact." These statements are

false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Mitsubishi Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1243. In a manual for the 2013 Lancer, Mitsubishi Japan explained that "[t]his vehicle is equipped with a Supplemental Restraint System (SRS), which includes airbags for the driver and passengers. The SRS front airbags are designed to supplement the primary protection of the driver and front passenger seat belt systems by providing those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions. The SRS front airbags, together with sensors at the front of the vehicle and sensors attached to the front seats, form an advanced airbag system." As the manual continues, "[t]he front airbags and driver's knee airbag are designed to deploy when the vehicle suffers a moderate to severe frontal impact." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Mitsubishi Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1244. In a manual for the 2014 Lancer, Mitsubishi Japan explained that "[t]his vehicle is equipped with a Supplemental Restraint System (SRS), which includes airbags for the driver and passengers. The SRS front airbags are designed to supplement the primary protection of the driver and front passenger seat belt systems by providing those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions. The SRS front airbags, together with sensors at the front of the vehicle and sensors attached to the front seats, form an advanced airbag system." As the manual continues, "[t]he front

airbags and driver's knee airbag are designed to deploy when the vehicle suffers a moderate to severe frontal impact." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Mitsubishi Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1245. In a manual for the 2015 Lancer, Mitsubishi Japan explained that "[t]his vehicle is equipped with a Supplemental Restraint System (SRS), which includes airbags for the driver and passengers. The SRS front airbags are designed to supplement the primary protection of the driver and front passenger seat belt systems by providing those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions. The SRS front airbags, together with sensors at the front of the vehicle and sensors attached to the front seats, form an advanced airbag system." As the manual continues, "[t]he front airbags and driver's knee airbag are designed to deploy when the vehicle suffers a moderate to severe frontal impact." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Mitsubishi Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1246. In a manual for the 2016 Lancer, Mitsubishi Japan explained that "[f]or added protection during a severe frontal collision, your vehicle has a Supplemental Restraint System (SRS) with airbags for the driver and passengers. The seats, head restraints, and door locks also are safety equipment, which must be used correctly." As the manual continues, "[t]his vehicle is equipped with a Supplemental Restraint System (SRS), which includes airbags for the driver and

passengers. The SRS front airbags are designed to supplement the primary protection of the driver and front passenger seat belt systems by providing those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions. The SRS front airbags, together with sensors at the front of the vehicle and sensors attached to the front seats, form an advanced airbag system." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Mitsubishi Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

v. Honda Manuals.

1247. Honda USA and Honda Japan, also authored and then distributed via mail and wire numerous manuals for the Honda Class Vehicles.

1248. The information available to Plaintiffs indicates that both Honda USA and Honda Japan held responsibility to prepare or approve the owners' manuals. Honda USA, published the manuals because that entity holds the copyright for their contents. In addition, on information and belief, Honda Japan also reviewed and approved the contents of the manuals from Honda USA. This allegation is based on the following language in many of the manuals for the Honda Class Vehicles: "The information and specifications included in this publication were in effect at the time of approval for printing. Honda Japan reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation." The reference to "approval for printing" and related reservation of rights indicates Honda Japan's role in approving the contents, at least as of the time of printing.

1249. These manuals contain affirmatively misleading statements that assured consumers that the Honda Class Vehicles had working and reliable airbags and seatbelts, and therefore would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision. This was false because the Honda Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which had a defect, and continue to have a defect, that can cause the Honda Class Vehicle's airbags and seatbelts to fail. Manuals for the Honda Class Vehicles are available on Honda USA's website. They are also typically included in the Honda Class Vehicles at the time of sale and lease. A chart summarizing misleading statements in manuals for the Honda Class Vehicles is attached hereto at Exhibit 18. Each of the statements in the attached chart is misleading for the same reasons stated immediately above.

1250. In the manual for the 2013 Honda Accord, Honda USA, with the approval of Honda Japan, explained that "your vehicle is equipped with three types of airbags" and "[t]he front SRS airbags inflate in a moderate-to-severe frontal collision to help protect the head and chest of the driver and/or front passenger. SRS (Supplemental Restraint System) indicates that that the airbags are designed to supplement seat belts, not replace them. Seat belts are the occupant's primary restraint system." As the manual continues, "[f]ront airbags are designed to inflate during moderate-to-severe frontal collisions. When the vehicle decelerates suddenly, the sensors send information to the control unit which signals one or both front airbags to inflate." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Honda Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1251. In a manual for the 2014 Honda Civic, Honda USA, with the approval of Honda Japan, included the information above, and also detailed that "[t]he front SRS airbags inflate in a moderate-to-severe frontal collision to help protect the head and chest of the driver and/or front passenger. SRS (Supplemental Restraint System) indicates that that the airbags are designed to supplement seat belts, not replace them. Seat belts are the occupant's primary restraint system." As the manual continues "Front airbags are designed to inflate during moderate-to-severe frontal collisions. When the vehicle decelerates suddenly, the sensors send information to the control unit which signals one or both front airbags to inflate." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Honda Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1252. In a manual for the 2014 Honda CRV, Honda USA, with the approval of Honda Japan, explained that "[t]he front SRS airbags inflate in a moderate-to-severe frontal collision to help protect the head and chest of the driver and/or front passenger. SRS (Supplemental Restraint System) indicates that that the airbags are designed to supplement seat belts, not replace them. Seat belts are the occupant's primary restraint system." As the manual continues, "[f]ront airbags are designed to inflate during moderate-to-severe frontal collisions. When the vehicle decelerates suddenly, the sensors send information to the control unit which signals one or both front airbags to inflate." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Honda Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1253. In a manual for the 2015 Honda Civic, Honda USA, with the approval of Honda Japan, explained that "[t]he front SRS airbags inflate in a moderate-to-severe frontal collision to help protect the head and chest of the driver and/or front passenger. SRS (Supplemental Restraint System) indicates that that the airbags are designed to supplement seat belts, not replace them. Seat belts are the occupant's primary restraint system." As the manual continues, "[f]ront airbags are designed to inflate during moderate-to-severe frontal collisions. When the vehicle decelerates suddenly, the sensors send information to the control unit which signals one or both front airbags to inflate." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Honda Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

1254. In a manual for the 2016 Acura RLX, Honda USA, with the approval of Honda Japan, explained that "[t]he front SRS airbags inflate in a moderate-to-severe frontal collision to help protect the head and chest of the driver and/or front passenger. SRS (Supplemental Restraint System) indicates that that the airbags are designed to supplement seat belts, not replace them. Seat belts are the occupant's primary restraint system." As the manual continues, "[f]ront airbags are designed to inflate during moderate-to-severe frontal collisions. When the vehicle decelerates suddenly, the sensors send information to the control unit which signals one or both front airbags to inflate." These statements are false and misleading because they would have suggested to any reasonable consumer that the Occupant Restraint System did not suffer from a defect and would perform its intended function of activating the seatbelts and airbags during a collision, when in fact the Honda Class Vehicles included a defective DS84 ACU and ASIC that can cause the airbags and seatbelts to fail.

F. Defendants schemed to defraud NHTSA by making misleading statements denying and downplaying the serious safety defect in DS84 ACUs.

1255. Between 2016 and 2020, several Defendants—including ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., ZF Germany, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, FCA, Toyota Japan, and Toyota USA—made (or helped make) misleading statements to NHTSA about the ACU Defect. The remaining Defendants conspired in these efforts by coordinating with ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., and ZF Germany throughout the process.

1256. The purpose of the scheme to mislead NHTSA about the DS84 ACU Defect was to avoid, delay, and/or minimize recalls of Class Vehicles. ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, ZF TRW Corp., ZF Germany, ST USA, ST Italy, and ST Malaysia participated in this scheme with the goal of concealing the ACU Defect in all Class Vehicles. The Vehicle Manufacturer Defendants' participation in the scheme was limited to the goal of concealing the ACU Defect in the Class Vehicles made by their group (e.g., the Honda Defendants had the goal of concealing the ACU Defect in Honda Class Vehicles).

1257. Avoiding, delaying, and/or minimizing recalls was an important and shared goal for all the Defendants because: (1) recalls are extremely expensive and could cost Vehicle Manufacturers hundreds of millions of dollars; (2) recalls based on defective component parts such as the DS84 ACU and ASIC expose the Supplier Defendants to liability for those expenses; (3) recalls harm the commercial reputations of vehicle manufacturers, parts suppliers, and their products; and (4) recalls threatened to publicly expose the ACU Defect in other unrecalled vehicles with the same defective DS84 ACU and DS84 ASIC, which would have undermined the continued sale and lease of Class Vehicles with these parts.

1258. A scheme to mislead NHTSA as to the nature and scope of the ACU Defect was a plausible (and to date, effective) means of avoiding, delaying, and minimizing recalls. NHTSA's Office of Defect Investigation ("ODI")—the division responsible for investigating all the potential automotive defects in the country—employs fewer than one hundred people. Moreover, at any given time, it has approximately 50 open investigations, most of which involve complicated and technical issues. By contrast, the Vehicle Manufacturer and Supplier Defendants have vastly more employees and superior knowledge of the inner workings of their products and the problems experienced by customers in the field. In this context, ODI often depends upon the good faith cooperation and fulsome disclosure from vehicle manufacturers and suppliers when conducting its investigations.

1. When NHTSA started to investigate the DS84 ACUs in the summer of 2015, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA conspired with the Vehicle Manufacturer Defendants to avoid expensive recalls.

1259. By no later than the summer of 2015, NHTSA began to investigate airbag non-deployment issues for a wide range of vehicles with DS84 ACUs and ASICs.

1260. This development was a disaster scenario for ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, and ZF TRW Corp. who had already known about the ACU Defect for years. Upon information and belief, these Defendants knew that the investigation concerned EOS (for which airbag non-deployment is a key indicator) and feared NHTSA would discover the ACU Defect was present in millions of vehicles sold by several of its most important customers. They also knew that recalls of these vehicles would damage their business reputation by costing their vehicle manufacturer customers over a billion dollars collectively. Upon information and belief, recalls due to the defective DS84 ACUs

and ASICs also exposed ZF TRW Corp., ZF Electronics USA, and ZF Automotive USA to contractual liability for paying for the recall costs.

1261. These fears were well-founded, as evidenced by ZF Automotive USA's, ZF Passive Safety USA's, ZF Electronics USA's, and ZF TRW Corp.'s recent experience with an EOS defect in a prior generation of its ACUs. Specifically, between 2012 and 2015, NHTSA investigated millions of ACUs made by ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA in the early- to mid-2000s, before they launched the DS84 ACU. These ACUs had a very similar defect to the DS84 ACU and ASIC: a squib ASIC that was vulnerable to EOS. These squib ASICs failed when they suffered EOS and caused inadvertent airbag deployments in dozens of vehicles. NHTSA's investigation prompted Toyota Engineering USA and FCA to recall 1,636,175 vehicles in 2012 and 2013.[52]

1262. The remedy implemented for those recalls, a "noise filter" applied to buffer the ASIC from electricity, did not fix the problem. NHTSA investigated the defective ACUs and ASICs again on May 29, 2014 after receiving additional reports of inadvertent deployments in previously recalled vehicles that had been "repaired" with the noise filter remedy. In 2015, Toyota, Honda USA, and FCA recalled 2,419,291 vehicles, including a re-recall for vehicles that had the deficient noise filter remedy applied.[53] ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA's ultimate parent company at the time, ZF TRW Corp. knew about this prior experience with EOS in TRW ACUs.

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[52] Specifically, FCA announced a recall of 744,822 vehicles with this defective ZF ACU on November 7, 2012 and 3,644 additional vehicles with the same ACU on February 6, 2013. Toyota Engineering USA announced a recall of 887,709 vehicles with this defective ZF ACU on January 30, 2013

[53] Specifically, FCA announced a recall of 753,176 vehicles with this defective TRW ACU on January 27, 2015, and 285,089 additional vehicles with this defective TRW ACU on October 15, 2015; Honda USA recalled 374,177 vehicles with this defective ZF ACU on January 28, 2015; and Toyota Engineering USA announced a recall of 1,006,849 vehicles with this defective TRW ACU.

1263. NHTSA had also recently, in 2015, demonstrated a firm commitment to protecting consumers from defective safety systems by ordering Takata to recall tens of millions of faulty airbags. By May 2015, Takata was reportedly responsible for the largest auto recall in history. Takata filed for bankruptcy two years later. In this context, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF TRW Corp., and ZF Germany fully understood the risks posed by NHTSA's investigation.

1264. To avoid a potentially existential threat to their business and prolong the broader scheme to defraud consumers to overpay for Class Vehicles with a dangerous safety defect, ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA conspired with ST USA, ST Italy, ST Malaysia, and each of the five Defendant Vehicle Manufacturer Groups to (a) conceal the evidence of the ACU Defect from NHTSA, and (b) mislead NHTSA as to the nature and scope of any problems that NHTSA uncovered.

1265. ST USA, ST Italy, and ST Malaysia joined in the conspiracy because they shared the common goal of avoiding recalls that targeted the DS84 ACU and its DS84 ASIC, the part they designed and manufactured for all Class Vehicles.

1266. The Vehicle Manufacturer Defendants joined in the conspiracy as it pertained to their own Class Vehicles because it was cheaper to continue using the defective DS84 ASICs and ACUs both because of the lower relative cost of the DS84 ACU, and because of the time and expense that they would necessarily incur for the significant development and design work required to use a different ACU. Further, they shared the goal of avoiding expensive recalls for their Class Vehicles. This was particularly true for Honda USA, Toyota Engineering USA, and FCA, who had just launched an expensive *second* round of recalls in other vehicles due to the earlier generation of TRW ACUs with a defective ASIC.

1267. Upon information and belief, in the summer of 2015, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Hyundai Korea,

Kia Korea, Kia USA, Hyundai USA, Hyundai Mobis, and FCA that NHTSA was investigating DS84 ACUs.

1268. On October 20, 2015, Kia Korea, Kia USA, Hyundai USA, Hyundai Korea, Hyundai Mobis, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA met in South Korea to discuss the issue of the DS84 ACUs and EOS.

1269. In December 2015, Kia Korea communicated to ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA its "assessment" that Joy King's Kia Forte (which had crashed in Tallahassee with no airbag deployment) had "commanded non-deployment"—meaning that the airbag's failure to deploy in the crash was purposeful and consistent with the strategy for deployment in those accident conditions (i.e. not suspicious or defective). Upon information and belief, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew this "assessment" was incorrect, because they had observed EOS damage on the DS84 ASIC retrieved from Ms. King's Forte and the ACU had failed to record the crash data necessary to determine that the non-deployment was "commanded" by the DS84 ACU.

1270. Upon information and belief, in December 2015, Kia Korea and Kia USA notified ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA that NHTSA had asked Kia USA questions about the fatal Kia Forte crash with no airbag deployment that occurred in 2013 in California, and that Kia USA would respond.

1271. In January 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA communicated with each of the Vehicle Manufacturer Defendant Groups regarding EOS in the DS84 ACUs, and alerted them that NHTSA was interested in, and asking questions about, the problem. Upon information and belief, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA communicated this information to encourage the companies implicated

by NHTSA's investigation to coordinate their efforts to conceal information about the existence, scope, and severity of the ACU Defect from NHTSA.

2. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. jointly made misleading statements to NHTSA on February 5, 2016 and then mailed a copy of those misleading statements to NHTSA on March 14, 2016.

1272. In the first quarter of 2016, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. used interstate mail and/or wire to prepare and send a written presentation dated February 5, 2016 to NHTSA. This presentation contained several misleading statements about the DS84 ACU Defect. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. intended the statements to further their conspiracies with the Vehicle Manufacturer and ST Defendants by concealing the DS84 ACU Defect, avoiding recalls of unsafe Class Vehicles, and allowing the continued sale of defective but profitable safety equipment.

a. The February 5, 2016 written presentation to NHTSA contained misleading statements.

1273. The February 5, 2016 written presentation jointly prepared by ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. contained several misleading statements directed at NHTSA.

i. The presentation misleadingly described the DS84 ACU malfunction in Joy King's crash as a "commanded non-deployment."

1274. The presentation stated that a Kia Forte crash called "HKMC A" involved a "commanded non-deployment" and "[d]eployment not commanded . . . consistent with deployment strategy decision." In other words, the crash did not merit airbag deployment. "HKMC A" describes the crash with a logging truck that seriously injured Joy King in Tallahassee, Florida. These statements about HKMC

A—which Kia Korea encouraged ZF Automotive USA and ZF Electronics USA to make in December 2015—were misleading given the following facts:

a. ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had observed EOS damage on the DS84 ASIC retrieved from Ms. King's Kia Forte two months prior to making this presentation to NHTSA.

b. It is not possible to reliably conclude that a non-deployment was "commanded" by the DS84 ACU when, as was the case with Ms. King's Forte, the ACU is damaged by EOS. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew the ACU was missing a crash record, which deprives investigators of the only tool that can reliably confirm a "commanded non-deployment." Indeed, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA acknowledged this general limitation in a 2012 report concerning another crash, stating: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded."

c. The conclusion presented to NHTSA of a commanded non-deployment fails to explain the observed evidence of EOS, which is known to cause airbag deployment failures like that observed in the King crash.

d. The above pictures of the King crash depict the type of severe head-on collision where an airbag and seatbelt should activate under any reasonable deployment strategy.

1275. The misleading statement about the King crash was material because it concealed that the ACU Defect had caused serious injuries to the driver. Upon information and belief, NHTSA would have considered this information important

to its decision whether to require a recall or expand its investigation into the DS84 ACUs and ASICs.

ii. The presentation misleadingly described the DS84 ACU malfunction in the Ganzhou Kia Forte crash as a "commanded nondeployment."

1276. The February 2016 presentation refers to the 2011 Kia Forte crash with no airbag deployment that occurred in Ganzhou, China as "HKMC B." It states that "HKMC B" was a "commanded non-deployment" and that the DS84 ACU was "not made available to ZF TRW." These statements were false or misleading.

1277. First, the statement that the DS84 ACU was not made available to ZF TRW was misleading, because ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA received and analyzed the ACU from this crash in 2011. Proving that this statement was false when made in February 2016, ZF Automotive USA later acknowledged in a document filed with NHTSA on August 15, 2018:

Aug. 2011	At Mobis' request, ZF analyzes the ACU from a Kia Forte in China involved in an event in which the airbags purportedly did not deploy. ZF observes damage on the ASIC that is consistent with EOS. Hyundai Kia Motors Corporation (HKMC) subsequently communicates its assessment that the incident was a commanded nondeployment.

