IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ARIGNA TECHNOLOGY LIMITED, Plaintiff, vs. VOLKSWAGEN AG; VOLKSWAGEN GROUP OF AMERICA, INC.; BAYERISCHE MOTOREN WERKE AG; BMW OF NORTH AMERICA, LLC; DAIMLER AG; MERCEDES-BENZ USA, LLC; NISSAN MOTOR COMPANY, LTD.; NISSAN NORTH AMERICA, INC.; TESLA, INC.; TESLA MOTORS TX, INC.; TOYOTA MOTOR CORPORATION; TOYOTA MOTOR NORTH AMERICA, INC.; GENERAL MOTORS LLC; CONTINENTAL AG; CONTI TEMIC MICROELECTRONIC GMBH; and ADC AUTOMOTIVE DISTANCE CONTROL SYSTEMS GMBH, Defendants.	Case No. 2:21-cv-00054-JRG JURY TRIAL DEMANDED

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT[1]

This is an action for patent infringement in which Arigna Technology Limited makes the following allegations against Defendants Volkswagen AG; Volkswagen Group of America, Inc.; Bayerische Motoren Werke AG; BMW of North America, LLC; Daimler AG; Mercedes-Benz USA, LLC; Nissan Motor Company, Ltd.; Nissan North America, Inc.; Tesla, Inc.; Tesla Motors TX, Inc.; Toyota Motor Corporation; Toyota Motor North America, Inc.; General Motors LLC; Continental AG; Conti Temic microelectronic GmbH; and ADC Automotive Distance Control

[1] Arigna filed this second amended complaint to add Continental AG, Conti Temic microelectronic GmbH, and ADC Automotive Distance Control Systems GmbH as parties. Pursuant to a stipulated dismissal without prejudice, Dkt. 115, Arigna also has deleted references to General Motors Company. Arigna's allegations as to each of the other Defendants otherwise remain the same as previously pleaded. Accordingly, the filing of this complaint does not impact the pending motions or the substance of the answers previously filed by the other Defendants.

Systems GmbH, each of whom is a manufacturer and/or distributor who, without authority, imports, makes, offers for sales and/or sells in the United States automobiles and components thereof that infringe the Patents asserted in this matter:

PARTIES

Arigna

1. Plaintiff Arigna Technology Limited ("Plaintiff" or "Arigna") is an Irish company conducting business at The Hyde Building, Carrickmines, Suite 23, Dublin 18, Ireland. Arigna owns a portfolio of patents that cover power semiconductors for applications in the automotive, industrial automation, and energy industries, and radio frequency amplifiers and circuits with applications in a wide variety of automobiles and consumer electronics products, including smartphones and laptops. Arigna is the owner of all rights, title, and interest in and to United States Patent No. 7,397,318 (the "'318 Patent") and United States Patent No. 8,247,867 (the "'867 Patent").

Volkswagen

2. Upon information and belief, Defendant Volkswagen AG is a foreign corporation organized and existing under the laws of Germany with its headquarters at Berliner Ring 2, 38440 Wolfsburg, Germany. On information and belief, Volkswagen AG does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

3. Upon information and belief, Defendant Volkswagen Group of America, Inc. ("Volkswagen of America") is a corporation organized and existing under the laws of New Jersey. On information and belief, Volkswagen of America is a wholly owned subsidiary of Volkswagen AG and is responsible for importing, making, marketing, distributing, offering for sale, and selling automotive vehicles and components from Volkswagen-managed brands (e.g., VW, Audi—

including Audi of America, Inc.—Porsche, etc.) in the United States. On information and belief, Volkswagen of America has hundreds of employees based in and does business across the State of Texas, including at the port in Houston, a parts distribution center in Fort Worth, and a South Central Region office in Irving.

4. The Second Amended Complaint refers to Defendants Volkswagen AG and Volkswagen of America collectively as "Volkswagen". On information and belief, Volkswagen designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas automotive vehicles and components thereof that infringe the Patents asserted in this matter.

5. Volkswagen has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., Volkswagen of Beaumont, Brandon Tomes VW of McKinney, Patterson Volkswagen of Tyler, Gorman-McCracken Volkswagen, Orr Volkswagen of Texarkana, Audi McKinney, and Audi Plano.

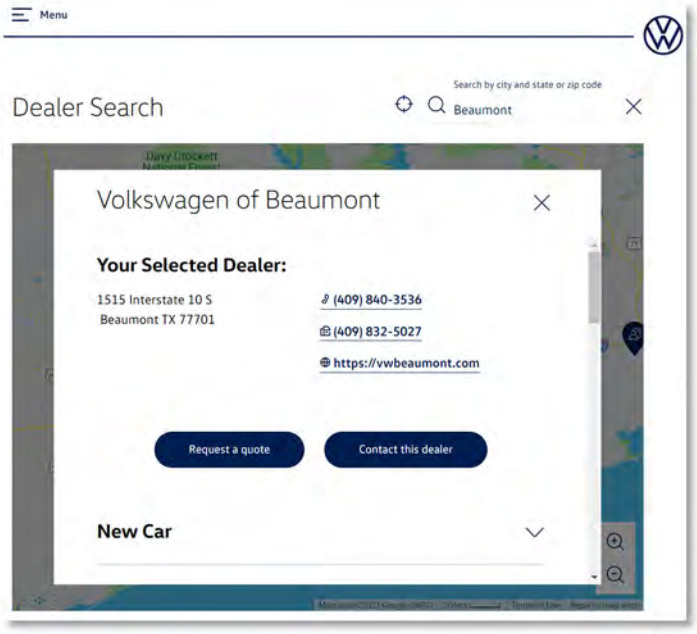
6. Upon information and belief, each of these authorized Volkswagen or Audi dealers in this District are regular, continuous, and established physical places of business of Defendants Volkswagen, being established, ratified, and/or controlled by Volkswagen as authorized dealers, which are the exclusive places of business at which Volkswagen offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the Volkswagen and Audi automotive vehicles and components that infringe the Patents asserted in this matter.

7. Upon information and belief, Volkswagen granted each of these authorized Volkswagen and Audi dealers in this District the exclusive right to offer for sale, sell, and service the infringing Volkswagen and Audi vehicles in this District, at these particular geographical

locations, and has further conditioned these authorized dealers' continued offering for sale, sale, and service of the infringing Volkswagen and Audi vehicles in this District on these authorized dealers' continued presence in this District, at these particular geographical locations, so that the infringing Volkswagen and Audi automobiles and components are offered for sale, sold, and/or distributed in this District.