1278. This acknowledgement concerned the ACU from the Kia Forte crash in Ganzhou.

1279. Second, the statement that HKMC B involved a commanded nondeployment was false, because it squarely contradicted the conclusion in the December 9, 2011 report on the crash prepared by ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA. That report acknowledged it was "[p]ossible internal damage to the squib ASIC [i.e., the DS84 ASIC] at the time of impact causing the Reset line pulled to low, which in turn reseting [sic] the Microcontroller operation resulting in partial EDR1 and non deployment." In other words, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA

recognized it was possible that EOS damage to the ASIC caused the airbags to fail in 2011, but told NHTSA nearly 5 years later that the ACU was "not available" and repeated the conclusion of a "commanded nondeployment."

1280. These misleading statements about the Ganzhou Kia Forte crash were material because they concealed evidence that the ACU Defect had caused airbag failures in a crash. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation into the defective DS84 ACUs and ASICs.

iii. The presentation misleadingly described five cases of malfunctioning DS84 ACUs in FCA Class Vehicles as "commanded non-deployments."

1281. Regarding five separate incidents with FCA vehicles that crashed with no airbag deployment and "EOS Present" or "likely", the presentation misleadingly stated: "All non-deployment[s] likely commanded due to customer deployment strategy design." This statement, which concerned the 2012 Jeep Patriot, the 2012 Dodge Avenger, the 2012 Chrysler 200, the 2011 Dodge Avenger, and the 2012 Chrysler 200 Convertible discussed in Sections IV.D.4.e., IV.D.4.g., IV.D.4.l., IV.D.4.o., and IV.D.4.n. above, was misleading for several reasons.

a. First, all of these FCA Class Vehicles had missing crash records, thereby making it impossible to reliably determine whether any non-deployment was "commanded." As ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA acknowledged in a 2012 report about a Kia Forte crash: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded." This principle applied with equal force to the same EDR technology in these FCA Class Vehicles.

b. Second, the pictures of the wreckage from these incidents show the type of catastrophic collisions that obviously merit airbag deployment. These pictures are collected in Sections IV.D.4.e., IV.D.4.g., IV.D.4.l., IV.D.4.o., and IV.D.4.n. above.

c. Third, FCA confirmed that these statements were misleading in its 573 Defect Report filed for the September 2016 recall of the vehicle models involved in this incident. That report does not mention deployment strategies as a purported reason for the failures because FCA concluded that its deployment strategies should have commanded deployment.

1282. Misleadingly describing these five crashes as "commanded nondeployments" was material because that description concealed evidence that the ACU Defect had caused airbag failures in multiple crashes. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs.

iv. The presentation misleadingly suggested that the safety restraints deployed properly in two FCA Class Vehicle crashes.

1283. The presentation stated that in two incidents involving 2012 Jeep Patriots called "Chrysler A" and "Chrysler B," "[d]eployment occurred even though there is no or partial crash record." This statement was misleading because it suggested that Chrysler A and Chrysler B did not involve a failure of the safety system's restraints.

1284. In fact, "Chrysler B" refers to the crash test of a 2012 Jeep Patriot conducted by the Insurance Institute for Highway Safety. In this test, the Institute found in 2012 or 2013 that: "the seat belt allowed excessive forward excursion of the dummy's head and torso, and the driver's seat tipped forward and toward the B-

pillar. The side curtain airbag did not deploy, leaving the dummy's head vulnerable to contacts with side structure and outside objects." As FCA would internally admit just a few months later, the second stage airbags should have deployed in this crash test. Accordingly, it was misleading for this presentation to suggest "[d]eployment occurred" in this crash test, when the truth was that one front airbag deployed but the seatbelts and second stage airbag malfunctioned. These failures are serious shortcomings that caused the Institute to grade this test result as "Poor."

1285. "Chrysler A," on the other hand, refers to the November 28, 2013 crash in Wisconsin of a 2012 Jeep Patriot with partial airbag deployment. FCA concluded from its analysis of crash event timing that ASIC EOS prevented deployment of the second stage airbags. Accordingly, it was misleading to suggest "deployment occurred" when the truth was that the second stage airbags failed.

1286. Misleadingly describing these two crashes with "deployment occurred" was material because an assessment of a safety risk posed by the ACU Defect would have required NHTSA to assess the risk posed by the partial deployment of safety restraints. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs.

v. The presentation misleadingly understated the number of cases of confirmed EOS by excluding ten more known incidents.

1287. The presentation states: "this presentation covers global field incidents with confirmed EOS across all customers based on the information currently available to ZF TRW." This statement was false because the presentation omitted at least 10 confirmed cases of DS84 ASIC EOS known to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA as this time. The known incidents omitted from the presentation include:

a. The four Hyundai Sonata crash tests and one Kia Optima crash test for which ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed ASIC EOS in 2012;

b. The Honda Accord crash test in Japan with a nondeployment event, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in late 2012 or 2013;

c. The Honda City crash test in Japan for which ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed ASIC EOS in 2014; and

d. Two Kia Forte crashes and one Kia K5 crashed with nondeployments in Wehai, Xinyang, and Zhenjiang for which ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed ASIC EOS in 2012.

1288. The exclusion of these seven crash tests and three real-world crashes from a chart purporting to cover all "global field incidents with confirmed EOS across all customers" materially deflated the count of known suspicious incidents presented to NHTSA. Upon information and belief, NHTSA would have considered an additional ten incidents with confirmed EOS important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs. The exclusion of these incidents was material because NHTSA later asked Kia USA to conduct its recall of vehicles with the DS84 ACU Defect based on fewer than ten suspicious crashes in the field.

vi. The presentation blamed wire harnesses as the cause of suspicious DS84 ACU malfunctions, which was misleading because the ACU Defect was the true root cause.

1289. The presentation attempted to blame the wiring harness in FCA Class Vehicles as the primary cause of DS84 ACU malfunctions by stating that "[v]ehicle wiring architecture can contribute to EOS." According to the presentation, the Jeep Liberty, Dodge Avenger, and Chrysler 200 "platforms route front passenger side satellite wire across the front of the vehicle and bundle with the driver side satellite wire. . . . This can cause the wiring for both front crash sensors to get damage[d] in frontal left offset collisions." This was an issue, it explained, because "[l]oss of signal from a front crash sensor may direct a commanded non-deployment in certain crash scenarios." In other words, the presentation explained that the wires in certain types of crashes could interfere with airbag deployment due to the placement of the wiring in these vehicles.

1290. This explanation was misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA knew that the DS84 ACUs were inherently defective and vulnerable to EOS irrespective of the presence of cross-car wiring. For example, these entities each knew that Hyundai-Kia vehicles with nondeployments linked to EOS did not have cross-car wiring like this. Moreover, in June 2013, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a written analysis noting two EOS failure modes (one relating to a shorted crash sensor wire and another relating to a shorted squib communication line) had occurred in Jeep Wranglers, another vehicle model without cross-car wiring. By 2016, FCA had already learned of at least fourteen crashes involving nondeployments and signs of DS84 ASIC EOS in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, and one Fiat 500.[54]

[54] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012

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1291. Contrary to the above misleading statements that blame wire harnesses for nondeployments, the root cause of these incidents remains the DS84 ACU's and ASIC's vulnerability to transients and EOS. The defect remains in the DS84 ACU irrespective of the placement of car wiring. For example, Hyundai Korea, Kia Korea, Hyundai Mobis, Kia USA, and Hyundai USA sent correspondence to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA in or around April 2016 confirming this: "TRW's presentation identifies that all EOS problems involving all manufacturers have only occurred in the ST Micro DS84 ASIC. *The logical inference is that some design flaw or weakness in the DS84 ASIC is the core reason for any EOS incidents.*" (emphasis added).

1292. ZF Automotive USA's, ZF Passive Safety USA's, and ZF Electronics USA's efforts to blame wire harnesses on nondeployments in FCA Class Vehicles were also misleading because they knew wire harnesses could not have caused at least some observed DS84 ACU malfunctions, including nine inadvertent deployments in vehicles made by five different manufacturers (FCA, Kia Korea, Honda Japan, and two Chinese manufacturers). In these incidents, the vehicles did not crash and therefore a break in the frontal crash sensor wires could not have released a transient. Instead, as ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA explained to FCA in 2013, the root cause of inadvertent deployments is likely a transient surge originating from a connection between an airbag squib ASIC and the DS84 ASIC, which is unrelated to the cross-car wiring of front-end crash sensors. Notably, the Jeep Wrangler with an inadvertent deployment and confirmed EOS on the DS84 ASIC did not have the type of cross-

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in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Fiat 500 crashed in 2015 in California.

car wiring that ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA blamed as a "contribut[or] to EOS."

1293. The presentation's statements blaming wire harnesses for EOS were material because they obscured the scope of the ACU Defect by suggesting that only vehicles with a particular type of wiring may have a defect. To the contrary, *all* vehicles, with or without cross-car wiring, that use the DS84 ACU and ASIC are defective.

vii. The presentation misleadingly claimed the ACU Defect was "vehicle dependent."

1294. The presentation also stated, "[p]resence and impact of EOS on ACUs is vehicle dependent." This statement was misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had previously made common recommendations regarding DS84 ASIC EOS across different vehicle types and manufacturers. For example, in 2013, ZF Electronics USA recommended additional circuit protection for defective Jeep vehicles to FCA and expressly based those recommendations on experience with unrelated vehicles made by other manufacturers. Indeed, one ZF Electronics USA presentation to FCA from 2013 stated "Initial EOS Design Proposal based on design experience in response to *other customer specifications*," and suggest diodes "may mitigate EOS" and that an additional proposal "based on *other customer specifications* and experience" suggested a "[i]n rush limiting circuit" "may mitigate EOS." In other words, ZF Electronics USA told FCA that the experiences with EOS in other vehicles by other vehicle manufacturers should translate to Jeep vehicles experiencing the same problems.[55] These recommendations contradict the later statement to NHTSA that

[55] In a 2019 meeting with Toyota Japan, Toyota Engineering USA, and Toyota USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA similarly claimed that a 2015 design change to increase the diode protection on certain European models with the DS84 ASIC was based on "[l]earning made with other OEMs." Again, these statements are inconsistent with statements to NHTSA

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all EOS is "vehicle dependent." If this were true, recommendations based on other manufacturers' experiences with EOS in other vehicles would be irrelevant.

1295. This statement was material because it suggested that only vehicles with confirmed DS84 ACU malfunctions were potentially defective. In reality, millions of Class Vehicles were defective, because all vehicles that use the DS84 ACU and ASIC are defective.

b. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany and ZF TRW Corp. have joint responsibility for the content of the misleading February 5, 2016 presentation.

1296. On February 5, 2016, agents of ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA met with NHTSA. During the meeting, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA used the February 5, 2016 written presentation discussed above to mislead NHTSA as to the existence, nature, and scope of the ACU Defect.

1297. ZF Electronics USA, ZF Passive Safety USA, and ZF TRW Corp. contributed to the preparation of the contents of the February 5, 2016 presentation. Upon information and belief, Marc Bolitho, who was an employee of ZF Passive Safety USA and also served as Director of Passive Safety Engineering for ZF TRW Corp. and Vice President of Passive Safety Engineering for ZF Electronics USA, authored at least some portions of the presentation.

1298. ZF Automotive USA admitted in an attachment to a 573 Defect Report filed with NHTSA in 2018 that it attended the February 5, 2016 meeting with NHTSA. Based on this admission, it approved and adopted the contents of the presentation used during that meeting on its behalf, as well as the delivery of the presentation to NHTSA.

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that ACU design issues are platform dependent.

1299. Upon information and belief, ZF Germany reviewed and approved the contents of the February 5, 2016 presentation before it was used, given its regular involvement in communications with NHTSA by its subsidiaries. Indeed, ZF Germany was also ultimately responsible for (and, in fact, purported to own) the content of this presentation because each page of this presentation states: "© ZF Friedrichshafen AG." The ZF Passive Safety USA and ZF Electronics USA employees who wrote this presentation would not have identified ZF Germany without ZF Germany's approval.[56]

1300. ZF TRW Corp. also reviewed and approved the contents of this presentation before it was used in a meeting with NHTSA.

1301. ZF TRW Corp. also separately sent the presentation to NHTSA via Federal Express on March 14, 2016. The cover letter for this transmittal is signed: "Very truly yours, ZF TRW Corp." with a signature from Sheri Roberts, the Senior Counsel of the company.

1302. Marc Bolitho signed the certificate supporting a request for confidentiality of the February 5, 2016 presentation. The certification states: "I certify the attached information" (i.e., the presentation) regarding "the internal investigation" of ZF TRW Corp. and its subsidiaries was "proprietary information"—meaning that ZF TRW Corp. had a property interest in the information presented in the slide deck. ZF TRW Corp.'s ownership interest in this document is also confirmed by the following language on the footer of every page: "This document is the property of ZF TRW and is disclosed in confidence. It may

[56] ZF Germany has never denied Plaintiffs' allegation that "ZF Friedrichschafen AG's consent was required to send the presentation to NHTSA and/or the Vehicle Manufacturer Defendants, and ZF Friedrichshafen AG provided consent." Dkt. 120 at ¶168. On the contrary, it has relied on declarations that concede: "ZF Friedrichshafen AG . . . exercises only limited control over ZF's domestic entities communications with NHTSA." Dkt. 209-4 at ¶10. This vague statement does not deny that ZF Germany's consent was required for the domestic ZF companies to send presentations to NHTSA or that ZF Germany provided that consent.

not be copied, disclosed to others, or used for manufacturing without the written consent of ZF TRW." Because ZF Germany's 2016 Annual Report identifies ZF TRW Corp. as the only subsidiary with a name containing "ZF TRW," "ZF TRW" as used in the document must refer to ZF TRW Corp. All of these statements about ZF TRW Corp.'s proprietary interest in the February 5, 2016 presentation confirm its joint responsibility for its content.

1303. Upon information and belief, in addition to using mail to send a copy of the February 5, 2016 presentation to NHTSA, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. each used email or other electronic means of communication to exchange, make comments on and convey approval of drafts of the February 5, 2016 presentation. Accordingly, these Defendants used interstate wires to facilitate the preparation of the February 5, 2016 presentation.

3. Following the February 5, 2016 meeting with NHTSA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA coordinated with their co-conspirators to avoid NHTSA's discovery of the ACU Defect and recalls of Class Vehicles.

1304. Following the February 5, 2016 meeting with NHTSA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA coordinated with their co-conspirators—Toyota Japan, Toyota Engineering USA, Honda Japan, Mitsubishi Japan, FCA, Hyundai Korea, Kia Korea, Hyundai Mobis, and each ST Defendant—by sending written copies of the February 5, 2016 presentation containing the misleading statements to NHTSA, described above, to those co-conspirators by mail and wire, and by holding meetings with them to discuss NHTSA's next steps. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA took these steps to coordinate a united front in furtherance of their fraudulent scheme to conceal the ACU Defect from NHTSA.

a. ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent excerpts of the misleading February 5, 2016 presentation to its co-conspirators for the purpose of coordinating their misrepresentations to NHTSA.

1305. Upon information and belief, in February 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA sent excerpted versions of the February 5, 2016 presentation to Toyota Japan, Toyota Engineering USA, Honda Japan, Mitsubishi Japan, FCA, Hyundai Korea, Kia Korea, Hyundai Mobis, and each ST Defendant.

1306. Upon information and belief, ZF Germany and ZF TRW Corp. reviewed and approved these transmittals of the February 5, 2016 presentation.

1307. Upon information and belief, the excerpted versions of this presentation contained several talking points created by the ZF Defendants designed to downplay the ACU Defect by misleadingly blaming airbag nondeployments on purportedly vehicle-dependent phenomena, such as the layout of wiring in the hood of the car, how grounded the chassis is, or manufacturer deployment strategies.

1308. The version of the presentation sent to Hyundai Korea, Kia Korea, and Hyundai Mobis contained the misleading statements concerning Hyundai-Kia vehicles noted above.

1309. The version of the presentation sent to FCA contained the misleading statements concerning the FCA vehicles.

1310. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA circulated the February 5, 2016 presentation to the Vehicle Manufacturer Defendants and ST Defendants to facilitate their scheme to mislead NHTSA as to the nature and scope of the ACU Defect.

b. Between February 5, 2016 and July 19, 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA repeatedly communicated with the Hyundai-Kia Defendants and FCA about NHTSA's investigation.

1311. Between February 5, 2016 and July 19, 2016, the Hyundai-Kia Defendants repeatedly communicated with ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA to coordinate their positions regarding the ACU Defect. Upon information and belief, the goal of these communications was to avoid any recall of vehicles with DS84 ACUs and enable the continued use of the defective DS84 ACU and DS84 ASIC.

a. Upon information and belief, on February 11, 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA held a conference call with Kia USA concerning the February 5, 2016 meeting with NHTSA.

b. Upon information and belief, on February 25, 2016, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Hyundai Mobis, Hyundai Korea, Hyundai USA, and Kia USA held a meeting in Korea so that the Hyundai-Kia Defendants could obtain further information from ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA about NHTSA's investigation.

c. On March 24, 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA re-sent the 2012 written analysis regarding the Kia K5 with a nondeployment in Liuzhou, China to Hyundai Mobis in response to a request from Hyundai Mobis.

d. Upon information and belief, between April 21, 2016 and June 29, 2016, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, Kia Korea, Hyundai Mobis, Hyundai

Korea, Hyundai USA, and Kia USA continued their discussions about their positions with NHTSA about the ACU Defect.

e. Upon information and belief, on or around April 21, 2016, Kia Korea, Hyundai Korea, Hyundai Mobis, Hyundai Korea, Hyundai USA, and Kia USA sent a jointly-approved written communication to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA that stated: "TRW's presentation identifies that all EOS problems involving all manufacturers have only occurred in the ST Micro DS84 ASIC. *The logical inference is that some design flaw or weakness in the DS84 ASIC is the core reason for any EOS incidents.*" (emphasis added).

f. Upon information and belief, on April 25, 2016, ZF Passive Safety USA, ZF Electronics USA, ZF Automotive USA, Hyundai Korea, Hyundai Mobis, and Hyundai USA attended an inspection of the Twohills' Hyundai Sonata, discussed below.[57] During this inspection, Hyundai Korea, Hyundai Mobis, and Hyundai USA urged ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA to label the Twohill incident a "commanded non-deployment."

g. Upon information and belief, on May 24 and 25, 2016, ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA,

[57] Documents produced by Defendants indicate the following individuals attended: Sihn Kwang Cheol, the Senior Research Engineer of Hyundai Korea; Changbeom You, the Deputy General Manager of Hyundai Korea's Quality Strategy Team; Kim Seong Hwan, the Assistant Manager of Hyundai Korea's Electronic Improvement Team; Eric Sim, the Senior Manager of Hyundai USA's Engineering and Design Analysis; and Park Chul Hong, the Manager of Hyundai Mobis's NTF Analysis Team; Bill Herndon of ZF Electronics USA and/or ZF Passive Safety USA.