8. Volkswagen ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by listing each of them in Volkswagen's sales directories and on Volkswagen's website(s), including, e.g., as shown below:

FIGURE 1



9. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by offering for sale on Volkswagen's website(s) the infringing automobiles and components at the physical, geographical locations of these authorized Volkswagen and Audi dealers, including, e.g., as shown below:

FIGURE 2

10. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by requiring these authorized dealers to feature and use Volkswagen names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including Volkswagen of Beaumont, Brandon Tomes VW of McKinney, Patterson Volkswagen of Tyler, Gorman-McCracken Volkswagen, Orr Volkswagen of Texarkana, Audi McKinney, and Audi Plano, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

11. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing Volkswagen and Audi automobiles and components, including, e.g., as shown below:

FIGURE 3

FIGURE 4

12. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information, warranty information, financing information, and various other literature, as well as Volkswagen authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 5

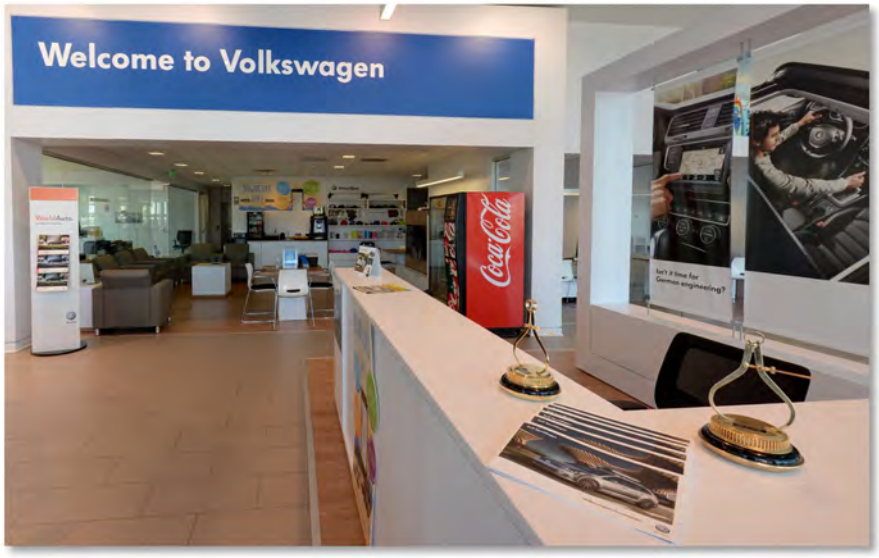


FIGURE 6

13. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, Volkswagen financial services and products, Volkswagen warranties, Volkswagen service from

Volkswagen certified and/or trained technicians, Volkswagen parts, and Volkswagen accessories.

14. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized Volkswagen service, obtain scheduled maintenance under any Volkswagen Care plan, make repairs pursuant to any Volkswagen warranty, or obtain any recall/campaign work for all new Volkswagen automobiles and components, including the infringing automobiles and components.

15. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified Volkswagen employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, Volkswagen certified brand advisors, Volkswagen certified geniuses or experts, Volkswagen certified technicians, and Volkswagen certified service advisors.

16. Volkswagen further ratifies and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen by providing these dealers sales promotions, financing for dealership improvements directed by Volkswagen, and modernized processes and IT systems that reduce the time needed for administrative tasks in providing after-sales certified Volkswagen services, and by sharing customer data with these dealers to provide customized Volkswagen services.

17. Volkswagen has established and ratified and holds these authorized Volkswagen and Audi dealers out as the regular and established places of business of Volkswagen by directing

and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on Volkswagen's behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on Volkswagen's behalf pursuant to the foregoing terms of control and direction in order to be able to provide these Volkswagen and Audi automobiles, components, and services to consumers in this District.

BMW

18. Upon information and belief, Bayerische Motoren Werke AG ("BMW AG") is a foreign corporation organized and existing under the laws of Germany with its headquarters at Petuelring 130, D-80788, Munich, Germany. On information and belief, BMW AG does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

19. Upon information and belief, BMW of North America, LLC ("BMW NA") is a limited liability company organized under the laws of Delaware. On information and belief, BMW NA is a wholly owned subsidiary of BMW AG and is responsible for importing, marketing, distributing, and selling automotive vehicles and components from BMW-managed brands (e.g., BMW, Rolls-Royce, etc.) in the United States. On information and belief, BMW NA has hundreds of employees based in and does business across the State of Texas, including at the Vehicle Distribution Center in Galveston and the Parts Distribution Center in Lancaster.

20. The Second Amended Complaint refers to Defendants BMW AG and BMW NA collectively as "BMW". On information and belief, BMW designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas

automotive vehicles and components thereof that infringe the Patents asserted in this matter.

21. BMW has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., BMW of Tyler, Classic BMW, and BMW of Beaumont.

22. Upon information and belief, each of these authorized BMW dealers in this District are regular, continuous, and established physical places of business of Defendants BMW, being established, ratified, and/or controlled by BMW as authorized dealers, which are the exclusive places of business at which BMW offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the BMW automotive vehicles and components that infringe the Patents asserted in this matter.

23. Upon information and belief, BMW granted each of these authorized BMW dealers in this District the exclusive right to offer for sale, sell, and service the infringing BMW vehicles in this District, at these particular geographical locations, and has further conditioned these authorized dealers' continued offering for sale, sale, and service of the infringing BMW vehicles in this District on these authorized dealers' continued presence in this District, at these particular geographical locations, so that the infringing BMW automobiles and components are offered for sale, sold, and/or distributed in this District.

24. BMW ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by listing each of them in BMW's sales directories and on BMW's website(s), including, e.g., as shown below:

FIGURE 7

25. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by offering for sale on BMW's website(s) the infringing automobiles and components at the physical, geographical locations of these authorized BMW dealers, including, e.g., as shown below:

FIGURE 8

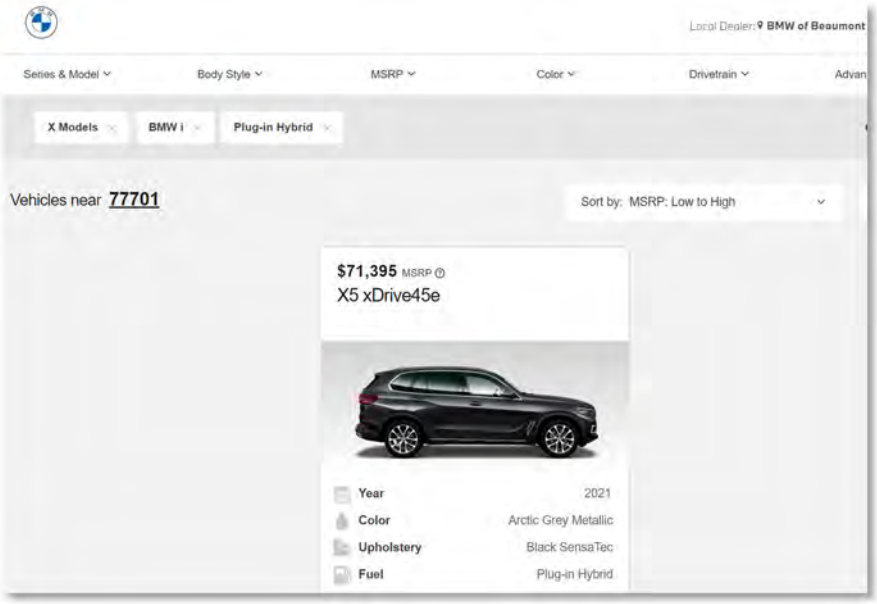
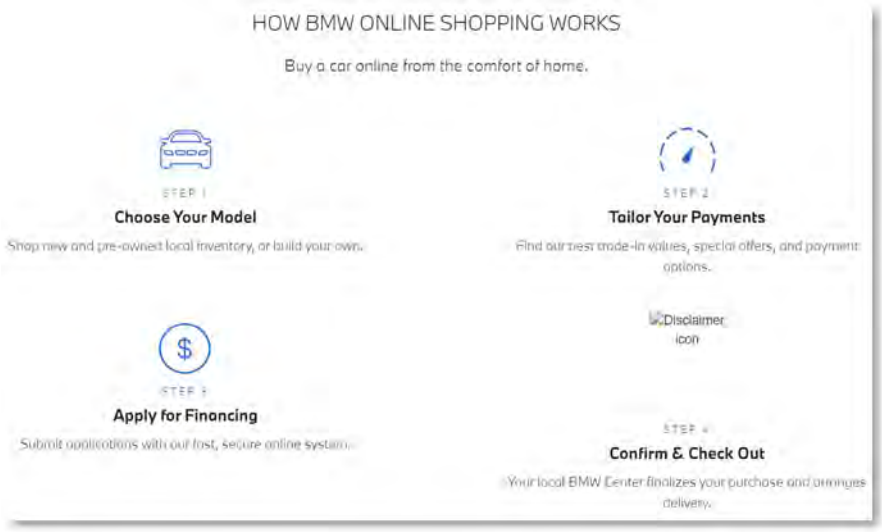


FIGURE 9



26. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by requiring these authorized dealers to feature and use BMW names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including BMW of Tyler, Classic BMW, and BMW of Beaumont, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

27. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing BMW automobiles and components, including, e.g., as shown below:

FIGURE 10

FIGURE 11

28. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information, warranty information, financing information, and various other literature, as well as BMW authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 12

FIGURE 13

29. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, BMW financial services and products, BMW warranties, BMW service from BMW certified and/or trained technicians, BMW parts, and

BMW accessories.

30. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized BMW service, obtain scheduled maintenance under any BMW Ultimate Care plan or Ultimate Service program, make repairs pursuant to any BMW warranty, or obtain any recall/campaign work for all new BMW automobiles and components, including the infringing automobiles and components.

31. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified BMW employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, BMW certified brand advisors, BMW certified geniuses or experts, BMW certified technicians, and BMW certified service advisors.

32. BMW further ratifies and holds these authorized BMW dealers out as the regular and established places of business of BMW by providing these dealers sales promotions, providing these dealers financing for dealership improvements directed by BMW, and sharing customer data with these dealers to provide customized BMW services.

33. BMW has established and ratified and holds these authorized BMW dealers out as the regular and established places of business of BMW by directing and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on BMW's behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in

order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on BMW's behalf pursuant to the foregoing terms of control and direction in order to be able to provide these BMW automobiles, components, and services to consumers in this District.

Mercedes-Benz

34. Upon information and belief, Defendant Daimler AG is a foreign corporation organized and existing under the laws of Germany with its headquarters at Mercedesstrasse 120, 70372 Stuttgart, Germany. On information and belief, Daimler AG does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

35. Upon information and belief, Defendant Mercedes-Benz USA, LLC ("Mercedes-Benz USA") is a limited liability company organized under the laws of Delaware. On information and belief, Mercedes-Benz USA is a wholly owned subsidiary of Daimler AG and is responsible for importing, making, marketing, distributing, offering for sale, and selling Mercedes-Benz and Mercedes-AMG automotive vehicles and components in the United States. On information and belief, Mercedes-Benz USA has hundreds of employees based in and does business across the State of Texas, including at Mercedes-Benz/Daimler in Austin, Mercedes-Benz Learning and Performance Center in Grapevine, Mercedes-Benz Parts Distribution Center in Grapevine, Mercedes-Benz Financial Services Business Center in Fort Worth, and Dealer Support Team in Fort Worth.

36. The Second Amended Complaint refers to Defendants Daimler AG and Mercedes-Benz USA collectively as "Mercedes-Benz". On information and belief, Mercedes-Benz designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas automobiles and components thereof that infringe the '318 Patent asserted in this

matter.

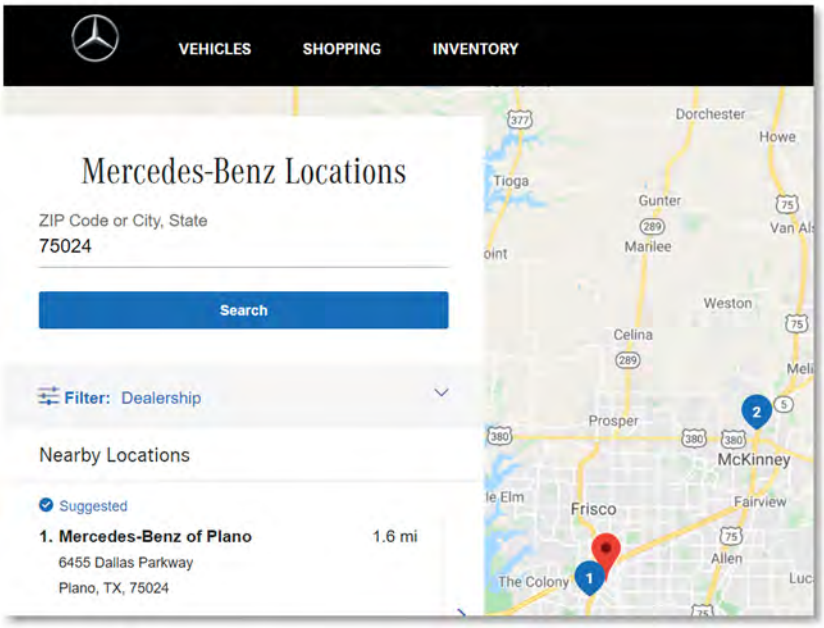
37. Mercedes-Benz has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., Mercedes-Benz of Tyler, Mercedes-Benz of Beaumont, Mercedes-Benz of Texarkana, Mercedes-Benz of McKinney, and Mercedes-Benz of Plano.

38. Upon information and belief, each of these authorized Mercedes-Benz dealers in this District are regular, continuous, and established physical places of business of Defendants Mercedes-Benz, being established, ratified, and/or controlled by Mercedes-Benz as authorized dealers, which are the exclusive places of business at which Mercedes-Benz offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the Mercedes-Benz automotive vehicles and components that infringe the ’318 Patent asserted in this matter.