Kia Korea, Hyundai Mobis, Hyundai Korea, Hyundai USA, and Kia USA again met in Korea. During this meeting, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA presented a detailed fault tree analysis concerning the ACU Defect. During this meeting, Hyundai Korea, Hyundai Mobis, and Hyundai USA again urged ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA to label the Twohill incident a "commanded non-deployment" in communications with NHTSA.

h. Upon information and belief, on or around June 29, 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Kia Korea, Hyundai Korea, Hyundai USA, Kia USA, and Hyundai Mobis that they had not disclosed 17 crashes and crash tests involving potential DS84 ACU malfunctions in Hyundai-Kia vehicles to NHTSA, including eight with confirmed EOS.

1312. Upon information and belief, between February 5, 2016 and July 19, 2016, FCA regularly communicated with ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA regarding NHTSA's investigation, including on March 31, 2016; June 15, 2016; July 12, 2016; and July 18, 2016. Upon information and belief, the July 18, 2016 communication encouraged FCA to take the position that "wiring and calibration changes . . . may have influenced the occurrence of ASIC EOS and/or airbag and pretensioner deployment" in the FCA Class Vehicle crashes with confirmed EOS.

1313. Upon information and belief, between February 2016 and June 2016, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and ZF TRW Corp. held weekly meetings with ST USA and ST Italy to formulate a position to

communicate with NHTSA on the root cause of the EOS in DS84 ACUs and ASICs.

4. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. jointly made misleading statements to NHTSA on July 19, 2016 and mailed a copy of those misleading statements to NHTSA in July or August 2016.

1314. In summer 2016, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. used interstate mail and/or wire to prepare and send a written presentation dated July 19, 2016 to NHTSA. This presentation contained several misleading statements about the DS84 ACU and ASIC. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. intended the statements to further their conspiracies with the Vehicle Manufacturer and ST Defendants by concealing the DS84 ACU Defect to avoid recalls of defective Class Vehicles and allow the continued sale of defective but profitable safety equipment.

a. The July 19, 2016 written presentation contained misleading statements.

1315. The July 19, 2016 written presentation jointly prepared by ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. contains several misleading statements directed at NHTSA, including both affirming earlier misleading statements from the February 5, 2016 presentation, and adding separate and new misleading statements.

i. The presentation misleadingly suggested that an investigation into the 2013 fatal Kia Forte crash in California was "ongoing," when, in fact, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had completed their investigation and confirmed EOS.

1316. The presentation states there would be an "[o]ngoing investigation of event HKMC D," which refers to the Kia Forte crash in Northern California with no

airbag deployment that seriously injured Ronald Hill and killed his wife, Lomia Faumuina. The presentation misleadingly suggested "HKMC and ZF TRW meeting again in Korea on July 29" as part of this ongoing investigation. Upon information and belief, these statements were false because none of the ZF Defendants had further plans to investigate the Faumuina crash. In fact, they had already confirmed EOS on the vehicle's DS84 ASIC and knew that the ACU had not recorded any crash data, which is a sign of EOS. These conclusions were reached more than six months earlier, in 2015.

1317. Two pieces of evidence confirm the absence of Defendants' genuine intention to further investigate the Faumuina case.

a. First, upon information and belief, in or around April 21, 2016, Hyundai Korea, Kia Korea, Hyundai Mobis, Kia USA, and Hyundai USA asked ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA to describe "TRW's thoughts on appropriate future plans how best to analyze the nondeployment in the [Forte] *Faumuina* case, so that HKMC, Mobis, and TRW can coordinate and cooperate to resolve this key issue according." In a response dated June 29, 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA pointed to a May 2016 "fault tree analysis" but described no intended future steps. This response confirmed there were no plans for further investigation.

b. Second, according to a document Kia USA later filed with NHTSA, sometime within the 12-day period between the July 19, 2016 meeting with NHTSA and the end of that month, in-house attorneys representing ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Kia Korea that "NHTSA is satisfied and no action is to be taken by

NHTSA." The close proximity of this event to July 19, 2016 strongly indicates that ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA had no further intention to investigate the Faumuina crash.

1318. The misleading suggestion that some meaningful "investigation" of the Faumuina crash was still ongoing was material, because if ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had acknowledged that the investigation was closed, NHTSA could have determined that the DS84 ACU had malfunctioned due to EOS, as those Defendants had already done. The Faumuina crash is one of the six Hyundai-Kia crashes and four Hyundai-Kia fatalities that prompted NHTSA to launch a formal investigation (called an Engineering Analysis) on March 16, 2018. This confirms the materiality of information about this crash.

ii. The presentation misleadingly described the DS84 ACU malfunction in Joy King's crash a "commanded non-deployment."

1319. The July 2016 presentation states that a Kia Forte crash called "HKMC A" involved a "commanded non-deployment due to under-ride." As also discussed above, "HKMC A" describes the crash with a logging truck that seriously injured Joy King in Tallahassee, Florida. These statements about HKMC A—which Kia Korea encouraged ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA to make in December 2015—were misleading given the following facts.

a. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA had observed EOS damage on the DS84 ASIC retrieved from Ms. King's vehicle in December 2015.

b. It is not possible to reliably conclude that a non-deployment was "commanded" by the DS84 ACU when, as was the case with

Ms. King's vehicle, the ACU is damaged from EOS. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew the ACU was missing a crash record, which deprives investigators of the only tool that can reliably confirm a commanded non-deployment. Indeed, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA acknowledged this general limitation in a 2012 report concerning another crash, stating: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded."

c. The conclusion presented to NHTSA of a commanded non-deployment fails to explain the observed evidence of EOS, which is known to cause airbag deployment failures like that observed in the King crash.

d. The above pictures of the King crash depict the type of severe head-on collision where an airbag and seatbelt should activate under any reasonable deployment strategy.

1320. The misleading statement that the King crash involved a commanded nondeployment was material because it concealed evidence that the ACU Defect had caused airbag failures in a crash. The King crash is one of the six Hyundai-Kia crashes that ultimately prompted NHTSA to launch a formal investigation (called an Engineering Analysis) on March 16, 2018. This confirms the materiality of information about this crash.

iii. The presentation misleadingly described the DS84 ACU malfunction in the Ganzhou Kia Forte crash as a "commanded nondeployment."

1321. The July 2016 presentation also refers to the 2011 Kia Forte crash with no airbag deployment that occurred in Ganzhou, China as "HKMC B." The

presentation states that "HKMC B" was a "commanded non-deployment" and that the DS84 ACU was "not made available to ZF TRW." These statements were false or misleading.

1322. First, this statement that the DS84 ACU was not made available to ZF TRW was misleading, because ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA received and analyzed the ACU from this crash in 2011. Proving that this statement was false when made in July 2016, ZF Automotive USA later acknowledged in a document filed with NHTSA on August 15, 2018:

Aug. 2011	At Mobis' request, ZF analyzes the ACU from a Kia Forte in China involved in an event in which the airbags purportedly did not deploy. ZF observes damage on the ASIC that is consistent with EOS. Hyundai Kia Motors Corporation (HKMC) subsequently communicates its assessment that the incident was a commanded nondeployment.

1323. Second, the statement that HKMC B involved a commanded nondeployment was false, because it squarely contradicted the conclusion in the December 9, 2011 report on the crash prepared by ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA. That report acknowledged it was "[p]ossible internal damage to the squib ASIC [i.e., the DS84 ASIC] at the time of impact causing the Reset line pulled to low, which in turn reseting [sic] the Microcontroller operation resulting in partial EDR1 and non deployment." In other word ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA recognized it was possible that EOS damage to the ASIC caused the airbags to fail in 2011, but told NHTSA nearly 5 years later that the ACU was "not available" and repeated the conclusion of a "commanded nondeployment."

1324. These misleading statements were material because they concealed evidence that the ACU Defect had caused airbag failures in a crash. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs.

iv. The presentation misleadingly called the Twohill crash a "commanded nondeployment" and blamed Hyundai-approved wiring modifications for any EOS.

1325. The July 2016 presentation states regarding an incident called "HKMC C": "HKMC analysis confirmed event as commanded nondeployment" and "[v]ehicle analysis identified aftermarket accessories spliced into ACU power lines as likely contributor to source of EOS." "HKMC C" refers to the Hyundai Sonata crash in Iowa in 2011 that injured the Twohills. Both statements were misleading.

1326. The statement suggesting the Twohill crash involved "commanded nondeployment" was misleading because the DS84 ACU from this vehicle failed to generate a crash record, thereby rendering it impossible to reliably confirm a "commanded nondeployment." And contrary to the claims in the July 19, 2016 presentation, Hyundai USA later did not claim to have confirmed a "commanded nondeployment" when explaining this incident to NHTSA in 2018.

1327. The statement blaming "aftermarket accessories" for EOS was misleading because ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA knew that the Hyundai-Kia Defendants had approved the modifications to the Twohills' Sonata. In fact, a written report from May 2016 authored by Emanuel Goodman—one of the authors of the July 19, 2016 presentation for ZF Electronics USA and ZF Passive Safety USA—states: "HKMC communicated that the aftermarket homelink system *was an approved Hyundai kit*." (emphasis added). The July 19, 2016 presentation misleadingly omitted this fact, which was important for a complete assessment of whether the DS84 ACU and ASIC should have withstood transients purportedly caused by any wiring modifications, including with an approved accessory for the vehicle.

1328. Both misleading statements were material because they concealed evidence that the ACU Defect as the root cause of airbag failures in a crash. Upon information and belief, NHTSA would have considered this information important

to its decision whether to require a recall or expand its investigation into the defective DS84 ACUs and ASICs.

v. The presentation misleadingly called the airbag failures in the Egyptian Kia Forte crash a "commanded non-deployment."

1329. The presentation describes an incident called "HKMC E" as a "Near deploy event" (i.e., a crash that almost triggered deployment thresholds) and "commanded non-deployment." "HKMC E" refers to the Kia Forte crash in Egypt that occurred in 2011 or early 2012. This characterization was misleading because a written analysis of the crash dated May 15, 2012 by ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA states: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded." Accordingly, it was misleading to state with any confidence that this crash was a "near deploy event" or "commanded non-deployment."

1330. This misleading statement was material because it concealed evidence that the ACU Defect had caused airbag failures in a crash. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation into the defective DS84 ACUs and ASICs.

vi. The presentation misleadingly called six FCA Class Vehicle crashes with airbag failures "commanded non-deployments."

1331. Regarding six separate incidents with FCA vehicles that crashed with no airbag deployment and "EOS Present" (one more than in the February 5, 2016 presentation), the presentation misleadingly stated: "All non-deployment[s] likely commanded due to customer deployment strategy design." This statement, which concerned the 2012 Jeep Patriot, the 2012 Dodge Avenger, the 2012 Chrysler 200,

the 2011 Dodge Avenger, the 2012 Chrysler 200 Convertible, and the 2013 Dodge Avenger discussed in Sections IV.D.4.e., IV.D.4.g., IV.D.4.l., IV.D.4.o., IV.D.4.n., and IV.D.4.o. above, was misleading for several reasons.

a. All these FCA Class Vehicles had missing crash records, thereby making it impossible to reliably determine whether any nondeployment was "commanded." As ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA acknowledged in a 2012 report about a Kia Forte crash: "[i]t is not possible to determine whether ACU attempted to deploy, or would have recorded a near deployment event, since no EDR was fully recorded." This principle applied with equal force to the same EDR technology in these FCA Class Vehicles.

b. The pictures of the wreckage from these incidents show the type of catastrophic collisions that obviously merit airbag deployment. These pictures are collected in Sections IV.D.4.e., IV.D.4.g., IV.D.4.l., IV.D.4.o., IV.D.4.n., and IV.D.4.o. above.

c. Moreover, FCA confirmed that these statements were misleading in its 573 Defect Report for the September 2016 recall of the vehicles involved in these incidents. That report does not mention deployment strategies as a purported reason for the failures because FCA concluded that its deployment strategies should have commanded deployment.

1332. These misleading statements were material because they concealed evidence that the ACU Defect had caused airbag failures in crashes. Upon information and belief, NHTSA would have considered this information important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs.

vii. The presentation misleadingly suggested that the safety restraints deployed properly in two FCA Class Vehicle crashes.

1333. The presentation stated that in two incidents involving 2012 Jeep Patriots called "Chrysler A" and "Chrysler B": "Deployment occurred even though there is no or partial crash record." This statement was intended to suggest that Chrysler B did not involve a failure of the safety system's restraints. This statement was false.

1334. In fact, "Chrysler B" refers to the crash test of a 2012 Jeep Patriot conducted by the Insurance Institute for Highway Safety. In this test, the Institute found: "the seat belt allowed excessive forward excursion of the dummy's head and torso, and the driver's seat tipped forward and toward the B-pillar. The side curtain airbag did not deploy, leaving the dummy's head vulnerable to contacts with side structure and outside objects." In fact, on March 9, 2016—four months before the July 19, 2016 presentation—FCA determined EOS occurred in this crash test before the DS84 ACU should have commanded deployment of the second stage airbags, which would explain why they failed to activate. Accordingly, it was misleading for this presentation to suggest "[d]eployment occurred" in this crash test, when the truth was that one front airbag deployed, whereas the seatbelts and second stage airbag failed. These failures are serious shortcomings that caused the Institute to grade this test result as "Poor."

1335. "Chrysler A," on the other hand, refers to the November 28, 2013 crash in Wisconsin involving a 2012 Jeep Patriot. In fact, on March 9, 2016—four months before the July 19, 2016 presentation—FCA determined EOS occurred in this crash test before the DS84 ACU should have commanded deployment of the second stage airbags, which would explain why they failed to activate. Accordingly, it was misleading to suggest "deployment occurred" when the truth was that the second stage airbags failed.

1336. These misleading statements were material because they concealed evidence that the ACU Defect had caused partial airbag failures in crashes. Upon information and belief, NHTSA would have considered this evidence important to its decision whether to require a recall or expand its investigation in the defective DS84 ACUs and ASICs.

viii. The presentation again misleadingly blamed wire harnesses as a cause of suspicious DS84 ACU malfunctions, which was misleading because the ACU Defect was the true root cause.

1337. The presentation attempted to blame the wiring harness in FCA Class Vehicles for the DS84 ACU malfunctions by stating that "[v]ehicle wiring architecture can contribute to EOS." According to the presentation, "[l]oss of signal from a front crash sensor may direct a commanded non-deployment in certain crash scenarios" and that the Jeep Liberty, Dodge Avenger, and Chrysler 200 "platforms route front passenger side satellite wire across the front of the vehicle and bundle with the driver side satellite wire. . . . This can cause the wiring for both front crash sensors to get damages in frontal left offset collisions." In other words, the presentation explained that the wires in certain types of crashes could interfere with airbag deployment due to the placement of the wiring in these vehicles.

1338. This statement was misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA knew that the DS84 ACUs were inherently defective and vulnerable to EOS irrespective of the presence of cross-car wiring, including because Hyundai-Kia vehicles with nondeployments linked to EOS did not have cross-car wiring like this. Moreover, in June 2013, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a written analysis noting that two EOS failure modes (one relating to a shorted crash sensor wire and another relating to a shorted squib communication line) occurred in Jeep Wranglers, another vehicle model without cross-car wiring. By 2016, FCA had

already learned of at least fourteen crashes involving nondeployments and signs of DS84 ASIC EOS in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, and one Fiat 500.[58] Accordingly, it was misleading to suggest cross-car wiring was a likely root cause of the nondeployment events. Instead, as Hyundai Korea, Kia Korea, Hyundai Mobis, Kia USA, and Hyundai USA wrote to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA in or around April 2016: "TRW's presentation identifies that all EOS problems involving all manufacturers have only occurred in the ST Micro DS84 ASIC. *The logical inference is that some design flaw or weakness in the DS84 ASIC is the core reason for any EOS incidents*." (emphasis added).

1339. ZF Automotive USA's, ZF Passive Safety USA's, and ZF Electronics USA's efforts to blame the wire harness on nondeployments in FCA Class Vehicles were also misleading because they knew wire harnesses could not have caused at least some observed DS84 ACU malfunctions, including because of nine inadvertent deployments in vehicles made by five different manufacturers (FCA, Kia Korea, Honda Japan, and two Chinese manufacturers). For nondeployment events, the vehicles did not crash and therefore a break in the frontal crash sensor wires could not have released a transient. Instead, as ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA explained to FCA in 2013, the root cause of inadvertent deployments is likely a transient surge originating from a connection between an airbag squib ASIC and the DS84 ASIC. The defect remains in the DS84 ACU irrespective of the placement of car wiring. Notably, the Jeep Wrangler with an inadvertent deployment and confirmed EOS on the DS84 ASIC

[58] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012 in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Fiat 500 crashed in 2015 in California.

did not have the type of cross-car wiring that ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA blamed as a "contribut[or] to EOS."

1340. The presentation's statements blaming wire harnesses for EOS were material because they obscured the scope of the ACU Defect by suggesting that only vehicles with a particular type of wiring may have a defect. In reality, millions of other vehicles were defective, because they also used the DS84 ACU and ASIC, which are inherently defective regardless of the configuration of vehicle wiring.

ix. The presentation misleadingly claimed the ACU Defect was "vehicle dependent."

1341. The presentation also stated: "[p]resence and impact of EOS on ACUs is vehicle dependent." This statement was misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had previously made common recommendations regarding DS84 ASIC EOS across vehicle types and manufacturers. For example, in 2013, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA recommended additional circuit protection for defective Jeep vehicles to FCA and expressly based those recommendations on experience with vehicles made by other manufacturers. Indeed, one ZF Electronics USA presentation to FCA from 2013 stated, "Initial EOS Design Proposal based on design experience in response to *other customer specifications*," suggested diodes "may mitigate EOS," and that an additional proposal "based on *other customer specifications* and experience" suggested a "[i]n rush limiting circuit" "may mitigate EOS." In other words, ZF Electronics USA told FCA that the experiences with EOS in other vehicles by other vehicle manufacturers should translate to Jeep vehicles experiencing the same problems.[59] These recommendations contradict the

[59] In a 2019 meeting with Toyota Japan, Toyota Engineering USA, and Toyota USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA similarly claimed that a design change to increase the diode protection on certain European models with the DS84 ASIC was based on "[l]earning made with other OEMs." Again, these statements are inconsistent with statements to NHTSA that

Footnote continued on next page

later statement to NHTSA that all EOS is "vehicle dependent." If this were true, recommendations based on other manufacturers' experiences would be irrelevant.