39. Upon information and belief, Mercedes-Benz granted each of these authorized Mercedes-Benz dealers in this District the exclusive right to offer for sale, sell, and service the infringing Mercedes-Benz vehicles in this District, at these particular geographical locations, and has further conditioned these authorized dealers’ continued offering for sale, sale, and service of the infringing Mercedes-Benz vehicles in this District on these authorized dealers’ continued presence in this District, at these particular geographical locations, so that the infringing Mercedes-Benz automobiles and components are offered for sale, sold, and/or distributed in this District.

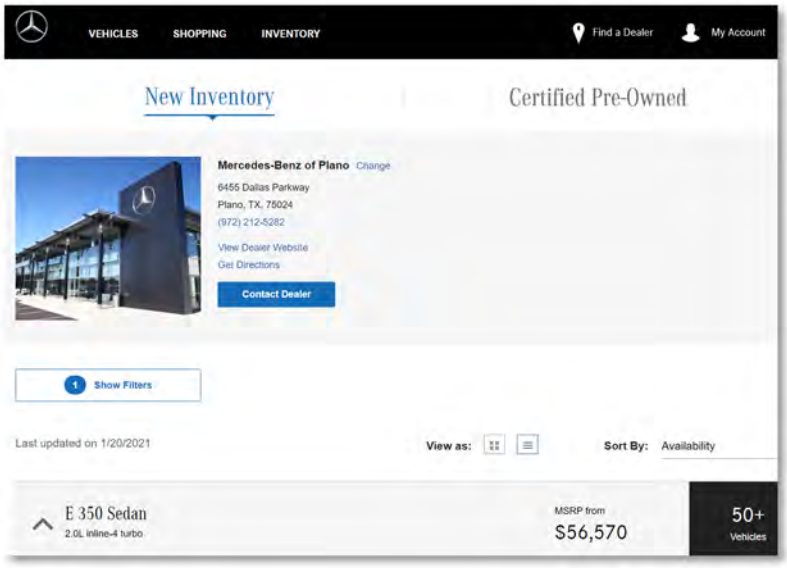
40. Mercedes-Benz ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by listing each of them in Mercedes-Benz’s sales directories and on Mercedes-Benz’s website(s), including, e.g., as shown below:

FIGURE 14



41. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by offering for sale on Mercedes-Benz's website(s) the infringing automobiles and components at the physical, geographical locations of these authorized Mercedes-Benz dealers, including, e.g., as shown below:

FIGURE 15



42. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by requiring these authorized dealers to feature and use Mercedes-Benz names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including Mercedes-Benz of Tyler, Mercedes-Benz of Beaumont, Mercedes-Benz of Texarkana, Mercedes-Benz of McKinney, and Mercedes-Benz of Plano, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

43. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing Mercedes-Benz automobiles and components, including, e.g., as shown below:

FIGURE 16

FIGURE 17

44. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information, warranty information, financing information, and various other literature, as well as Mercedes-Benz authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 18

45. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers

out as the regular and established places of business of Mercedes-Benz in this District by establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, Mercedes-Benz financial services and products, Mercedes-Benz warranties, Mercedes-Benz service from Mercedes-Benz certified and/or trained technicians, Mercedes-Benz parts, and Mercedes-Benz accessories.

46. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized Mercedes-Benz service, obtain scheduled maintenance under any Mercedes-Benz Prepaid Maintenance plan, make repairs pursuant to any Mercedes-Benz warranty, or obtain any recall/campaign work for all new Mercedes-Benz automobiles and components, including the infringing automobiles and components.

47. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified Mercedes-Benz employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, Mercedes-Benz certified brand advisors, Mercedes-Benz certified geniuses or experts, Mercedes-Benz certified technicians, and Mercedes-Benz certified service advisors.

48. Mercedes-Benz further ratifies and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz by providing these dealers sales promotions as well as financing for dealership improvements directed by Mercedes-Benz—

such as Mercedes-Benz's "Best Customer Experience" sales strategy through which Mercedes-Benz provides customers a seamless experience whenever they come into contact with the Mercedes-Benz brand—and by sharing customer data with these dealers to provide customized Mercedes-Benz services.

49. Mercedes-Benz has established and ratified and holds these authorized Mercedes-Benz dealers out as the regular and established places of business of Mercedes-Benz by directing and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on Mercedes-Benz's behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on Mercedes-Benz's behalf pursuant to the foregoing terms of control and direction in order to be able to provide these Mercedes-Benz automobiles, components, and services to consumers in this District.

Nissan

50. Upon information and belief, Defendant Nissan Motor Company, Ltd. ("Nissan Motor") is a foreign company organized and existing under the laws of Japan with its headquarters at 1-1, Takashima 1-chome, Nishi-Ku, Yokohama-shi, Kanagawa 220-8686, Japan. On information and belief, Nissan Motor does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

51. Upon information and belief, Defendant Nissan North America, Inc. ("Nissan North America") is a corporation organized and existing under the laws of California. On information and belief, Nissan North America is a wholly owned subsidiary of Nissan Motor and is responsible for importing, marketing, distributing, and selling automotive vehicles and

components from Nissan-managed brands (e.g., Nissan, Infiniti, etc.) in the United States. On information and belief, Nissan North America has hundreds of employees based in and does business across the State of Texas, including at the Nissan Motor Acceptance Corporation Customer Center in Irving, the Nissan Regional Office in Irving, the Nissan Dealer Operations in Dallas and Fort Worth, the Nissan Parts Distribution Center in Dallas, the Nissan Technical Training Academy in Farmers Branch, and the Nissan Technical Training Academy in Pasadena.

52. The Second Amended Complaint refers to Defendants Nissan Motor and Nissan North America collectively as "Nissan". On information and belief, Nissan designs, manufactures, distributes, imports, and/or offers for sale in the State of Texas and the Eastern District of Texas automotive vehicles and components thereof that infringe the '318 Patent asserted in this matter.

53. Nissan has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., Nissan of McKinney, Matthews Nissan of Paris, Peltier Nissan, Classic Nissan of Texoma, Patterson Nissan, Smith Mankins Nissan, Loving Nissan, Nissan of Silsbee, Twin City Nissan, Mike Smith Nissan, and Crest Infiniti.