1342. This statement was material because it suggested that only vehicles with confirmed DS84 ACU malfunctions were potentially defective. In reality, millions of Class Vehicles were defective, because all vehicles with the DS84 ACU and ASIC are defective.

b. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany and ZF TRW Corp. have joint responsibility for the content of the misleading July 19, 2016 presentation.

1343. On July 19, 2016, agents of ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA again met with NHTSA. During the meeting, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA used the July 19, 2016 written presentation described above.

1344. The July 19, 2016 closely resembles the February 5, 2016 presentation discussed above. In fact, much of the language in the July 19 presentation is identical to the language in the February 5 presentation. Accordingly, the presentation likely shared the same authors, including Emanuel Goodman and Marc Bolitho. Mr. Goodman was both an employee of ZF Passive Safety USA and the Senior Technical Specialist of ZF Electronics USA. Mr. Bolitho was an employee of ZF Passive Safety USA and also served as Director of Passive Safety Engineering for ZF TRW Corp. and Vice President of Passive Safety Engineering for ZF Electronics USA.

1345. ZF Germany reviewed and approved the contents of this presentation before it was used, given its regular involvement in communications with NHTSA by its subsidiaries. Indeed, ZF Germany was also ultimately responsible for (and, in fact, purported to own) the content of this presentation because each page of this

Footnote continued from previous page
ACU design issues are platform dependent.

presentation states, "© ZF Friedrichshafen AG, 2018." The employees who wrote this presentation would not have identified ZF Germany without ZF Germany's approval.[60]

1346. ZF TRW Corp. also reviewed and approved the contents of this presentation before it was used in a meeting with NHTSA. ZF TRW Corp.'s ownership interest in this document is confirmed by the following language on the footer of every page: "This document is the property of ZF TRW and is disclosed in confidence. It may not be copied, disclosed to others, or used for manufacturing without the written consent of ZF TRW." Because ZF Germany's 2016 Annual Report identifies ZF TRW Corp. as the only subsidiary with a name containing "ZF TRW," "ZF TRW" must refer to ZF TRW Corp.

1347. Upon information and belief, ZF TRW Corp. mailed a copy of the presentation to NHTSA in late July or August 2016.

1348. Upon information and belief, in addition to using mail to send a copy of the July 19, 2016 presentation to NHTSA, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. each used email or other electronic means of communications to exchange, make comments on and convey approval of drafts of the July 19, 2016 presentation.

[60] ZF Germany has never denied Plaintiffs' allegation that "ZF Friedrichschafen AG's consent was required to send the presentation to NHTSA and/or the Vehicle Manufacturer Defendants, and ZF Friedrichshafen AG provided consent." Dkt. 120 at ¶168. On the contrary, it has relied on declarations that concede: "ZF Friedrichshafen AG . . . exercises only limited control over ZF's domestic entities communications with NHTSA." Dkt. 209-4 at ¶10. This vague statement does not deny that ZF Germany's consent was required for the domestic ZF companies to send presentations to NHTSA or that ZF Germany provided that consent.

5. Shortly after the July 19, 2016 meeting with NHTSA, ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA continued to coordinate with FCA, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, and Hyundai Mobis regarding their efforts to deny and downplay the ACU Defect.

1349. Upon information and belief, shortly after the July 19, 2016, meeting with NHTSA, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA shared excerpted versions of the July 19, 2016 presentation with FCA, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, and Hyundai Mobis.

1350. Upon information and belief, ZF Germany and ZF TRW Corp. reviewed and approved the circulation of these excerpted versions of the July 19, 2016 presentation to FCA, Hyundai Korea, Kia Korea, Hyundai USA, and Hyundai Mobis.

1351. Upon information and belief, the excerpted versions of this presentation contained several talking points created by the ZF Defendants designed to downplay the ACU Defect by misleadingly blaming airbag nondeployments on purportedly vehicle-dependent phenomena, such as the layout of wiring in the hood of the car, how grounded the chassis is, or manufacturer deployment strategies.

1352. The version of the presentation sent to Hyundai Korea, Kia Korea, Kia USA, Hyundai USA, and Hyundai Mobis contained the misleading statements concerning Hyundai-Kia vehicles noted above.

1353. The version of the presentation sent to FCA contained the misleading statements concerning the FCA vehicles.

1354. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA circulated the July 19, 2016 presentation to Hyundai Korea, Kia Korea, Kia USA, Hyundai USA, and Hyundai Mobis, and

FCA to facilitate their scheme to mislead NHTSA as to the nature and scope of the ACU Defect.

6. Between July 19, 2016 and September 2016, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA continued to communicate with FCA, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, and Hyundai Mobis about NTHSA's investigation.

1355. Between July 19, 2016 and September 13, 2016, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA communicated with FCA about NHTSA's investigation of FCA Class Vehicles.

a. Upon information and belief, in late July or early August 2016, FCA informed ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA that it was considering a partial recall of FCA Class Vehicles, given the mounting pressure of NHTSA's investigation and the overwhelming evidence of airbag and seatbelt failures in severe crashes. By this time, FCA was aware of at least 3 deaths and five injuries linked to the ACU Defect.

b. Upon information and belief, on or around August 9, 2016, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA attempted to persuade FCA to take the position that none of the DS84 ACUs and ASICs were defective and that wire harnesses were to blame for any evidence of EOS in crashes with airbag and seatbelt failures.

c. Upon information and belief, FCA responded to ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA that it would recall Class Vehicles with both cross-car wiring and the DS84 ACU, but that it would not recall any other vehicles with the DS84 ACU. This approach would allow ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA to

misleadingly blame "vehicle dependent" wire harnesses, while also limiting the scope and expense of FCA's recall.

1356. Between July 19, 2016 and September 13, 2016, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA communicated with Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, and Hyundai Mobis about NHTSA's investigation of Hyundai-Kia Class Vehicles.

a. Between late July and August 2016, Kia Korea, Kia USA, and legal counsel for ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA had several communications. During these communications, legal counsel for ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA informed Kia Korea and Kia USA that they did not need to take any further action and that NHTSA was "satisfied." During the last call in August 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA told Kia Korea and Kia USA that FCA had decided to recall certain models of Class Vehicles, but that the recall was due to the design of the wiring harness for the front impact sensors in the vehicles. ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA also told Kia Korea and Kia USA that the discussions with FCA and NHTSA did not require any recall by Kia Korea and Kia USA.

b. On July 29, 2016, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA met with Hyundai Korea, Kia Korea, and Hyundai Mobis in Korea to discuss NHTSA's investigation.

1357. Upon information and belief, in or around September 2016, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA also contacted Toyota USA and Toyota Japan to encourage Toyota USA and Toyota Japan to

adopt the misleading position that only Class Vehicles with particular wire harnesses were defective and that Toyota Class Vehicles were not defective.

1358. The communications summarized in this subsection were intended to facilitate the scheme to mislead NHTSA as to the nature and scope of the ACU Defect.

7. On September 13, 2016, FCA filed a misleading 573 Defect Report with NHTSA that mischaracterized the nature and scope of the ACU Defect for the purpose of reducing the scale of an unavoidable recall.

1359. On September 13, 2016, FCA filed a 573 Defect Report with NHTSA using mail and wire. This report admitted that over a million FCA Class Vehicles were defective, but falsely denied that other FCA Class Vehicles with the same DS84 ACU and DS84 ASIC were defective.

a. FCA's 573 Defect Report dated September 13, 2016 misleadingly states that FCA Class Vehicles with "independently routed" front sensor wiring are not defective.

1360. A document attached to FCA's 573 Defect Report admitted the 2009–2012 Dodge Ram 1500, 2010–2012 Dodge Ram 2500/3500, 2011–2012 Dodge Ram 3500/4500/5500 Cab-Chassis, 2010–2014 Jeep Wrangler, 2010–2012 Dodge Nitro, 2010–2013 Jeep Liberty, and 2012–2016 Fiat 500 were equipped "with the same ORC/ASIC." FCA, however, denied a defect in these vehicles because the DS84 ASIC's "front sensor wiring [was] routed independently along the left and right side of the vehicles."

1361. This statement blaming wiring for the Defect was false and misleading because the unrecalled FCA Class Vehicles have the same ACU Defect as the recalled FCA Class Vehicles. Independent wiring does not adequately protect vehicles against the defective DS84 ASIC, as demonstrated by the multiple failures in Hyundai-Kia Class Vehicles. All of these Hyundai-Kia Class Vehicles had front

sensor wiring that "was routed independently along the left and right side of the vehicles," but the airbags and seatbelts in these vehicles still failed during crashes due to EOS. Moreover, multiple consumers have reported that airbags and seatbelts in the unrecalled FCA Class Vehicles have failed in the field.[61]

1362. That the ACU Defect existed in FCA Class Vehicles with independently routed wiring is also confirmed by a written analysis from 2012 that FCA produced. This analysis identifies three Jeep Wranglers *with independently routed wiring* that had burnt metal on the DS84 ASIC, which is a sign of EOS.

1363. When FCA filed this misleading 573 Defect Report in 2016, FCA had already learned of at least fourteen crashes involving nondeployments and signs of EOS in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, and one Fiat 500.[62]

1364. FCA's misleading excuse about the role of wiring architecture as the root cause of the ACU Defect mimicked the misleading talking point from the February 5, 2016 presentation that ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA had shared with all the Vehicle Manufacturer Defendants, including FCA. Upon information and belief, FCA agree to mimic this talking point in furtherance of the conspiracy to mislead NHTSA.

1365. FCA's misleading statements about the 2009–2012 Dodge Ram 1500, 2010–2012 Dodge Ram 2500/3500, 2011–2012 Dodge Ram 3500/4500/5500 Cab-

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[61] *See* Exhibit 1 (ODI Nos. 10358293, 10404435, 10406392, 10431129, 10435172, 10473292, 10485943, 10508974, 10511307, 10544054, 10556705, 10560907, 10575416, 10614617, 10633640, 10653811, 10671988, 10712093, 10716219, 10885546, 10896487, 10907251, 10909641, 10917675, 10981445, 11024190, 11166733, 11221179, 11240474).

[62] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012 in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Fiat 500 crashed in 2015 in California.

Chassis, 2010–2014 Jeep Wrangler, 2010–2012 Dodge Nitro, 2010–2013 Jeep Liberty, and 2012–2016 Fiat 500 were material because these defective Class Vehicles pose an unreasonable safety risk to consumers.

b. FCA's 573 Defect Report dated September 13, 2016 misleadingly states that other FCA Class Vehicles with the DS84 ASIC were not defective.

1366. The same document attached to FCA's 573 Defect Report states: "Based on the data and engineering analysis conducted to date, this Issue has the potential to occur when all of the following three conditions are met (1) specific Occupant Restraint Controller ('ORC')/Application Specific Integrated Circuit ('ASIC') design; (2) front impact sensor cross-car wire routing; and (3) certain crash events." FCA used the phrase "specific Occupant Restraint Controller/Application ASIC design" to exclude other Class Vehicles with DS84 ACUs that include additional circuit protection. This was misleading because these excluded vehicles had the same defective DS84 ASIC, and the circuit protection added to the ACU was insufficient. Accordingly, the same issue had the potential to occur in these excluded Class Vehicles.

1367. Upon information and belief, Class Vehicles FCA excluded from its recall based in part on insufficient changes to circuit protection on DS84 ACUs included the 2015-2017 Jeep Wranglers, Jeep Patriots, and Jeep Compasses, among potentially others. The misleading use of the phrase "specific Occupant Restraint Controller ('ORC')/Application Specific Integrated Circuit ('ASIC') design" to exclude these vehicles was material because they had the same ACU Defect.

8. Shortly after FCA filed its 573 Defect Report, ZF Electronics USA, ZF Passive Safety USA, and ZF TRW Corp. sent a misleading letter to NHTSA that falsely denied a defect in the DS84 ACUs.

1368. In September 2016, Marc Bolitho, who simultaneously served as a long-time employee of ZF Passive Safety USA, the Vice President of Passive

Safety for ZF Electronics USA, and Director of Passive Safety Engineering for ZF TRW Corp., mailed a letter to the Chief of NHTSA's Recall Management Division. This letter falsely denied that the DS84 ACUs were defective, and misleadingly stated that vehicle wiring—rather than a defective DS84 ACU—was the cause of observed EOS and ACU failures. Specifically, the letter stated: "Although a similar TRW component is installed in vehicles other than those identified in the [September 13, 2016 FCA Defect Information Report], the conditions described in FCA's [Defect Information Report] are limited to the specific FCA vehicles identified in that report."

1369. This statement to NHTSA was false and misleading because ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and ZF TRW Corp. knew since 2008 (from thermal testing of the DS84 ASIC) that the ASIC was vulnerable to EOS. Moreover, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and ZF TRW Corp. also knew of other similar DS84 ACU malfunctions during crashes in vehicles made by other manufacturers, including:

a. Four Hyundai Sonata crash tests and one Kia Optima crash test, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS by no later than May 2012;

b. The Kia Forte crash with no airbag deployment in Ganzhou, China, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in August 2011 and May 2012;

c. The Kia Forte crash with no airbag deployment in Egypt, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in December 2011 and May 2012;

d. Two Kia Forte crashes and one K5 crash with nondeployments in Wehai, China; Xinyang, China; and Zhenjiang, China; for which ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed ASIC EOS in 2012;

e. The Honda Accord crash test in Japan with a nondeployment event, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in late 2012 or 2013;

f. The Honda Civic crash in Canada with a partial crash record, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in or around 2013;

g. The Honda City crash test in Japan where the ACU shut and lost communication, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in 2014;

h. The King crash, where a Kia Forte crashed with no airbag deployment in Florida, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in December 2015;

i. The Faumuina crash, where a Kia Forte crashed with no airbag deployment in California, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in December 2015 and January 2016;

j. The Twohill crash, where a Hyundai Sonata crashed with no airbag deployment in Iowa, for which ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA confirmed ASIC EOS in April and May 2016; and

k. The Toyota Auris that crashed with no airbag deployment in Turkey, which TRW Systems Ltd. learned of in August 2016.[63]

1370. The letter also stated: "the placement of the system wiring within these particular vehicle platforms and the reaction of the system in particular crash events, are necessary contributors to the nondeployments giving rise to this recall." This statement was misleading because the consequences of the DS84 ACU Defect had already occurred in a wide variety of vehicles made by different manufacturers. It is implausible that these different vehicles all shared common faulty wiring. Moreover, at the very least, ZF Passive Safety USA, ZF Electronics USA, and ZF Automotive USA were specifically aware of several incidents where Hyundai-Kia Class Vehicles and Jeep Wranglers had EOS damage on the DS84 ASIC and that none of these models had the type of cross-car wiring that the recalled FCA Class Vehicles had. By 2016, FCA had already learned of at least fourteen crashes involving nondeployments and signs of EOS in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, and one Fiat 500.[64]

1371. These misleading statements were material because they obscured the nature of the ACU Defect and downplayed the scope of the defective Class Vehicles. In fact, all Class Vehicles with the DS84 ACU and ASIC are defective.

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[63] As explained above, on August 16, 2016, TRW Systems Ltd. received a report from Toyota Motors U.K. stating: "the probable cause is the IC [(integrated circuit)] failure inside the ECU."

[64] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012 in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Fiat 500 crashed in 2015 in California.

9. In September 2016, ZF Automotive USA warned Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, Honda Japan, Honda USA, Mitsubishi Japan, and Mitsubishi USA that NHTSA had asked for information that would show that Honda, Toyota, and Mitsubishi Class Vehicles contained the DS84 ACU and ASIC.

1372. Sometime in or around the middle of September 2016, NHTSA requested that ZF Automotive USA provided detailed information identifying the Vehicle Manufacturers who had designed vehicles for sale in the United States with the DS84 ACU and ASIC.

1373. On September 23, 2016, ZF Automotive USA provided NHTSA with data showing that Honda, Toyota, and Mitsubishi Class Vehicles also had the DS84 ACU and ASIC. Upon information and belief, this is the first time NHTSA learned that Honda, Toyota, and Mitsubishi vehicles had the DS84 ACU and ASIC.

1374. Upon information and belief, following this provision of identifying data to NHTSA, ZF Automotive USA told Toyota Japan, Toyota USA, Toyota Engineering USA, Toyota Sales USA, Honda Japan, Honda USA, Honda Engineering USA, Mitsubishi Japan, and Mitsubishi USA that NHTSA had asked for and received information that would show that Honda, Toyota, and Mitsubishi Class Vehicles had the DS84 ACU and ASIC.

1375. Upon information and belief, ZF Automotive USA informed these Defendants about this development to warn them that NHTSA was investigating Honda, Toyota, and Mitsubishi Class Vehicles and to facilitate a coordinated effort to deny or downplay the ACU Defect.

10. On November 29, 2016, FCA filed an amended 573 Defect Report with NHTSA that misleadingly stated that a replacement ACU with the same defective DS84 ASIC would "remedy" the defect.

1376. On November 29, 2016, FCA filed an amended 573 Defect Report with NHTSA using mail and wire. This report described the remedy program as follows:

Description of Remedy Program :	**2016 11 29 - Occupant Restraint Controller (ORC) will be replaced on all vehicles.

1377. This statement that the replacement ACU would remedy the Class Vehicles was misleading because the replacement ACU included the same defective DS84 ASIC. Because the replacement ACU had insufficient circuit protection and the same defective DS84 ASIC, the replacement ACU had the same ACU Defect.

1378. The misleading description of this replacement ACU as a remedy was material because the point of a recall is to fix the defective part, and FCA Class Vehicles with replacement ACUs remain defective in the same way they were defective before the recall.

11. In 2017, NHTSA renewed its investigation of Hyundai-Kia Class Vehicles after learning of additional suspicious crashes.

1379. Upon information and belief, in 2017, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA coordinated with Hyundai Korea, Hyundai Mobis, and Hyundai USA to investigate two fatal Hyundai Sonata crashes where the airbags failed to deploy in the U.S. (the Gauff and Johnson crashes). In November 2017, NHTSA contacted Hyundai USA to obtain additional information about one of these incidents.

1380. After learning of the fatal Kia Forte crash in Canada with no airbag deployment, NHTSA requested information from Kia USA in September 2017.

1381. In January and February 2018, NHTSA also requested further information from Kia USA regarding EOS and airbag failures in Kia vehicles.

12. On February 27, 2018, Hyundai USA filed a 573 Defect Report with NHTSA that misleadingly claimed only 2011 Hyundai Sonatas had defective DS84 ACUs.

1382. On February 21, 2018, Hyundai USA met with ZF Automotive USA to discuss the defective Hyundai Class Vehicles. During this internal meeting, both ZF Automotive USA and Hyundai USA acknowledged that the circumstances associated with this the ACU Defect bore similarities to those related to recall campaign 16V-668, where EOS appeared to be a root cause of airbag non-deployment in significant frontal crashes in certain FCA Class Vehicles. Upon information and belief, Hyundai USA and ZF Automotive USA knew that some concession to NHTSA was likely necessary to avoid a broad recall.

1383. Therefore, on February 27, 2018, Hyundai USA announced a recall of 2011 Hyundai Sonatas. Upon information and belief, Hyundai USA only announced this recall after obtaining Hyundai Korea's express approval.

1384. On the same day, Hyundai USA filed a 573 Defect Report with NHTSA describing the ACU Defect and the recall, using mail and/or wire.

1385. Upon information and belief, Hyundai Korea reviewed a copy of the 573 Defect Report before Hyundai USA filed it, and specifically knew when doing so that the report would be filed in the United States with NHTSA.

1386. The February 27, 2018 573 Defect Report stated: "As of the date of this filing, Hyundai Motor America ('Hyundai USA') is aware of three airbag non-deployment allegations where Electrical Overstress ('EOS') was observed inside the vehicle's airbag control unit ('ACU'). The allegations are limited to early production Model Year 2011 Sonata vehicles produced by Hyundai Motor Manufacturing Alabama ('HMMA'). . . . The subject vehicles are equipped with an Airbag Control Unit ('ACU') which detects a crash signal and commands

deployment of the airbags and seat belt pretensioner. In some airbag non-deployment allegations, electrical overstress ('EOS') was observed on an Application Specific Integrated Circuit ('ASIC') inside the ACU." The report also describes description of the vehicle population:

Population :

Number of potentially involved :	154,753
Estimated percentage with defect :	1 %

1387. The above statements about the vehicles were misleading because they suggested only 1% of the model year 2011 vehicles made by HMMA had the ACU Defect. However, all Hyundai Class Vehicles, including those made in Korea by Hyundai Korea, had the defective DS84 ASIC that is particularly vulnerable to EOS.

1388. After receiving pressure from NHTSA, Hyundai USA amended its 573 Defect Report on April 18, 2018 to add 2012 and 2013 Hyundai Sonatas (including those made in Korea by Hyundai Korea), and acknowledged that 100% of the vehicles included in the expanded recall had the ACU Defect. The amended Report described the vehicle population as follows:

Population :

Number of potentially involved :	580,058
Estimated percentage with defect :	100 %

1389. In sum, these vehicles all had the same defective DS84 ACU and DS84 ASIC, and there were no meaningful differences in the safety systems that would explain how a subset of them was less defective. This sudden reversal, only after pressure from a regulator, confirms the original statements were false.

13. Kia USA made misleading statements to NHTSA on a telephone call on March 1, 2018.

1390. On March 1, 2018, Kia USA participated in a telephonic conference with NHTSA. NHTSA asked what action Kia USA or Kia Korea would take in light of Hyundai Sonata recall. Kia USA told NHTSA that the "Hyundai Sonata incidents are very different than what Kia has seen in its Forte vehicles." This statement was false and misleading because all of the incidents involved the same malfunction: the DS84 ASIC in the DS84 ACU stopped working due to EOS as a result of a crash.

14. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. jointly made misleading statements to NHTSA on March 8, 2018, and then mailed a copy of those misleading statements to NHTSA on March 12, 2018.

1391. In March 2018, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp., used interstate mail and/or wire to prepare and send a written presentation dated March 8, 2018 to NHTSA. This presentation contained several misleading statements about the DS84 ACU Defect. Upon information and belief, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. intended the statements to further their conspiracies with the Vehicles Manufacturer and ST Defendants by concealing the ACU Defect, avoiding recalls of defective Class Vehicles, and allowing the continued sale of defective but profitable safety equipment.

a. The March 8, 2018 written presentation contained misleading statements.

1392. The March 8, 2018 presentation contains several misleading statements directed at NHTSA.

i. The presentation falsely stated, "ZF has not found evidence to link non deployments to EOS."

1393. The end of the March 2018 presentation includes a "Summary" of its conclusions. This section states: "ZF has not found evidence to link non deployments to EOS." This statement was false and misleading because ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF TRW Corp., and ZF Germany were aware of—and indeed, had *long* known about— several pieces of evidence linking EOS to nondeployments.

a. First, by May 2012, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had confirmed EOS on DS84 ASICs from five Kia Forte and K5 crashes with nondeployments in China[65] and Egypt.

b. Second, in late 2012 or 2013, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had confirmed EOS on DS84 ASICs from a Honda Accord crash test with a second-stage airbag failure.

c. Third, by no later than January 2016, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had confirmed EOS on DS84 ASICs from two Kia Forte crashes and one Hyundai Sonata crash with airbag failures and/or seatbelt failures in the U.S. (the King, Faumuina, and Twohill crashes).

[65] The Chinese crashes with airbag failures and confirmed EOS occurred in Ganzhou, Wehai, Xinyang, and Zhenjiang.

d. Fourth, in 2015 and 2016, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA confirmed EOS damage on DS84 ASICs retrieved from at least five FCA Class Vehicles that crashed with airbag and/or seatbelt failures.[66]

e. Fifth, by November 2016, TRW Systems Ltd. had confirmed EOS damage on a DS84 ASIC retrieved from a Toyota Auris that crashed with no airbag deployment in Turkey.

f. Sixth, no later than August 2017, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA had confirmed EOS damage on the DS84 ASICs from two more Hyundai Sonata crashes with airbag failures (the Gauff and Johnson crashes).

1394. Similarly, the presentation stated, "EOS with non deployment is seen with FCA and HKMC with DS84 ASIC and not with other customers" and "[n]o notice of incidents of non deployments with EOS on Fiat, Honda, Mitsubishi, and Toyota as of today." These statements were false in light of the Honda and Toyota incidents noted in the preceding paragraph.

1395. These misleading statements were material because they concealed evidence of *many* observed airbag failures with confirmed EOS and falsely assured NHTSA that none existed. Upon information and belief, NHTSA would have considered this evidence important to its decision whether to require a recall or expand its investigation in the DS84 ACUs and ASICs.

[66] Regarding FCA's recall, the presentation misleadingly claimed: "No evidence to link electrical overstress and non deployment on FCA vehicles." This statement was false. FCA's recall report identified "the relative susceptibility of the subject ORC ASIC to negative transients" as one of the root causes.

ii. The presentation misleadingly blamed wire harnesses as a root cause of nondeployments caused by the ACU Defect.

1396. The presentation repeatedly attempted to blame the wiring harness in FCA Class Vehicles for the ACU malfunctions. For example, the presentation stated:

a. "FCA has recalled vehicle have [sic] cross car wiring and deployment strategy which makes it susceptible to commanded non deployment in certain crash events."

b. "FCA non deployment – resulting from cross car wiring and deployment strategy."

c. "FCA EOS – cross car wiring and unspecified negative transients damaging DS84 ASIC."

1397. These statements were misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA knew Hyundai-Kia vehicles with nondeployments linked to EOS did not have cross-car wiring like the some FCA vehicles. Moreover, in June 2013, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA prepared a written analysis noting that two EOS failure modes (one relating to a shorted crash sensor wire and another relating to a shorted squib communication line) applied to Jeep Wranglers, another vehicle model without cross-car wiring. By 2018, FCA had already learned of at least fifteen crashes involving nondeployments and signs of EOS in Class Vehicles without cross-car wiring, including eight Dodge Rams, five Jeep Wranglers, one Jeep Liberty, and one Fiat 500.[67] Accordingly, it was misleading to suggest cross-car

[67] The Dodge Ram crashes occurred in 2010 in Texas, in 2011 in Georgia, in 2012 in North Carolina, in 2014 in West Virginia and Arkansas, and in 2015 in Maine, Pennsylvania, and Connecticut. The Jeep Wrangler crashes occurred in 2011 in West Virginia, in 2014 in California, in 2015 in Georgia and Iowa, and in 2014 in New York. The Jeep Liberty crashed in 2017 in Pennsylvania, whereas the Fiat 500

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wiring caused the nondeployment events. Instead, as Hyundai Korea, Kia Korea, Hyundai Mobis, Kia USA, and Hyundai USA wrote to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA in or around April 2016: "TRW's presentation identifies that all EOS problems involving all manufacturers have only occurred in the ST Micro DS84 ASIC. *The logical inference is that some design flaw or weakness in the DS84 ASIC is the core reason for any EOS incidents.*" (emphasis added).

1398. ZF Automotive USA's, ZF Passive Safety USA's, and ZF Electronics USA's efforts to blame the wire harness were also misleading because they knew wire harnesses could not have caused many observed ACU malfunctions, including at least nine inadvertent deployments in vehicles made by five different manufacturers (FCA, Kia Korea, Honda Japan, and two Chinese manufacturers). For the nondeployment events, the vehicles did not crash and therefore a break in the frontal crash sensor wires could not have released a transient. Instead, as ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA explained to FCA in 2013, the root cause of inadvertent deployments is likely a transient surge originating from a connection between an airbag squib ASIC and the DS84 ASIC. Notably, the Jeep Wrangler with an inadvertent deployment and confirmed EOS on the DS84 ASIC did not have the type of cross-car wiring that ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA blamed as a "contribut[or] to EOS."

1399. The presentation's statements blaming wire harnesses for EOS were material because they obscured the scope of the ACU Defect and suggested that only vehicles with a particular type of wiring may have a Defect. In reality, millions of other vehicles were defective, because all vehicles with the DS84 ACU and ASIC are defective.

Footnote continued from previous page
crashed in 2015 in California.

iii. The presentation misleadingly claimed the ACU Defect was "vehicle dependent."

1400. The presentation also stated, "EOS with non deployment is vehicle dependent and platform dependent within customer." This statement was misleading because ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA had observed evidence of nondeployments and partial deployments due to ASIC EOS in various Hyundai, Kia, FCA, Honda, and Toyota vehicles. These cross-manufacturer incidents confirmed EOS with nondeployment was not vehicle dependent.

1401. Moreover, ZF Automotive USA, ZF Passive Safety USA, and ZF Electronics USA previously made common recommendations regarding EOS across vehicle types and manufacturers. For example, in 2013, ZF Electronics USA recommended additional circuit protection for defective Jeep vehicles to FCA and expressly based those recommendations on experience with vehicles made by other manufacturers. Indeed, one ZF Electronics USA presentation to FCA from 2013 stated, "Initial EOS Design Proposal based on design experience in response to *other customer specifications*" suggest diodes "may mitigate EOS" and that an additional proposal "based on *other customer specifications* and experience" suggested a "[i]n rush limiting circuit" "may mitigate EOS." In other words, ZF Electronics USA told FCA that the experiences with EOS in other vehicles made by other vehicle manufacturers would translate to Jeep vehicles experiencing the same problems.[68] These recommendations contradict the later statement to NHTSA that all EOS is "vehicle dependent," which contradicted the known facts about EOS

[68] In a 2019 meeting with Toyota Japan, Toyota Engineering USA, and Toyota USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA would similarly claim that a design change to increase the diode protection on certain European models with the DS84 ASIC was based on "[l]earning made with other OEMs." Again, these statements are inconsistent with statements to NHTSA that ACU design issues are platform dependent.

incidents in a variety of different makes and models. If the statement were true, recommendations based on other manufacturers' experiences would be irrelevant.

1402. The statement that EOS with nondeployments was "vehicle dependent" was material because it suggested that only vehicles with confirmed ACU malfunctions were potentially defective. In reality, millions of Class Vehicles were defective, because all vehicles with the DS84 ACU and ASIC are defective.

iv. The presentation misleadingly stated that all DS84 ACUs have appropriate levels of protection against specified and foreseeable vehicle transients.

1403. The presentation stated: "All ZF ACUs have appropriate levels of protection against specified and foreseeable vehicle transients." This statement was misleading because, due to the DS84 ACU Defect, *none* of the Class vehicles have appropriate levels of protection, as explained in Section IV.A.9 above.

b. ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, ZF Germany, and ZF TRW Corp. have joint responsibility for the content of the misleading March 8, 2018 written presentation.

1404. On March 8, 2018, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and ZF TRW Corp. met with NHTSA regarding the mounting evidence that DS84 ACUs were repeatedly failing due to EOS.

a. Emanuel Goodman, a longtime employee of ZF Passive Safety USA and the Senior Technical Specialist for ZF Electronics USA, attended this meeting on behalf of ZF Passive Safety USA and ZF Electronics USA.

b. Marc Bolitho, a longtime employee of ZF Passive Safety USA and the Vice President of Passive Safety for ZF Electronics USA and Director of Passive Safety Engineering for ZF TRW Corp., attended this meeting on behalf of ZF Passive Safety USA, ZF Electronics USA, and ZF TRW Corp.

c. Upon information and belief, Natalia Medley, who served as counsel for ZF Automotive USA (among other ZF entities), attended this meeting on behalf of ZF Automotive USA

1405. During this meeting, ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and ZF TRW Corp. used a presentation that ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, and ZF TRW Corp. jointly approved.

1406. Mr. Goodman's and Mr. Bolitho's use of this presentation at the March 8, 2018 meeting with NHTSA evidences the approval of the presentation by ZF Automotive USA, ZF Passive Safety USA, ZF Electronics USA, and ZF TRW Corp.—the corporate entities they directly represented.

1407. On March 12, 2018, Ms. Medley, who represented ZF Automotive USA in discussions with NHTSA, mailed the presentation to a senior attorney at NHTSA named Otto Matheke. The cover letter she signed was on letterhead of ZF's "Active & Passive Safety Technology" business unit. Because this is a reference to ZF TRW Corp.,[69] ZF TRW Corp. must have reviewed and approved the transmittal of the presentation to NHTSA.

1408. ZF Germany was ultimately responsible for the content of the March 8, 2018 presentation because each page of this presentation states, "© ZF Friedrichshafen AG, 2018." The inclusion of the copyright legend evidences ZF Germany's review and approve of the material. Upon information and belief, ZF Germany did actually review and approve the presentation (or a draft thereof) before its subsidiaries sent it to NHTSA.

[69] According to ZF Germany's 2017 Annual Report, the "Active & Passive Safety Technology Division" was "established by ZF Group to manage the business activities of ZF TRW after its acquisition." Because ZF TRW Corp. is the only corporate entity with "ZF TRW" as part of its corporate name, this letter was also sent on behalf of ZF TRW Corp.

15. Shortly after the March 8, 2018 meeting with NHTSA, ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA continued to coordinate with FCA, Hyundai Korea, Kia Korea, Hyundai USA, Kia USA, and Hyundai Mobis regarding their efforts to deny and downplay the ACU Defect.

1409. Upon information and belief, shortly after the July 19, 2016, meeting with NHTSA, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA shared excerpted versions of the March 8, 2018 presentation with Toyota Japan, Honda Japan, and Mitsubishi Japan. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA did this to further their scheme to mislead NHTSA as to the nature and scope of the ACU Defect.

16. On March 14, 2018, Kia USA made misleading statements to NHTSA regarding field incidents involving Kia vehicles.

1410. Upon information and belief, in March 2018, Kia Korea and Kia USA used interstate mail and/or wire to prepare and send a written presentation dated March 14, 2018 to NHTSA. This presentation contained several misleading statements about the Kia Class Vehicles. Upon information and belief, Kia Korea and Kia USA intended these statements to further their conspiracy with ZF and ST Defendants by concealing the ACU Defect, avoiding recalls of unsafe Kia Class Vehicles, and allowing the continued sale of defective but profitable safety equipment.

a. The March 14, 2018 written presentation to NHTSA contained misleading statements.

1411. The March 14, 2018 written presentation contains several misleading statements directed at NHTSA.

i. The presentation materially misrepresented the number of known crashes with signs of ASIC EOS in Kia vehicles.

1412. The presentation undercounted the number of known crashes where Kia vehicles showed signs of ASIC EOS by only noting the following incidents: (1) an April 20, 2012 Kia Korea crash test of a Kia Optima Hybrid for the European market, (2) the March 21, 2011 crash in Tallahassee, Florida involving a Kia Forte with no airbag deployment that seriously injured Joy King, (3) the July 28, 2013 crash in Northern California involving a Kia Forte with no airbag deployment that killed Lomia Faumuina and seriously injured Ronald Hill, and (4) the March 18, 2017 crash in Canada involving a Kia Forte with no airbag deployment that killed Julian Dufort.

1413. In fact, Kia Korea, Kia USA, and Hyundai Mobis knew of five additional Kia Forte and Kia K5 crashes with nondeployments and confirmed DS84 ASIC EOS in China[70] and Egypt. Because the presentation affirmatively mentioned four cases implicating three different countries on two continents, it was misleading to conceal known adverse information about these other crashes. The presentation includes no limitation as to the geography of accidents listed, and therefore appears to disclose all relevant global incidents for NHTSA consideration. But it did not do so.

1414. This misleading statement was material because it concealed evidence of many observed airbag nondeployments with confirmed EOS. Upon information and belief, NHTSA would have considered this evidence important to its decision whether to require a recall or expand its investigation into the defective DS84 ACUs and ASICs.

[70] The Chinese crashes with airbag failures and confirmed EOS occurred in Ganzhou, Wehai, Xinyang, and Zhenjiang.

ii. The presentation misleadingly blames the failure of airbags in the King crash on "underride" damage from the crash instead of ASIC EOS.

1415. Regarding the airbag failure in Joy King's Kia Forte during a crash with a logging truck in Tallahassee, the presentation stated: "Kia's retained expert calculated sensors separated at about 35 milliseconds after first contact" and "[a]irbag non-deployment due to Forte underride." These statements misleadingly suggested that the underride crash damaged the crash sensors before a crash signal could be sent and the non-deployment of the airbag was not the result of the ACU Defect. Additionally, the misleading suggestion that only this "underride" caused the airbags not to deploy fails to explain the observed EOS damage to the DS84 ASIC, which is a known cause of airbag deployment failure.

1416. The misleading statement that the airbags failed in the King crash due to "underride" was material because it concealed evidence that the ACU Defect had caused airbag failures in a crash.

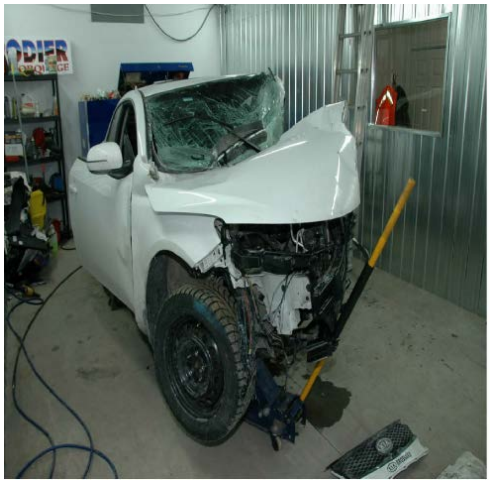
iii. The presentation misleadingly blamed the airbag failure in the Faumuina crash on the vehicle's front impact sensors.