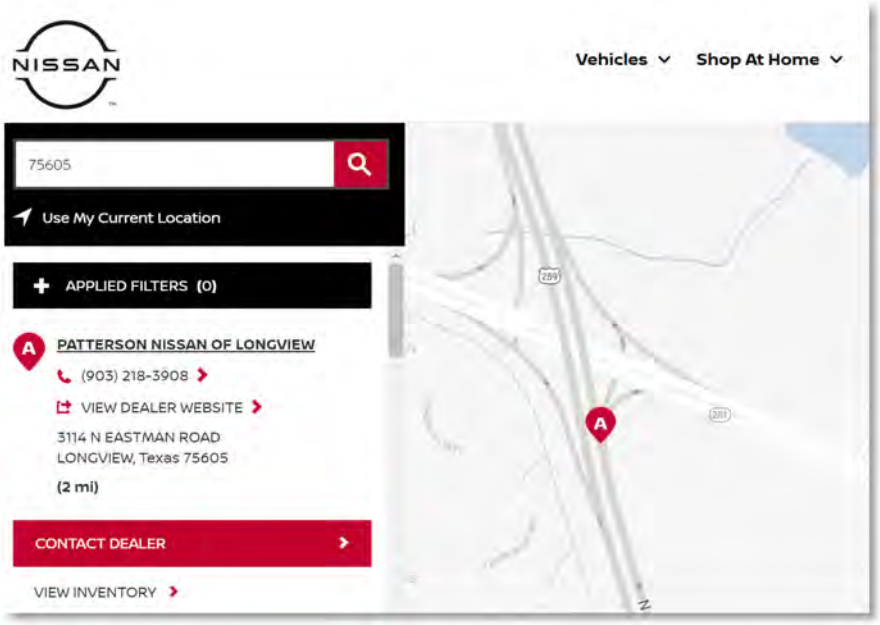
54. Upon information and belief, each of these authorized Nissan and Infiniti dealers in this District are regular, continuous, and established physical places of business of Defendants Nissan, being established, ratified, and/or controlled by Nissan as authorized dealers, which are the exclusive places of business at which Nissan offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the Nissan and Infiniti automotive vehicles and components that infringe the '318 Patent asserted in this matter.

55. Upon information and belief, Nissan granted each of these authorized Nissan and

Infiniti dealers in this District the exclusive right to offer for sale, sell, and service the infringing Nissan and Infiniti vehicles in this District, at these particular geographical locations, and has further conditioned these authorized dealers' continued offering for sale, sale, and service of the infringing Nissan and Infiniti vehicles in this District on these authorized dealers' continued presence in this District, at these particular geographical locations, so that the infringing Nissan and Infiniti automobiles and components are offered for sale, sold, and/or distributed in this District.

56. Nissan ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by listing each of them in Nissan's sales directories and on Nissan's website(s), including, e.g., as shown below:

FIGURE 19



57. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by offering for sale on Nissan's website(s) the infringing automobiles and components at the physical, geographical locations of these authorized Nissan and Infiniti dealers, including, e.g., as shown below:

FIGURE 20

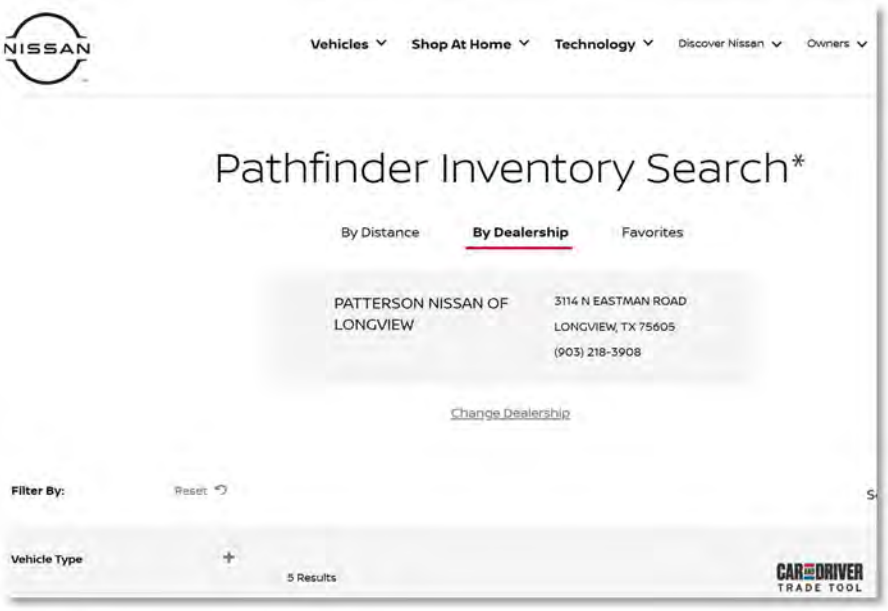


FIGURE 21

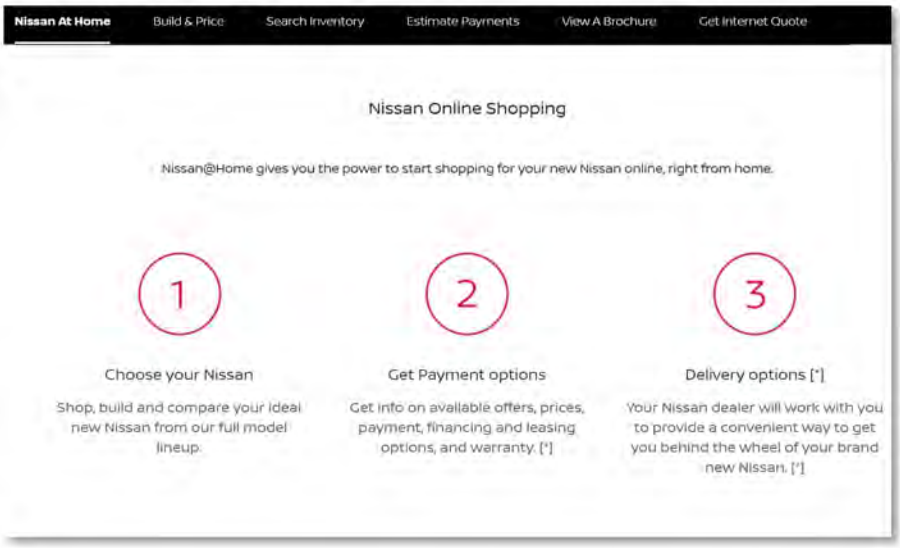
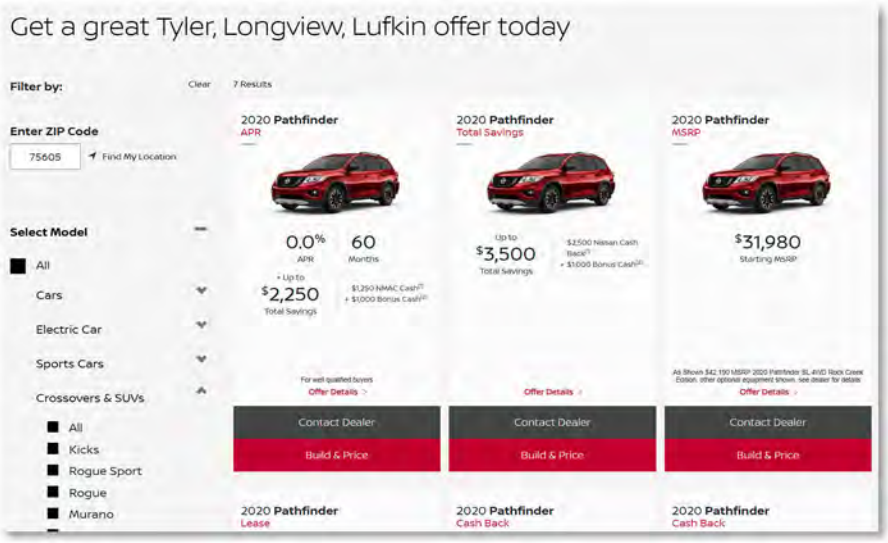