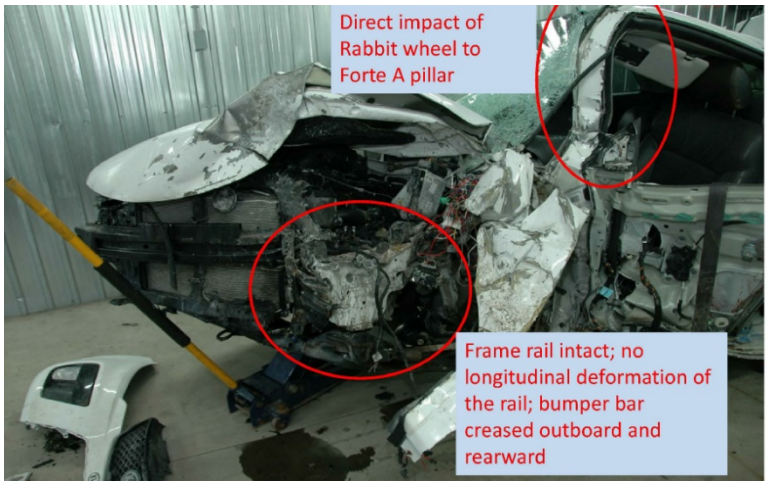
1417. Regarding the fatal Faumuina crash in Northern California, the presentation stated: "Kia's expert concluded the airbag sensors were compromised before an airbag deployment signal could have been sent." This statement misleadingly suggested that the cause of the non-deployment of the airbag in the Faumuina crash was not the result of the ACU Defect. The assertion that the sensors were compromised and caused airbag nondeployment fails to explain the prior observation of EOS damage on the DS84 ASIC, which is a known cause of airbag deployment failure.

1418. The misleading statement that the airbags failed in the Faumuina crash due to a front impact sensor failure was material because it concealed evidence that the ACU Defect had caused airbag failures in a crash.

iv. The presentation misleadingly suggested airbag deployment was not warranted in the fatal Kia Forte crash in Canada.

1419. Regarding the Kia Forte crash that Killed Julian Dufort in Canada, the presentation stated, "It appears that there would have been insufficient frontal crash energy to general a deployment signal" and "[Kia Korea] unable to identify any facts in limited photographs supporting a commanded airbag deployment" (i.e., that the airbags should have gone off). This statement was misleading because: (1) the crash was severe enough to kill the driver, (2) the airbags in the Volkswagen Rabbit that hit the Forte went off due the force of the same crash, and (3) the pictures of the wrecked Forte plainly showed a devastating crash that completely warped the front-end of the vehicle.





1420. Moreover, the excuse that the airbags were not supposed to deploy again fails to explain the EOS damage observed on the DS84 ASIC retrieved from the crash, which is a known cause of airbag deployment failures, and the loss of a crash record, which is typically caused by EOS.

1421. The misleading statement that the airbag deployment was not warranted in the Canadian Kia Forte crash was material because it concealed evidence that the ACU Defect had caused airbag failures in a crash.

b. Kia USA and Kia Korea had joint responsibility for the May 14, 2018 presentation to NHTSA.

1422. On March 14, 2018, Kia USA made a presentation to NHTSA using a written slide deck presentation.

1423. Because the document describes several actions by Kia Korea and Hyundai Mobis that Kia USA did not perform, Kia Korea and Hyundai Mobis must have assisted Kia USA with the preparation of this slide deck.[71] Upon information and belief, Kia USA, Kia Korea, and Hyundai Mobis all either played a role in editing, reviewing, or drafting the March 14, 2018 presentation.

1424. On March 16, 2018, J.S. Park, the Executive Director of Product Litigation & Regulatory Compliance for Kia USA, mailed a copy of the March 14, 2018 slide deck to NHTSA.

1425. Kia Corp's active role in overseeing Kia USA's response to the NHTSA investigation—including its decision to hold multiple meetings with ZF Automotive USA and Kia USA in South Korea about the investigation—demonstrates that Kia USA would not have submitted the presentation to NHTSA without Kia Korea's express approval.

1426. Upon information and belief, Kia Korea and Mobis knew that Kia USA would use this slide deck to make a presentation to NHTSA, and specifically intended for that to happen.

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[71] For example, the slide deck describes the following events that did not involve Kia USA at all: (1) Kia Korea's April 20, 2012 crash test, where the ACU in an Optima suffered EOS, (2) Kia Korea's November 4-17, 2015 inspection of ACUs, and (3) Kia Korea's provision of information to ZF Automotive USA on April 21, 2016 "for sharing information by them with NHTSA."

17. On March 16, 2018, NHTSA announced its intention to formally review all vehicles with DS84 ACUs and ASICs.

1427. On March 16, 2018, NHTSA opened a formal investigation into Hyundai-Kia Class Vehicles. In announcing the investigation, NHTSA publicly stated its ODI, "will evaluate the scope of Hyundai's recall, confirm Kia's use of the same or similar ZF TRW ACU, review the root cause analysis of all involved parties, and review and evaluate pertinent vehicle and/or ACU factors that may be contributing to, or causing EOS failures. Additionally, ODI will determine if any other vehicle manufacturers used the same or similar ACUs, as supplied by ZF-TRW, and if so, evaluate whether the field experience of these vehicles indicates potentially related crash events."

1428. Upon information and belief, all Defendants reviewed NHTSA's announcement and, based on the final sentence quoted in the preceding paragraph, understood that NHTSA would review the risks associates with DS84 ACUs and ASICs in all Class Vehicles.

18. In April and May 2018, Hyundai USA and Kia USA agreed to further recalls of Hyundai-Kia Class Vehicles in response to pressure from NHTSA.

1429. On March 19 and March 28, 2018, Hyundai USA conducted seven Hyundai Sonata crash tests. NHTSA supervised these crash tests, and Hyundai Korea assisted with the development of the crash test parameters. Hyundai USA was able to replicate EOS damage to the DS84 ACU in three of the seven crash tests, with at least one of the confirmed EOS events resulting in the failure of airbags to deploy. Of the three crash tests that produced DS84 ACUs with evident EOS damage, Hyundai observed wire harness damage in two of these tests. There was no observed vehicle abnormality (such as wiring) that could have caused EOS in the third test.

1430. On April 11-12, 2018, Hyundai Korea, Hyundai USA, ZF Electronics USA, ZF Automotive USA, and ZF Passive Safety USA analyzed the three DS84 ACUs with replicated EOS damage at ZF TRW Global Electronics Headquarters in Farmington Hills, Michigan. NHTSA supervised this analysis. The analysis showed that, in all three ACUs, an internal electrical short occurred on the 5-volt VCC line connecting the DS84 ASIC to a power supply. One of the three ACUs contained visible evidence of EOS.

1431. [redacted]

1432. On April 18, 2018, Hyundai USA expanded the scope of its safety recall for Hyundai Sonatas.

1433. On May 15 and 16, 2018, Kia USA inspected two new Kia Fortes with DS84 ACUs that had crashed with no airbag deployment. Upon information and belief, NHTSA had identified these vehicles itself and required Kia USA to inspect them. NHTSA supervised the inspection. During this inspection, Kia USA was not able to communicate with or retrieve a crash record from one of the ACUs. Kia USA sent both ACUs from this inspection to ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA's shared office in Michigan for inspection.

1434. Upon information and belief, on May 24, 2018, ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA, Hyundai Mobis, Kia Korea, and Kia USA conducted a joint inspection of the DS84 ACUs at a Michigan-based facility shared by ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA. EDR data downloaded from the 2012 Kia Forte showed that a crash record was missing for the most recent crash, which is a sign of EOS. Resistance measurements made on certain circuit board pins of the same ACU were consistent with prior controller measurements that had exhibited an EOS event. Based on

these results and available information from other manufacturers, NHTSA requested Kia USA and Kia Korea conduct a recall of the 2010-2013 Kia Forte.

1435. On May 28, 2018, in response to NHTSA's request, Kia Korea agreed to recall the 2010-2013 Kia Forte, 2010-2013 Forte Koup, 2011-2013 Optima, 2011-2012 Optima Hybrid, and 2011-2012 Sedona.

19. Hyundai USA and Kia USA filed 573 Defect Reports in April 2018 and June 2018 that misleadingly downplayed the scope of the ACU Defect.

1436. On April 18, 2018, Hyundai USA used mail and/or wire to file a 573 Defect Report announcing its expanded recall of Sonatas. In a section of the form requiring Hyundai USA to "Identify How/When Recall Condition was Corrected in Production," Hyundai USA responded that "[r]edesigned ACU's were used beginning with model year 2013 Hyundai Sonata vehicle production." This statement was misleading because the "redesigned ACU" still had the same defective DS84 ASIC as the DS84 ACUs prior to the "redesign." Upon information and belief, although this "redesigned ACU" included some additional circuit protection by adding diodes, the diodes do not alter the defective design of the DS84 ASIC and can still fail to protect the ASIC when a transient is large enough. Indeed, Toyota and Honda Class Vehicles with confirmed EOS damage on the DS84 ASICs also contained diodes, which failed to prevent EOS. Moreover, public complaints indicate that suspicious airbags failures in 2013 through 2019 Hyundai Sonatas even with the "redesigned ACUs" persist.[72]

1437. On June 1, 2018, Kia USA used mail and/or wire to file a 573 Defect Report defect announcing its recall of Kia Class Vehicles. In a section of the report requiring Hyundai USA to "Identify How/When Recall Condition was Corrected in

[72] *See* Exhibit 2, ODI Nos. 10561845, 10577996, 10690546, 10914378, 10966365, 10991216, 11109647, 11110375, 11111515, 11111752, 11113831, 11182813, 11185315, 11207275, 11218278, 11235075, 11290285, 11307272, 11309986.

Production," Kia USA responded that "[t]he ACU implemented into production from August 15, 2012 for the Sedona and from September 1, 2012 for the Forte, Forte Koup, Optima and Optima Hybrid have adequate circuit protection." This statement was misleading because the DS84 ACUs in later Kia Class Vehicles still had the same defective DS84 ASIC as the ACUs prior to the "redesign." Upon information and belief, although these later vehicles included some additional circuit protection by adding diodes, the diodes do not alter the defective design of the DS84 ASIC and can still fail to protect the ASIC when a transient is large enough. Indeed, Toyota and Honda Class Vehicles with confirmed EOS damage on the DS84 ASICs also contained diodes, which failed to prevent EOS. Public complaints indicate that suspicious airbags failures in 2014 through 2019 Kia Class Vehicles persist.[73]

20. In spring 2018, Toyota USA made misleading statements to NHTSA denying the existence of known field incidents in which EOS was suspected or found.

1438. In March 2018, Toyota Japan began holding weekly conference calls with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA During these calls, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA regularly discussed results of transient testing, known failure modes associated with EOS on the DS84 ASIC, and suspicious Toyota crashes with no airbag deployment. These weekly conference calls continued until at least August 2019. Upon information and belief, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA held well over 50 of these conference calls. Upon information and belief, participants in the conference calls included Emanuel Goodman, a longtime employee of ZF Passive Safety USA and the Senior Technical Specialist for ZF Electronics USA; Raad Konja, a vice

[73] *See* Exhibit 3, ODI Nos. 11019598, 11183175, 11210649, 11287036.s

president at ZF Passive Safety USA; and members of Toyota Japan design group called "3SJ."

1439. Upon information and belief, in or around March 2018, NHTSA contacted Toyota USA inquiring about the use of DS84 ACUs with the DS84 ASIC and any field experience in Toyota vehicles.

1440. Later, in spring 2018, Toyota USA misleadingly responded to NHTSA that Toyota had conducted a U.S. field data review, and reported that no U.S. cases were found at that time based on Toyota's understanding of the issues.

1441. This statement was misleading because Toyota USA, Toyota Sales USA, and Toyota Japan were aware of a suspicious Toyota Corolla crash with no airbag deployment that occurred in July 2016 in New Haven, Vermont. The Corolla was travelling at 50 miles per hour when it crashed into a vehicle that stopped in front of it. The high speed of this collision indicated the airbags should have deployed. Moreover, an inspector was unable to establish communication with the Corolla's EDR or otherwise download a crash record. These are signs of ASIC EOS.

1442. Moreover, by this time, Toyota Japan, Toyota USA, and Toyota Engineering USA knew that a Toyota Auris had crashed with no airbag deployment in Turkey, and that a decapsulation analysis of the DS84 ASIC from this vehicle had confirmed EOS. Toyota Japan, Toyota USA, and Toyota Engineering USA also knew that Toyota Japan was assessing whether EOS had caused suspicious nondeployments in Toyota Aurises in Morocco and Portugal. Because the Toyota Auris is very similar to the Toyota Corolla sold in the United States, it was misleading for Toyota USA to limit its disclosure to NHTSA to "U.S. cases."

1443. Toyota USA's misleading statement denying suspicious field incidents was material because it concealed evidence that the ACU Defect had caused airbag failures in Toyota vehicles.

21. Between June 2018 and April 2019, Toyota Japan, Toyota USA, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ZF Germany, ST USA, ST Italy, and ST Malaysia coordinated with one another to conceal the ACU Defect in Toyota Class Vehicles.

1444. Between September 2018 and March 2019, Toyota Japan continued its regular weekly meetings with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA In addition to these meetings, Toyota Japan, Toyota Engineering USA, Toyota USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA held an in-person meeting at ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA's shared office in Farmington Hills, Michigan on January 29 and 30, 2019.

1445. During all these meetings, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA regularly discussed joint testing and analysis on DS84 ACUs and ASICs performed by ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, ST USA, ST Italy, and ST Malaysia.

1446. During Toyota Japan's regular weekly meetings with ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA typically sent Toyota Japan written slide decks to aid discussions. These slide decks contained copyright legends attributing ownership of the materials to ZF Germany. Based on these copyright legends and information and belief, ZF Germany reviewed and approved the transmittal of these written materials to Toyota Japan.

1447. In June and November 2018, ST USA responded to information requests for ST USA's failure analyses of several DS84 ASICs retrieved from Hyundai and Toyota vehicles.

1448. Upon information and belief, in or around November 2018, shortly after responding to NHTSA's information requests and confirming EOS damage on a DS84 ASIC retrieved from a Portuguese Toyota Auris that crashed with no front

airbag deployment, ST USA, ST Italy, and ST Malaysia grew concerned about NHTSA's investigation and the risk of recalls and lawsuits in the United States based on the defective DS84 ASIC. According to meeting notes produced by Toyota Defendants, Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive discussed this concern repeatedly in 2018 and 2019. For example, confidential notes to a November 22, 2018 meeting attended by representatives of ZF Electronics USA, ZF Passive Safety USA, Toyota Engineering USA, and Toyota Japan record a question as to whether the ST companies "are becoming sensitive as NHTSA, etc. are stepping?" Similarly, notes to a February 29, 2019 meeting between Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA state that ZF had heard that the ST companies "don't want to get involved because it is becoming a dangerous matter including lawsuits, etc. as NHTHA [sic] is also getting involved." (internal brackets omitted)

1449. Based on meeting notes produced by Toyota Defendants and information and belief, ST USA, ST Italy, and ST Malaysia informed ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and ZF Germany that they would no longer perform their proprietary analyses on returned DS84 ASICs to determine whether they had EOS damage. According to notes of several meetings between Toyota Japan, ZF Electronics USA, ZF Passive Safety USA, and ZF Automotive USA, conversations about this decision by ST USA, ST Italy, and ST Malaysia reached the highest levels of ZF's and ST's corporate structure, including, upon information and belief: (a) in-house counsel at ZF Germany and ST USA, (b) the CEOs of ZF Germany and the ST parent company, and (c) senior vice presidents at ZF Germany or ZF Automotive USA

1450. Upon information and belief, ZF Electronics USA, ZF Passive Safety USA, ZF Automotive USA, and Toyota USA did not notify NHTSA of ST USA's, ST Italy's, and ST Malaysia's decision to stop evaluating DS84 ASICs for EOS,

even though Toyota USA committed in writing to "update the Agency on the status of its ongoing investigation" at least twice in 2019, including on March 14, 2019 and May 28, 2019. ST USA's, ST Italy's, and ST Malaysia's withdrawal from investigating DS84 ASIC EOS was a material development because their proprietary testing methodologies were critical to capturing magnified images of EOS damage.

22. On January 17, 2020, Toyota Engineering USA and Toyota USA filed a 573 Defect Report that misleadingly denied the ACU Defect in millions of Toyota Class Vehicles.

1451. On January 17, 2020, Toyota Engineering USA and Toyota USA filed a 573 Defect Report with NHTSA that announced its intention to recall Toyota Corollas and Avalons based on the ACU Defect. This announcement occurred only after NHTSA's investigation had effectively forced Toyota Engineering USA and Toyota USA to inspect several suspicious incidents, most of which NHTSA itself identified.

1452. In explaining its decision not to recall other Toyota Class Vehicles with the same defective DS84 ACU and ASIC, Toyota Engineering USA and Toyota USA stated that, "due to a different body construction and other factors, Toyota believes at this time that an occurrence of a sufficient negative transient at a timing that can affect airbag deployment in a crash is unlikely." This statement was misleading because Toyota Engineering USA and Toyota USA elsewhere acknowledged their inability to assess the likelihood of dangerous negative transients occurring in even the recalled Toyota Class Vehicles, stating: "[D]amage to the application-specific integrated circuit (ASIC) that will affect airbag deployment can occur only under a very narrow set of factors and circumstances in a crash that Toyota believes to be rare. However, *Toyota is unable to estimate the likelihood for this to occur in the real world.*" Similarly, Toyota USA and Toyota Engineering USA acknowledged that for some recalled Class Vehicles, "the

mechanism that could create a sufficient negative electrical transient in a crash is *not fully understood* and is under investigation." Given these admissions, Toyota Engineering USA and Toyota USA's affirmative statement about the purported unlikelihood of a dangerous transient occurring in unrecalled Class Vehicles was misleading because it was unreliably speculative.

G. Defendants' material omissions and misrepresentations about the defective DS84 ACUs injured Plaintiffs and class members.

1. Defendants' consumer-facing misleading misrepresentations and omissions caused Plaintiffs' purchases and leases of Class Vehicles.

1453. But for Defendants' misleading consumer-facing misrepresentations and omissions, Plaintiffs would not have agreed to purchase or lease their Class Vehicles. *See* Section II.B above.

1454. But for Defendants' misleading use of permanent labels certifying compliance with US safety standards, Defendants could not have legally distributed the Class Vehicles for sale and Plaintiffs' purchases or leases of Class Vehicles could never have taken place.

1455. But for Defendants' misleading consumer-facing misrepresentations and omissions, there would have been no viable market for the defective DS84 ACUs and ASICs. The ZF Defendants' decision to stop making the DS84 ACU in 2019—i.e., the same year that NHTSA announced its investigation of all vehicles with the DS84 ACU—evidences a causal connection between the revelation of information about the defect and the elimination of a viable market for the DS84 ACUs.

2. But for Defendants' consumer-facing misleading misrepresentations and omissions, Plaintiffs would not have overpaid for the Class Vehicles.

1456. Defendants' misleading misrepresentations about the safety of Class Vehicles also caused Plaintiffs to overpay for their Class Vehicles. *See* Sections

II.B., IV.G. above. This overpayment is equal to the difference in value between the Class Vehicles as marketed and the Class Vehicles as purchased or leased. This calculation shows the difference between the amount the Plaintiffs would have spent for the purchase or lease of Class Vehicles with the ACU defect, and what they would have spent on those without it.

1457. As an initial matter, the existence of a non-zero value difference between the "as marketed" and "as purchased or leased" Class Vehicles is obvious. Because consumers care deeply about automobile safety, vehicles with less effective safety systems are worth less than comparable vehicles with more effective safety systems. Although this inherently intuitive concept requires no illustration, market evidence confirms that there is a difference in price between two otherwise comparable vehicles with even slightly different safety systems. For example, some vehicles are sold with and without seat-mounted front side airbags. The addition of these extra airbags beyond front airbags makes the cars safer, but costs extra. For the 2011 Jeep Wrangler, for example, this added feature cost approximately $500.

1458. The same principle applies when comparing the value of the "as marketed" and "as delivered" Class Vehicles. Defective safety systems are worth less than the same safety system without a defect because they make the vehicle more dangerous. For example, in the *Takata* airbag litigation, plaintiffs also alleged overpayment damages suffered at the point of sale based on a dangerous airbag defect. Plaintiffs' experts in that case performed a conjoint analysis using surveys of consumers and found that the overpayment percentage for vehicles with the dangerous airbag defect in that case was at least ten percent of the purchase price.

3. Defendants' misrepresentations to NHTSA caused economic harm to the Plaintiffs and class members who purchased Class Vehicles after the date of those misrepresentations.

1459. But for Defendants' misleading statements to NHTSA in 2016 and 2018, the public would have learned about the dangerous safety defect much earlier than April 2019, when NHTSA first announced an Engineering Analysis covering over twelve million vehicles. For example, if ZF Germany, ZF TRW Corp., ZF Automotive USA, ZF Electronics USA, and ZF Passive Safety USA had not misleadingly denied the defect in 2016 (including by falsely stating several crashes with safety system failures were "commanded nondeployments"), NHTSA would have also launched the same Engineering Analyis much earlier, likely in 2016. Because this Engineering Analysis coincided with ZF Defendants' abandonment of the DS84 ACU, manufacture of the DS84 ACU would have also occurred much earlier and the 2018 and 2019 Class Vehicle model years would not have had the ACU Defect at all. Plaintiffs Samouris, Hernandez, Van Houten, Collins, and Graziano therefore would not have purchased vehicles with DS84 ACUs in that scenario.

1460. Moreover, NHTSA's 2019 Engineering Analysis was a newsworthy event covered by several major news outlets, including, for example, Newsweek and CNN. Plaintiffs likely would have learned this news, because the announcement of the Engineering Analysis is the event that prompted the filing of the lawsuits in this matter. The Plaintiffs who purchased after 2016, when the news of an earlier investigation likely would have broken, include Plaintifs Samouris, Hernandez, Swanson, Fishon, Maurilus, Gonzalez, Van Houten, Collins, Graziano, Hunt, Laveaux, and DeMoranville.

4. Plaintiffs are the direct and intended victims of Defendants' fraud.

1461. Plaintiffs are the direct and intended victims of Defendants' fraud.

1462. Defendants' ultimate goal was to use the cheap safety system parts (the DS84 ASIC and ACU) for as long as possible. Achieving this goal over several years required continuing purchases and leases of Class Vehicles by consumers, because end-user transactions generate demand from dealers for Class Vehicles.

1463. Toyota Japan, Toyota Sales USA, Toyota USA, Hyundai Korea, Hyundai USA, Kia Korea, Kia USA, Honda Japan, Honda Engineering USA, Honda USA, FCA, Mitsubishi Japan, and Mitsubishi USA specifically targeted vehicle purchasers and lessees as the intended audience for misleading advertising, Monroney labels, certification labels, airbag labels, airbag warning lamps, and owner's manuals.

1464. Although Defendants also sought to mislead NHTSA as to the existence, nature, and scope of the DS84 ACU Defect, their fraud on NHTSA was merely a means to the end of perpetuating fraud on consumers. Defendants make no money from defrauding NHTSA. And insofar as they saved money from avoiding recalls, consumers are the beneficiaries of those recalls, since they are people most likely to drive the Class Vehicles. Of course, NHTSA does not drive the Class Vehicles or take them to dealers for a recall remedy. Consumers do.

V. TOLLING OF THE STATUTE OF LIMITATIONS

1465. Plaintiffs reallege and incorporate by reference all preceding allegations as though fully set forth herein, including the specific allegations regarding the misrepresentations and omissions in Sections IV.E. – IV.G. above.

1466. As explained below, all statutes of limitations applicable to Plaintiffs' claims are subject to tolling under the doctrines of fraudulent concealment tolling, delayed discovery rule, and/or equitable estoppel due to Defendants' ongoing misrepresentations and omissions regarding the safety of the Class Vehicles and the passenger safety systems therein, and their ongoing scheme to knowingly and intentionally conceal the ACU Defect to Plaintiffs, the putative class, and NHTSA.

1467. The statute of limitations on Plaintiffs' and putative class members' claims are also tolled under *American Pipe & Construction Co. v. Utah*, 414 U.S. 538 (1974) and its progeny, which hold that the filing of an initial putative class action tolls the claims for all individuals that fall within the proposed class definition until the court in that action rules on class certification. *American Pipe* tolling applies as follows:

Date Tolling Began	Defendant Groups	Underlying Member Case
April 26, 2019	ZF Defendants Honda Defendants Toyota Defendants	*Samouris v. ZF TRW Auto. Holdings Corp.*, 2:19-cv-11215 (E.D. Mich.)
April 29, 2019	Hyundai Defendants Kia Defendants	*Hernandez v. Hyundai*, 8:19-cv-00782 (C.D. Cal.)
May 6, 2019	FCA Hyundai Mobis	*Altier v. ZF TRW Auto. Holdings Corp.*, 8:19-cv-00846 (C.D. Cal.)
May 21, 2019	Mitsubishi Defendants	*Bell v. ZF Friedrichshafen AG*, 8:19-cv-00963 (C.D. Cal.)
May 26, 2020	ST Defendants	Consolidated Class Action Complaint (Dkt. 278)

1468. Additionally, each Plaintiff's claims against ST Italy and ST Malaysia relate back to the date of filing of the Consolidated Class Action Complaint (ECF 278), because the claims asserted against ST Italy and ST Malaysia arose out of the conduct, transaction, or occurrence set out in the original complaints against the ST Defendants. ST Italy and ST Malaysia are subsidiaries of STMicroelectronics N.V. and STMicroelectronics International N.V., both of whom were named as defendants in the Consolidated Class Action Complaint.

1469. [redacted]

a. [redacted]

b. [redacted]

c. [redacted]

d. [redacted]

1470. Because Plaintiffs' claims relate back to the filing of the Consolidated Class Action Complaint, the statute of limitations has not run on Plaintiffs' claims against ST Italy and ST Malaysia.

A. Fraudulent Concealment Tolling

1. Defendants knowingly misrepresented and omitted material information to Plaintiffs, consumers, and NHTSA regarding the safety of the Class Vehicles.

1471. As set forth above in Section IV.E. – IV.G., throughout the relevant period, Defendants actively concealed and failed to disclose the ACU Defect to Plaintiffs, consumers, and NHTSA, which prevented Plaintiffs from learning the true defective nature of the DS84 ACUs and ASICs installed in their Class Vehicles.

1472. Defendants have known since at least 2008 that consumers consider properly-functioning airbags and seatbelts to be critical attributes when deciding to purchase or lease a vehicle. Based on that knowledge, each Vehicle Manufacturer Defendant group purposefully and knowingly engaged in, or conspired to engage

in, pervasive and ubiquitous marketing and advertising campaigns that portrayed the Class Vehicles as safe and reliable—and that the Class Vehicles' Occupant Restraint Systems would function properly and reliably in a crash—so they could sell more Class Vehicles and charge a higher price for them.

1473. Those marketing campaigns included brochures, press releases, print, media, television and radio advertisements, and promotion on internet and social media. Additionally, each Vehicle Manufacturer Defendant group made, or conspired to make, representations regarding the safety of the Class Vehicles and its functioning airbags and seatbelts through, among other things: window stickers affixed to each Class Vehicle at the point of sale or lease and available online; labels that uniformly communicate compliance with applicable motor vehicle safety standards in every Class Vehicle; and in-vehicle information about airbags. Further, on information and belief, each Vehicle Manufacturer Defendant group provided training and marketing materials regarding Class Vehicles to their authorized dealerships to increase sales and leases of Class Vehicles to consumers.

1474. Furthermore, each Vehicle Manufacturer Defendant group, along with the ZF Defendants, were responsible for equipping the Class Vehicles with misleading airbag readiness indicators that misrepresented to consumers the operability of the Class Vehicles' airbag systems.

1475. Moreover, the Vehicle Manufacturer Defendants and the ZF Defendants purposefully and knowingly made statements, helped make statements, and/or conspired to make statements to NHTSA that the Class Vehicles and their Occupant Restraint Systems were safe and reliable, were free from defects, and complied with all applicable safety laws and regulations.

1476. The table below summarizes the misrepresentations/misleading statements that the specific Defendants made, helped make, and/or conspired to make, and provides references the relevant sections above that describe the conduct in further detail.

Defendant	Misrepresentations/ Misleading Statements	Reference Sections
FCA	Monroney labels; Certification labels; Airbag readiness indicators; In-vehicle imprints and labels; Brochures and Marketing; Manuals; Communications/reports to NHTSA	IV.E.1.; IV.E.2.a.iii.; IV.E.2.b.iii.; IV.F.7.; IV.F.10.
Honda Japan	Certification labels; Airbag readiness indicators; In-vehicle imprints and labels; Manuals	IV.E.1.b. – d.; IV.E.2.b.v.
Honda Engineering USA	Certification labels; Airbag readiness indicators; In-vehicle imprints and labels	IV.E.1.b. – d.
Honda USA	Monroney labels; Brochures and Marketing; Manuals	IV.E.1.a; IV.E.2.a.iv.; IV.E.2.b.v.
Hyundai Korea	Certification labels; Airbag readiness indicators; In-vehicle imprints and labels; Communications/reports to NHTSA	IV.E.1.b. – d.; VII.A.1.
Hyundai USA	Monroney labels; Brochures and Marketing; Manuals; Communications/reports to NHTSA	IV.E.1.a; IV.E.2.a.ii.; IV.E.2.b.ii.; IV.F.12.; IV.F.19.
Kia Korea	Certification labels; Airbag readiness indicators; In-vehicle imprints and labels; Communications/reports to NHTSA	IV.E.1.b. – d.; VII.A.1

Defendant	Misrepresentations/ Misleading Statements	Reference Sections
Kia USA	Monroney labels; Brochures and Marketing; Manuals; Communications/reports to NHTSA	IV.E.1.a.; IV.E.2.a.ii.; IV.E.2.b.ii.; IV.F.13.; IV.F.16.; IV.F.19.
Mitsubishi Japan	Certification labels; Airbag readiness indicators; In-vehicle imprints and labels; Manuals	IV.E.1.b. – d.; IV.E.2.b.iv.
Mitsubishi USA	Monroney labels; Brochures and Marketing;	IV.E.1.a.; IV.E.2.a.v.
Toyota USA	Monroney labels; Communications/reports to NHTSA	IV.E.1.a; IV.F.20.; IV.F.22.
Toyota Sales USA	Monroney labels; Brochures and Marketing; Manuals	IV.E.1.a; IV.E.2.a.i.; IV.E.2.b.i.
Toyota Engineering USA	Communications/reports to NHTSA	IV.F.22.
ZF Passive Safety USA	Airbag readiness indicators; Communications/reports to NHTSA	IV.E.1.c.; IV.F.2.; IV.F.4.; IV.F.8.; IV.F.14.
ZF Electronics USA	Airbag readiness indicators; Communications/reports to NHTSA	IV.E.1.c.; IV.F.2.; IV.F.4.; IV.F.8.; IV.F.14.

Defendant	Misrepresentations/ Misleading Statements	Reference Sections
ZF Automotive USA	Airbag readiness indicators; Communications/reports to NHTSA	IV.E.1.c.; IV.F.2.; IV.F.4.; IV.F.8.; IV.F.14.
ZF TRW Corp.	Communications/reports to NHTSA	IV.F.2.; IV.F.4.; IV.F.8.; IV.F.14.
ZF Germany	Communications/reports to NHTSA	IV.F.2.; IV.F.4.; IV.F.8.; IV.F.14.

1477. In addition to the misrepresentations and misleading statements, each Defendant omitted material information regarding the safety of the Class Vehicles, as set forth in the Counts in Section VII and summarized in the table below.

Defendant	Fraud By Omission Counts
FCA	Arizona Count 4; California Count 6; Florida Count 5; Minnesota Count 7; New York Count 4; North Carolina Count 4; Oklahoma Count 5; South Dakota Count 5; Nationwide Counts 3 – 4
Honda Japan	Alabama Count 5; California Count 6; Connecticut Count 4; Florida Count 5; New York Count 4; North Carolina Count 4; Texas Count 4; Nationwide Counts 7 – 8

Defendant	Fraud By Omission Counts
Honda Engineering USA	Alabama Count 5; California Count 6; Connecticut Count 4; Florida Count 5; New York Count 4; North Carolina Count 4; Texas Count 4; Nationwide Counts 7 – 8
Honda USA	Alabama Count 5; California Count 6; Connecticut Count 4; Florida Count 5; New York Count 4; North Carolina Count 4; Texas Count 4; Nationwide Counts 7 – 8
Hyundai Korea	California Count 6; Florida Count 5; Maryland Count 5; Pennsylvania Count 5; Texas Count 4; Nationwide Counts 1 – 2
Hyundai USA	California Count 6; Florida Count 5; Maryland Count 5; Pennsylvania Count 5; Texas Count 4; Nationwide Counts 1 – 2
Kia Korea	California Count 6; Florida Count 5; Illinois Count 6; Indiana Count 5; Maryland Count 5; Massachusetts Count 5; Michigan Count 5; Minnesota Count 7; Missouri Count 5; New Jersey Count 4; Pennsylvania Count 5; Nationwide Counts 1 – 2
Kia USA	California Count 6; Florida Count 5; Illinois Count 6; Indiana Count 5; Maryland Count 5; Massachusetts Count 5; Michigan Count 5; Minnesota Count 7; Missouri Count 5; New Jersey Count 4; Pennsylvania Count 5; Nationwide Counts 1 – 2
Hyundai Mobis	Nationwide Counts 1 – 2
Mitsubishi Japan	California Count 6; Colorado Count 5; Wisconsin Count 4; Nationwide Counts 9 – 10

Defendant	Fraud By Omission Counts
Mitsubishi USA	California Count 6; Colorado Count 5; Wisconsin Count 4; Nationwide Counts 9 – 10
Toyota USA	California Count 6; Florida Count 5; Nevada Count 5; South Carolina Count 5; Texas Count 4; Washington Count 3; Nationwide Counts 5 – 6
Toyota Sales USA	California Count 6; Florida Count 5; Nevada Count 5; South Carolina Count 5; Texas Count 4; Washington Count 3; Nationwide Counts 5 – 6
Toyota Engineering USA	Nationwide Counts 5 – 6
ST USA	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Counts 1 – 10

Defendant	Fraud By Omission Counts
ST Italy	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 2; Nationwide Count 4; Nationwide Count 6; Nationwide Count 8; Nationwide Count 10
ST Malaysia	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Counts 1 – 10

Defendant	Fraud By Omission Counts
ZF Passive Safety Systems USA	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 1 – 10
ZF Electronics USA	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 1 – 10

Defendant	Fraud By Omission Counts
ZF Automotive USA	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 1 – 10
ZF TRW Corp.	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 1 – 10
ZF Germany	Alabama Count 6; Arizona Count 5; California Count 7; Colorado Count 6; Connecticut Count 5; Florida Count 6; Illinois Count 7; Indiana Count 6; Maryland Count 6; Massachusetts Count 6; Michigan Count 6; Minnesota Count 8; Missouri Count 6; Nevada Count 6; New Jersey Count 5; New York Count 5; North Carolina Count 5; Oklahoma Count 6; Pennsylvania Count 6; South Carolina Count 6; South Dakota Count 6; Texas Count 5; Washington Count 4; Wisconsin Count 5; Nationwide Count 1 – 10

2. Defendants knew that their representations to Plaintiffs, consumers, and NHTSA about the safety and reliability of the Class Vehicles and that the Occupant Restraint Systems were false and misleading.

1478. The above representations to Plaintiffs, consumers, and NHTSA regarding the safety of the Class Vehicles and the functionality of the vehicles' Occupant Restraint Systems were false and misleading because Defendants knew or should have known that the Class Vehicles were equipped with a defective DS84 ACU and ASIC, both of which can cause the vehicle's airbags and seatbelts to malfunction during a collision. As set forth above in Sections IV.E. – IV.F., Defendants knew that these representations were false and misleading at the time they made, helped to make, or conspired to make these representations to Plaintiffs and NHTSA.

1479. Defendants knew that disclosing the ACU Defect in Class Vehicles to consumers and/or NHTSA would have the ultimate effect of reducing the sales and sale prices of the Class Vehicles, as vehicles equipped with passenger safety systems that do not properly function in a crash are less desirable and less valuable than vehicles with properly functioning passenger safety systems.

1480. Indeed, when the Vehicle Manufacturer Defendants made, helped make, or conspired to make false and misleading representations to consumers—including Plaintiffs—regarding the safety of the Class Vehicles and their Occupant Restraint Systems, they knew that the ACU Defect was a material fact that would have caused consumers to either not purchase or lease the Class Vehicles or pay less for them.