FIGURE 22



58. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by requiring these authorized dealers to feature and use Nissan names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including Nissan of McKinney, Matthews Nissan of Paris, Peltier Nissan, Classic Nissan of Texoma, Patterson Nissan, Smith Mankins Nissan, Loving Nissan, Nissan of Silsbee, Twin City Nissan, Mike Smith Nissan, and Crest Infiniti, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

59. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing Nissan and Infiniti automobiles and components, including, e.g., as shown below:

FIGURE 23

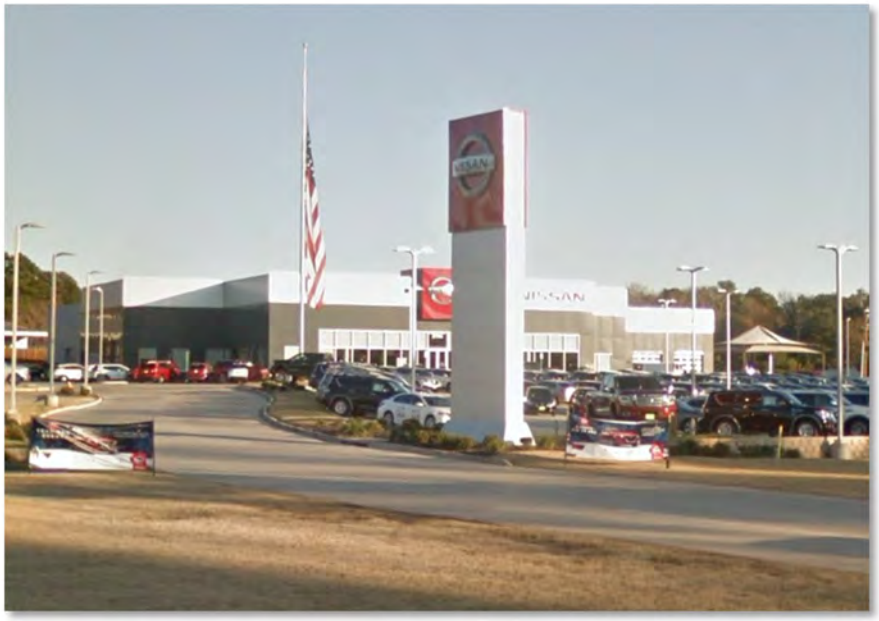


FIGURE 24

60. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information, warranty information, financing information, and

various other literature, as well as Nissan authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 25

FIGURE 26

61. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, Nissan financial services and

products, Nissan warranties, Nissan service from Nissan certified and/or trained technicians, Nissan parts, and Nissan accessories.

62. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized Nissan service, obtain scheduled maintenance under any Nissan service plan, make repairs pursuant to any Nissan warranty, or obtain any recall/campaign work for all new Nissan and Infiniti automobiles and components, including the infringing automobiles and components.

63. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified Nissan employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, Nissan certified brand advisors, Nissan certified geniuses or experts, Nissan certified technicians, and Nissan certified service advisors.

64. Nissan further ratifies and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan by providing these dealers sales promotions, providing these dealers financing for dealership improvements directed by Nissan, and sharing customer data with these dealers to provide customized Nissan services.

65. Nissan has established and ratified and holds these authorized Nissan and Infiniti dealers out as the regular and established places of business of Nissan by directing and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on Nissan's behalf and being the exclusive places of business

whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on Nissan's behalf pursuant to the foregoing terms of control and direction in order to be able to provide these Nissan and Infiniti automobiles, components, and services to consumers in this District.

Tesla

66. Upon information and belief, Defendant Tesla, Inc. is a corporation organized and existing under the laws of Delaware. On information and belief, Tesla, Inc. does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

67. Upon information and belief, Defendant Tesla Motors TX, Inc. ("Tesla Texas") is a corporation organized and existing under the laws of Texas, is a wholly owned subsidiary of Tesla, Inc., and is responsible for marketing, distributing, offering for sale, and selling Tesla automotive vehicles and components thereof in the State of Texas and the Eastern District of Texas.

68. The Second Amended Complaint refers to Defendants Tesla, Inc. and Tesla Texas collectively as "Tesla". On information and belief, Tesla designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas automotive vehicles and components thereof that infringe the '318 Patent asserted in this matter. On information and belief, Tesla has hundreds of employees based in and does business across the State of Texas, including at sixteen Tesla Stores, Galleries, and Service Centers across the State of Texas and Eastern District of Texas, many more Tesla Supercharger and Tesla Destination Charger locations across the State of Texas and the Eastern District of Texas, and will employ thousands

of more employees at its Gigafactory Texas, a manufacturing facility being constructed in Austin, at which the hiring of additional Tesla employees has already begun.

69. Tesla has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., the Tesla Gallery and Service Center at Plano 5800 Democracy Drive, the Tesla Gallery at Plano Legacy West, and the Tesla Gallery and Service Center at Tyler South Southwest Loop.

70. Upon information and belief, each of these Tesla stores in this District are regular, continuous, and established physical places of business of Tesla, being established, ratified, and/or controlled by Tesla as stores, which are the exclusive places of business at which Tesla offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the Tesla automotive vehicles and components that infringe the ’318 Patent asserted in this matter.

71. Upon information and belief, Tesla made each of these Tesla stores in this District the exclusive places of business that offer for sale, sell, and service the infringing Tesla vehicles in this District, at these particular geographical locations, so that the infringing Tesla automobiles and components are marketed, offered for sale, sold and/or distributed in this District.

72. Tesla ratifies and holds these Tesla stores (and Tesla charging stations) out as the regular and established places of business of Tesla in this District by listing each of them in Tesla’s sales directories and on Tesla’s website(s), including, e.g., as shown below:

FIGURE 27

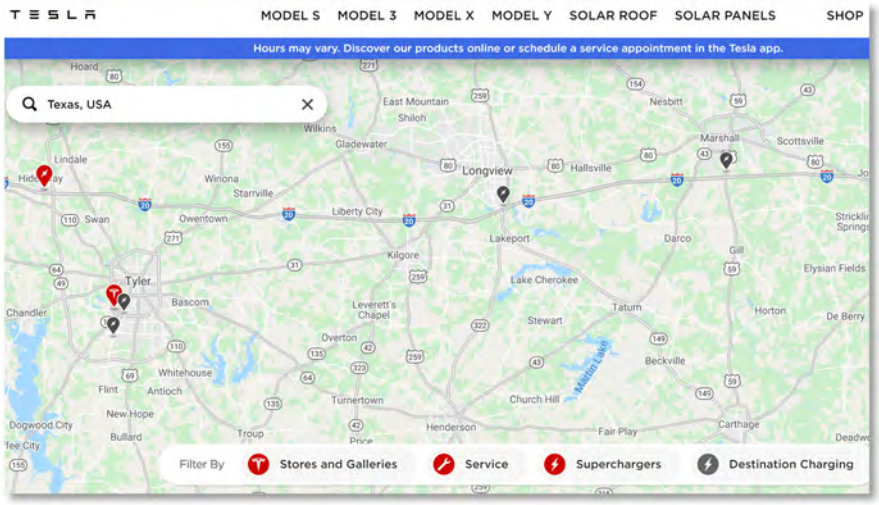
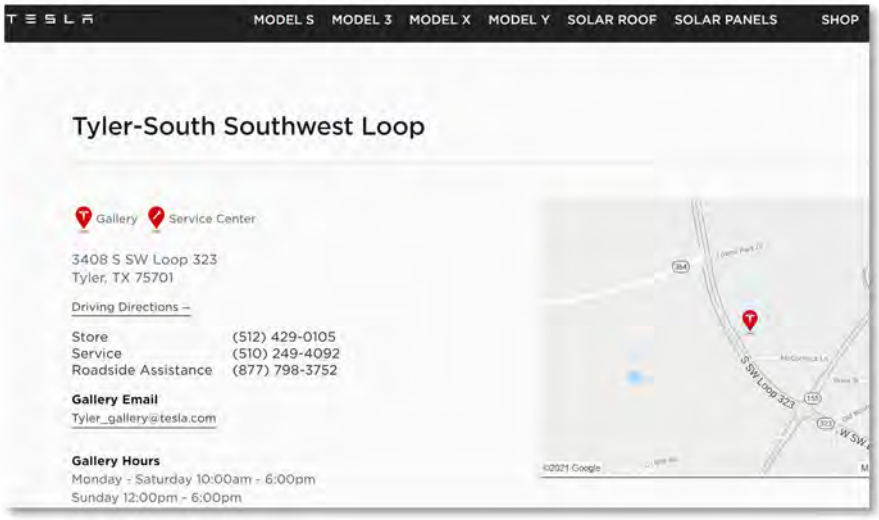
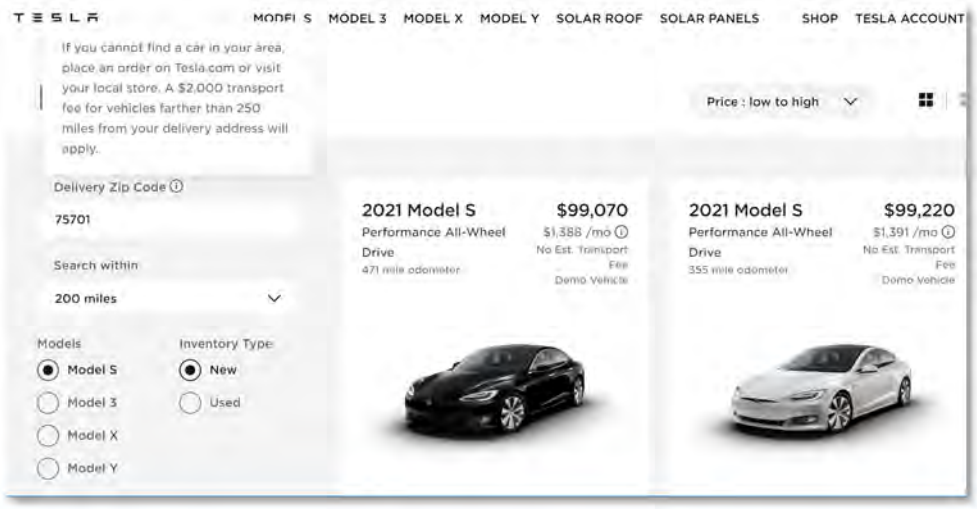


FIGURE 28



73. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by offering for sale on Tesla's website(s) the infringing automobiles and components at the physical, geographical locations of these Tesla dealers, including, e.g., as shown below:

FIGURE 29



74. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by requiring these stores to feature and use Tesla names, branding, trademarks, and/or trade dress, in each of these stores' names, including Tesla Gallery and Service Center at Plano 5800 Democracy Drive, the Tesla Gallery at Plano Legacy West, and the Tesla Gallery and Service Center at Tyler South Southwest Loop, as well as in the marketing and advertising materials that these stores use and make to offer for sale and sell the infringing automobiles and components in this District.

75. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing Tesla automobiles and components, including, e.g., as shown below:

FIGURE 30

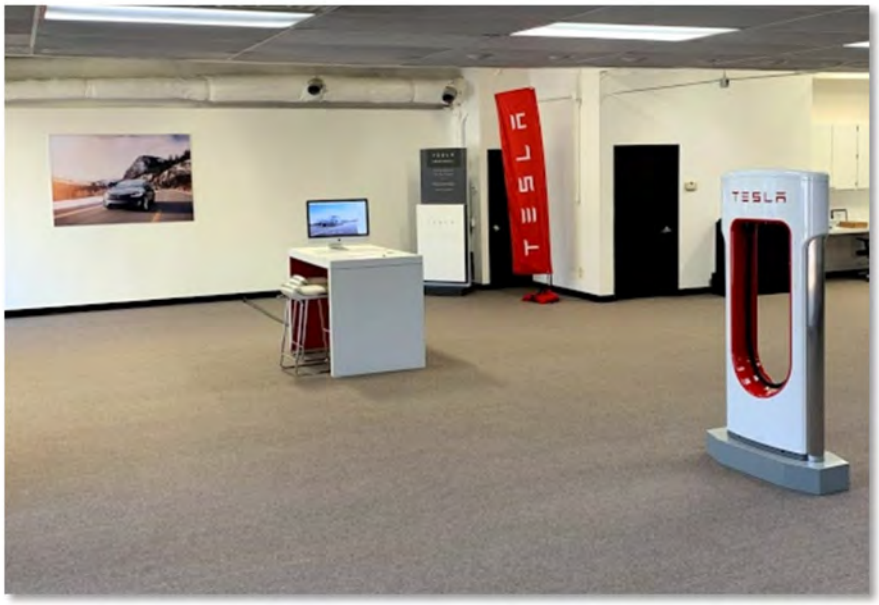
FIGURE 31

76. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information,

warranty information, financing information, and various other literature, as well as Tesla authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 32

FIGURE 33



77. Tesla further ratifies and holds these Tesla stores out as the regular and established

places of business of Tesla in this District by establishing and authorizing these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, Tesla financial services and products, Tesla warranties, Tesla service from Tesla certified and/or trained technicians, Tesla parts, and Tesla accessories.

78. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized Tesla service, obtain service under any Tesla extended service plan, make repairs pursuant to any Tesla warranty, or obtain any recall/campaign work for all new Tesla automobiles and components, including the infringing automobiles and components.