1481. Further, at the time Defendants made, helped make, or conspired to make false and misleading representations to NHTSA regarding the safety of the Class Vehicles and their Occupant Restraint Systems, they knew that disclosing the ACU Defect to NHTSA would ultimately result in, *inter alia*, NHTSA disclosing or

requiring Defendants to disclose the defects to the public, thereby causing Plaintiffs and other consumers to not purchase or lease the Class Vehicles or pay less for them.

1482. Because the Vehicle Manufacturer Defendants volunteered to provide information about the Class Vehicles that they offered for sale and lease to Plaintiffs and consumers, they had the duty to disclose the whole truth about the Class Vehicles, including the fact that it was plagued by the ACU Defect. Additionally, that duty attached because the Vehicle Manufacturer Defendants knew that the defects were material facts regarding the reliability, safety, and performance of the Class Vehicle that would affect Plaintiffs' and consumers' decisions to purchase or lease Class Vehicles.

1483. By knowingly and purposefully suppressing material facts and failing to disclose material facts despite their duty to do so, Defendants engaged in schemes to actively conceal the ACU Defect in the Class Vehicles from consumers, including Plaintiffs, and from NHTSA. These schemes are described with further particularity in the Counts listed in the table above. These schemes are ongoing, as Defendants continue to obfuscate the nature and extent of the ACU Defect in the Class Vehicles.

1484. Defendants' schemes to conceal the ACU defect and their knowing, willful, and intentional misrepresentations and omissions to NHTSA and consumers regarding the safety and reliability of the Class Vehicles were specifically designed to prevent Plaintiffs from discovering their causes of action within the relevant limitations period.

3. Plaintiffs justifiably relied on Defendants' fraudulent concealment of the ACU Defect, and could not have discovered those defects despite their reasonable diligence.

1485. As explained in detail above in Section II.B., the safety and reliability of the Class Vehicles were critical material facts that influenced each Plaintiff's

decision to purchase or lease their Class Vehicles. Each Plaintiff conducted diligent research into the safety and reliability of the Class Vehicles shortly before deciding to purchase or lease them by reviewing the Vehicle Manufacturer Defendants' representations about the Class Vehicles' safety and reliability. Plaintiffs reviewed these representations through various sources, including the Vehicle Manufacturer Defendants' websites, marketing and advertising materials for the Class Vehicles, labels and certifications on the Class Vehicles, readiness indicators, and by discussing the safety of the Class Vehicles with salespeople at dealerships.

1486. The table in Exhibit 19 identifies the paragraphs where each Plaintiff alleged the specific representations that they reviewed and relied upon before acquiring the Class Vehicles. The table also summarizes the dates and states where each Plaintiff acquired their Class Vehicles, the make of each Plaintiff's Class Vehicle, the dates when Plaintiffs first filed their claims, and the names of their underlying cases.

1487. Defendants intended that Plaintiffs rely on the misrepresentations and omissions regarding the safety and reliability of the Class Vehicles described above by actively concealing that the Class Vehicles contained a defective DS84 ACU and ASIC.

1488. Plaintiffs' reliance on the representations described above was justifiable, given Defendants' scheme to fraudulently conceal the ACU Defect from Plaintiffs, consumers, and NHTSA, and the lack of any available information that would cause a reasonable person to doubt the representations.

1489. Even though some Defendants conducted recalls of certain Plaintiffs' Class Vehicles, Defendants misrepresented the existence of the ACU Defect in connection with those recalls, and fraudulently concealed from Plaintiffs and NHTSA that those recalls were inadequate and that the Class Vehicles were still affected by the ACU Defect after the recall remedy. Therefore, those Plaintiffs reasonably—but mistakenly—believed that their Class Vehicles no longer

contained defective DS84 ACUs and ASICs, and they could not have independently discovered the true facts about the defects during their limitation's periods until NHTSA's investigation began in April 2019.

1490. Plaintiffs could not have independently discovered the ACU Defect in their Class Vehicles—or that the Vehicle Manufacturer Defendants misrepresented the safety and reliability of the Class Vehicles' Occupant Restraint Systems—either before they purchased or leased the Class Vehicles, or during their limitations period, until NHTSA's announcment in April 2019. ACUs and ASICs are highly complex components, and defects in those components require specialized technical knowledge and experience to discover, as demonstrated by NHTSA's lengthy and complex investigation. Therefore, before NHTSA opened its investigation into unrecalled vehicles, Plaintiffs lacked the necessary expertise to analyze the DS84 ACUs for signs of EOS or to even identify the Class Vehicles with DS84 ACUs, and their failure to discover the ACU Defect prior to NHTSA's announcement to the world of its investigation was not due to their own lack of diligence or negligence.

4. Had Defendants disclosed that the Class Vehicles contained defective DS84 ACUs and ASICs, Plaintiffs would have seen those disclosures.

1491. As discussed above, each Plaintiff researched the safety and reliability of their respective Class Vehicles prior to acquiring them, and each Plaintiff was exposed directly or indirectly to the Vehicle Manufacturer Defendants' misrepresentations and omissions regarding the safety and reliability of the Class Vehicles contained on the Vehicle Manufacturer Defendants' websites, in marketing materials and in-vehicle labels, and/or in discussions with dealership personnel, shortly before or at the time of the disclosures. Therefore, had Defendants disclosed rather than conceal that the DS84 ACUs and ASICs in the Class Vehicles were defective, Plaintiffs would have seen those disclosures.

1492. Additionally, if Defendants had accurately and completely disclosed the existence, nature, and extent of the ACU Defect to NHTSA, this information would have been made public and would have allowed NHTSA to launch its investigations years earlier, within the original limitations period of Plaintiffs' claims.

5. Plaintiffs were damaged as a result of Defendants' misrepresentations and fraudulent concealment.

1493. Defendants' scheme to fraudulently conceal the material facts regarding the ACU Defect prevented Plaintiffs from learning the truth about the safety and reliability of the Class Vehicles before they purchased or leased them.

1494. Had Plaintiffs known the truth about the ACU Defect, they would not have purchased their Class Vehicles or would have paid less for them.

1495. Accordingly, Plaintiffs were damaged by Defendants' false and misleading representations and fraudulent concealment described herein.

1496. Moreover, Defendants' ongoing concealment of the existence, nature, and extent of the DS84 ACUs and ASICs in the Class Vehicles prevented certain Plaintiffs from discovering the defect in their Class Vehicles during the limitations period on their claims, thereby damaging them by preventing them from timely filing those claims.

* * *

1497. As a result of Defendants' knowing and purposeful misrepresentations and active concealment described herein, any and all statutes of limitations otherwise applicable to Plaintiffs' allegations herein have been tolled.

1498. Each Plaintiff learned that his or her Class Vehicle may contain a defective DS84 ACU shortly after NHTSA's investigation began in April 2019. Upon learning this information, Plaintiffs consulted with and retained counsel to conduct further investigation into the issue. As detailed in Exhibit 19 all Plaintiffs

filed their lawsuits against Defendants on or before May 20, 2020, within one year of learning of the NHTSA investigation.

B. Discovery Rule Tolling

1499. Plaintiffs' claims are further tolled by the discovery rule in the applicable states.

1500. As discussed above, Plaintiffs could not have discovered through reasonable diligence that their Class Vehicles were defective at the time of purchase or lease because Defendants actively concealed the defect.

1501. Among other things, Plaintiffs did not know and could not have known that the Class Vehicles contained defective DS84 ACUs and ASICs until at least April 2019, when NHTSA announced that it launched an investigation into the serious safety risk presented by the ACU Defect. Therefore, Plaintiffs' claims and the claims of all Class members did not accrue until they discovered ACU Defect.

C. Estoppel

1502. Each Defendant was under a continuous duty to disclose to Plaintiffs and the other Class members the existence of the ACU Defendant, which substantially affects the true character, quality, performance, and nature of the Class Vehicles. Each Defendant actively concealed the true character, quality, performance, and nature of the DS84 ACUs and ASICs installed in the Class Vehicles, and Plaintiffs and the other Class members reasonably relied upon Defendants' knowing and active concealment of these facts. Each Defendant is accordingly estopped from relying on any statute of limitations in defense of this action. For these same reasons, each Vehicle Manufacturer Defendant is estopped from relying upon any warranty mileage and age limitations in defense of this action.

1503. Even if some Plaintiffs were aware or could have been aware of the facts giving rise to their causes of action within the limitations period of their

claims, their inability to timely file their claims was the direct result of Defendants' willful and intentional misconduct described above. It would be unconscionable to enforce the limitation period against Plaintiffs, and gross injustice would result from doing so.

VI. CLASS ALLEGATIONS

1504. The proposed Classes' claims all derive directly from a single course of conduct by Defendants. Within each Count asserted by the respective proposed Classes below, the same legal standards govern. Additionally, many—and for some, all—states share the same legal standards and elements of proof, facilitating the certification of multistate or nationwide classes for some or all claims. Accordingly, Plaintiffs bring this lawsuit as a class action on their own behalf, and on behalf of all other persons similarly situated, as members of the following Nationwide Classes and State Classes (collectively, the "Classes") pursuant to Federal Rules of Civil Procedure 23(a), (b)(2), and/or (b)(3), and/or (c)(4). The Class Vehicles implicated by this Complaint include FCA, Honda, Hyundai, Kia, Mitsubishi, and Toyota vehicles that all were equipped with a DS84 ACU and ASIC and sold in the United States. This action satisfies the numerosity, commonality, typicality, adequacy, predominance, and superiority requirements of those provisions.

B. The Classes

1505. Plaintiffs propose separate Nationwide Classes for the Vehicle Manufacturer Defendant groups, each of which include all persons and entities that purchased or leased a Class Vehicle from that Vehicle Manufacturer Defendant group:

a. **The Nationwide Hyundai-Kia Class:** All persons in the United States who purchased or leased a Hyundai-Kia Class Vehicle, including its territories.[74]

b. **The Nationwide FCA Class:** All persons in the United States who purchased or leased a FCA Class Vehicle, including its territories.[75]

c. **The Nationwide Toyota Class:** All persons in the United States who purchased or leased a Toyota Class Vehicle, including its territories.[76]

d. **The Nationwide Honda Class:** All persons in the United States who purchased or leased a Honda Class Vehicle, including its territories.[77]

e. **The Nationwide Mitsubishi Class:** All persons in the United States who purchased or leased a Mitsubishi Class Vehicle, including its territories.[78]

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[74] Excluded from the Nationwide Hyundai-Kia Class are the ZF, ST, Hyundai, and Kia Defendants; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

[75] Excluded from the Nationwide FCA Class is FCA and the ZF and ST Defendants; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

[76] Excluded from the Nationwide Toyota Class are the ZF, ST, and Toyota Defendants; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

[77] Excluded from the Nationwide Honda Class are the ZF, ST, and Honda Defendants; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

[78] Excluded from the Nationwide Mitsubishi Class are the ZF, ST, and Mitsubishi

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1506. Plaintiffs also propose separate State Classes consisting of all persons who purchased or leased their Class Vehicle in the state.[79]

1507. Plaintiffs reserve the right to modify and/or add to the Nationwide and/or State Classes prior to class certification.

C. Numerosity

1508. This action satisfies the requirements of Federal Rule of Civil Procedure 23(a)(1). There are millions of Class Vehicles and class members nationwide. Individual joinder of all class members is impracticable.

1509. Each of the proposed Classes (the Nationwide Classes and the State Classes) are ascertainable because their members can be readily identified using information tying the defective DS84 ACUs to particular vehicle identification numbers, vehicle registration records, sales records, production records, and other information kept by the Vehicle Manufacturer Defendants or third parties in the usual course of business and within their control. Plaintiffs anticipate providing appropriate notice to the Classes in compliance with Federal Rules of Civil Procedure 23(c)(1)(2)(A) and/or (B), to be approved by the Court after class certification, or pursuant to court order under Rule 23(d).

D. Predominance of Common Issues

1510. This action satisfies the requirements of Federal Rules of Civil Procedure 23(a)(2) and (b)(3), because questions of law and fact that have common

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Defendants; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

[79] Excluded from the State Classes are the ZF and ST Defendants, and the Vehicle Manufacturer group(s) being sued in the state; their employees, officers, directors, legal representatives, heirs, and successors; and wholly or partly owned subsidiaries or affiliates of these Defendants.

answer and predominate over questions affecting only individual members of the proposed Classes. These include, without limitation, the following:

a. Whether the Class Vehicles were equipped with defective ACUs and ASICs that were vulnerable to EOS;

b. Whether and when Defendants knew, or should have known, that the DS84 ACUs and DS84 ASICs installed in Class Vehicles were defective;

c. Whether Defendants had a duty to disclose the defective nature of the DS84 ACUs and DS84 ASICs in the Class Vehicles to Plaintiffs and Class members;

d. Whether the defective nature of the Class Vehicles was contrary to material representations made by Defendants;

e. Whether Defendants omitted and failed to disclose material facts about the Class Vehicles;

f. Whether Vehicle Manufacturer Defendants' certifications concerning vehicle safety were misleading in light of the risk that EOS can cause DS84 ACUs not to trigger airbags and seatbelts during a collision;

g. Whether the Vehicle Manufacturer Defendants' descriptions of safety features controlled by the DS84 ACUs and DS84 ASICs in advertising, on Monroney stickers, on in-vehicle labels and indicators, and in owner's manuals were misleading in light of the risk that EOS can cause DS84 ACUs not to trigger airbags and seatbelts during a collision;

h. Whether the Supplier Defendants made, helped make, or conspired to make misrepresentations regarding the safety features controlled by the DS84 ACUs and DS84 ASICs;

i. Whether Defendants' statements, concealments, and omissions regarding the Class Vehicles, were material, in that a reasonable consumer could consider them important in purchasing, selling, maintaining, retaining, or operating such vehicles;

j. Whether Defendants engaged in unfair, deceptive, unlawful and/or fraudulent acts or practices, in trade or commerce, by failing to disclose that the Class Vehicles were designed, manufactured, and sold with defective Occupant Restraint System components;

k. Whether Defendants' conduct, as alleged herein, was likely to mislead a reasonable consumer;

l. Whether Defendants' concealment of the true defective nature of the Class Vehicles induced Plaintiffs and Class members to act to their detriment by purchasing the Class Vehicles;

m. Whether Defendants' concealment of the true defective nature of the Class Vehicles caused the market price of the Class Vehicles to incorporate a premium reflecting the assumption by consumers that the Class Vehicles were equipped with fully-functional Occupant Restraint Systems, and, if so, the market value of that premium;

n. Whether the Class Vehicles have suffered a diminution of value as a result of the Class Vehicles' incorporation of the defective ACUs at issue;

o. Whether Defendants' conduct tolls any or all applicable limitations periods by acts of fraudulent concealment, application of the discovery rule, or equitable estoppel; Whether the Class Vehicles were unfit for the ordinary purposes for

which they were used, in violation of the implied warranty of merchantability;

p. Whether Defendants' unlawful, unfair, and/or deceptive practices harmed Plaintiffs and the Classes;

q. Whether Defendants have been unjustly enriched by their conduct;

r. Whether Defendants violated RICO;

s. Whether Defendants conspired with others to violate RICO; and

t. Whether Defendants associated with any enterprise engaged in, or the activities of which affect, interstate or foreign commerce, to conduct or participate, directly or indirectly, in the conduct of such enterprise's affairs through a pattern of racketeering activity.

E. Typicality

1511. This action satisfies the requirements of Federal Rule of Civil Procedure 23(a)(3), because Plaintiffs' claims are typical of the claims of the class members, and arise from the same course of conduct by Defendants. The relief Plaintiffs seek is typical of the relief sought for the absent class members.

F. Adequacy of Representation

1512. Plaintiffs will fairly and adequately represent and protect the interests of the Classes. Plaintiffs have retained counsel with substantial experience in prosecuting consumer class actions, including actions involving defective products.

1513. Plaintiffs and their counsel are committed to vigorously prosecuting this action on behalf of the Classes, and have the financial resources to do so. Neither Plaintiffs nor their counsel have interests adverse to those of the Classes.

G. Superiority

1514. This action satisfies the requirements of Federal Rule of Civil Procedure 23(b)(2), because Defendants have acted and refused to act on grounds generally applicable to each Class, thereby making appropriate final relief with respect to each Class as a whole.

1515. This action satisfies the requirements of Federal Rule of Civil Procedure 23(b)(3), because a class action is superior to other available methods for the fair and efficient adjudication of this controversy.

1516. Because the damages suffered by each individual Class member may be relatively small, the expense and burden of individual litigation would make it very difficult or impossible for individual Class members to redress the wrongs done to each of them individually, such that most or all Class members would have no rational economic interest in individually controlling the prosecution of specific actions; and the burden imposed on the judicial system by individual litigation—by even a small fraction of the Classes—would be enormous, making class adjudication the superior alternative under Federal Rule of Civil Procedure 23(b)(3)(A).

1517. The conduct of this action as a class action instead of as millions of individual lawsuits presents far fewer management difficulties; far better conserves judicial resources, and the parties' resources; and far more effectively protects the rights of each Class member than would piecemeal litigation. Compared to the expense, burdens, inconsistencies, economic infeasibility, and inefficiencies of individualized litigation, the challenges of managing this action as a class action are substantially outweighed by the benefits to the legitimate interests of the parties, the court, and the public of class treatment in this Court, making class adjudication superior to other alternatives, under Federal Rule of Civil Procedure 23(b)(3)(D).

1518. Plaintiffs are not aware of any obstacles likely to be encountered in the management of this action that would preclude its maintenance as a class action. Federal Rule of Civil Procedure 23 provides the Court with the authority and flexibility to maximize the efficiencies and benefits of the class mechanism, and reduce management challenges. The Court may, on motion of Plaintiffs, or on its own determination, certify nationwide, statewide and/or multistate Classes for claims sharing common legal questions; utilize the provisions of Rule 23(c)(4) to certify any particular claims, issues, or common questions of fact or law, for class-wide adjudication; certify and adjudicate bellwether class claims; and utilize Rule 23(c)(5) to divide any Class into subclasses.

1519. The Classes expressly disclaim any recovery in this action for physical injury resulting from the defective DS84 ACUs and DS84 ASICs without waiving or dismissing such claims. Plaintiffs are informed and believe that injuries suffered in crashes as a result of defective DS84 ACUs and DS84 ASICs implicate the Class Vehicles; constitute evidence supporting various claims, including overpayment by Class members; and are continuing to occur because of Defendants' delays and inaction regarding the commencement and completion of recalls. The increased risk of injury from the ACU Defect serves as an independent justification for the relief sought by Plaintiffs and the Class and Subclasses.

[Continued in Volume II]

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