79. Tesla further ratifies and holds these Tesla stores out as the regular and established places of business of Tesla in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified Tesla employees and agents some or all of the employees or agents employed in this District by these Tesla stores—including for example, Tesla certified brand advisors, Tesla certified geniuses or experts, Tesla certified technicians, and Tesla certified service advisors.

80. Tesla has established and ratified and holds these authorized Tesla stores out as the regular and established places of business of Tesla by directing and controlling these stores' actions, sales, and services in the foregoing manner, and has consented to these stores acting on Tesla's behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these stores have consented to act on Tesla's behalf pursuant to the foregoing terms of control and direction in order to be able to provide

these Tesla automobiles, components, and services to consumers in this District.

Toyota

81. Upon information and belief, Defendant Toyota Motor Corporation is a Japanese corporation headquartered at 1 Toyota-cho, Toyota City, Aichi Prefecture 471-8571, Japan. On information and belief, Toyota Motor Corporation does business itself, or through its subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas.

82. Upon information and belief, Toyota Motor North America, Inc. ("Toyota North America") is a corporation organized and existing under the laws of California with its principal place of business in this District at 6565 Headquarters Dr., Plano, TX 75024. On information and belief, Toyota North America is a wholly owned subsidiary of Toyota Motor Corporation and is responsible for importing, making, marketing, distributing, offering for sale, and selling automotive vehicles and components from Toyota-managed brands (e.g., Toyota, Lexus, etc.) in the United States. On information and belief, Toyota North America has thousands of employees based in and does business across the State of Texas, including at, e.g., the Toyota Motor Sales Call Center in Lewisville, the Toyota Motor Engineering & Manufacturing North America, Inc. Headquarters in Plano, the Toyota Financial Services in Plano, the Toyota Motor North America Headquarters in Plano, and Toyota Motor Manufacturing Texas in San Antonio.

83. The Second Amended Complaint refers to Defendants Toyota Motor Corporation and Toyota North America collectively as "Toyota". On information and belief, Toyota designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas automotive vehicles and components thereof that infringe the '318 Patent asserted in this matter.

84. Toyota has regular and established places of business, at which it has committed

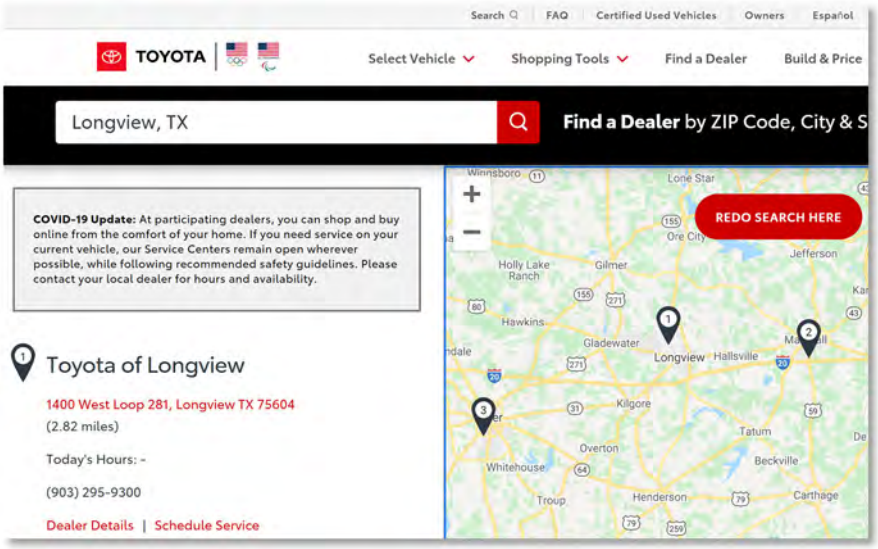
acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., Shapen Toyota, Robbins Toyota, Toyota of Mt. Pleasant, Toyota of Paris, Toyota of Longview, Palestine Toyota, Loving Toyota, Silsbee Toyota, Kinsel Toyota, and Toyota of Plano.

85. Upon information and belief, each of these authorized Toyota dealers in this District are regular, continuous, and established physical places of business of Defendants Toyota, being established, ratified, and/or controlled by Toyota as authorized dealers, which are the exclusive places of business at which Toyota offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the Toyota automotive vehicles and components that infringe the '318 Patent asserted in this matter.

86. Upon information and belief, Toyota granted each of these authorized Toyota dealers in this District the exclusive right to offer for sale, sell, and service the infringing Toyota vehicles in this District, at these particular geographical locations, and has further conditioned these authorized dealers' continued offering for sale, sale, and service of the infringing Toyota vehicles in this District on these authorized dealers' continued presence in this District, at these particular geographical locations, so that the infringing Toyota automobiles and components are offered for sale, sold, and/or distributed in this District.

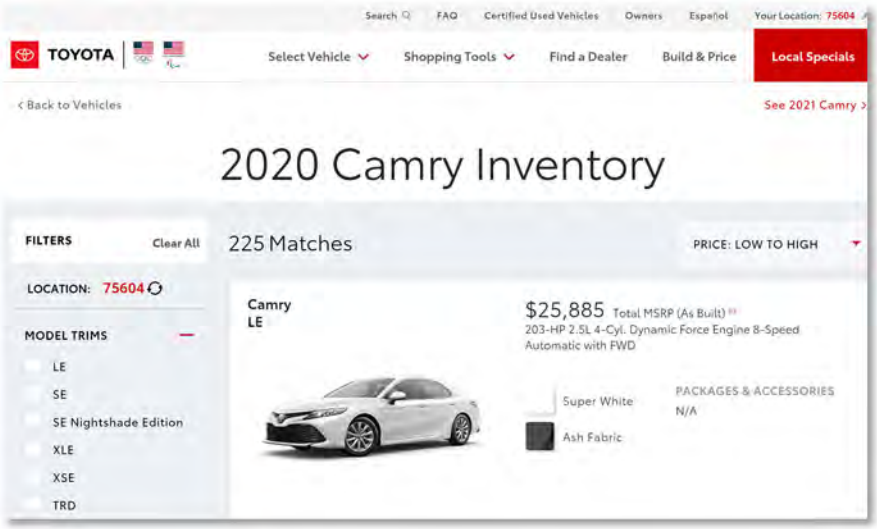
87. Toyota ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by listing each of them in Toyota's sales directories and on Toyota's website(s), including, e.g., as shown below:

FIGURE 34



88. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by offering for sale on Toyota's website(s) the infringing automobiles and components at the physical, geographical locations of these authorized Toyota dealers, including, e.g., as shown below:

FIGURE 35



89. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by requiring these authorized dealers

to feature and use Toyota names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including, e.g., Shapen Toyota, Robbins Toyota, Toyota of Mt. Pleasant, Toyota of Paris, Toyota of Longview, Palestine Toyota, Loving Toyota, Silsbee Toyota, Kinsel Toyota, and Toyota of Plano, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

90. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the infringing Toyota automobiles and components, including, e.g., as shown below:

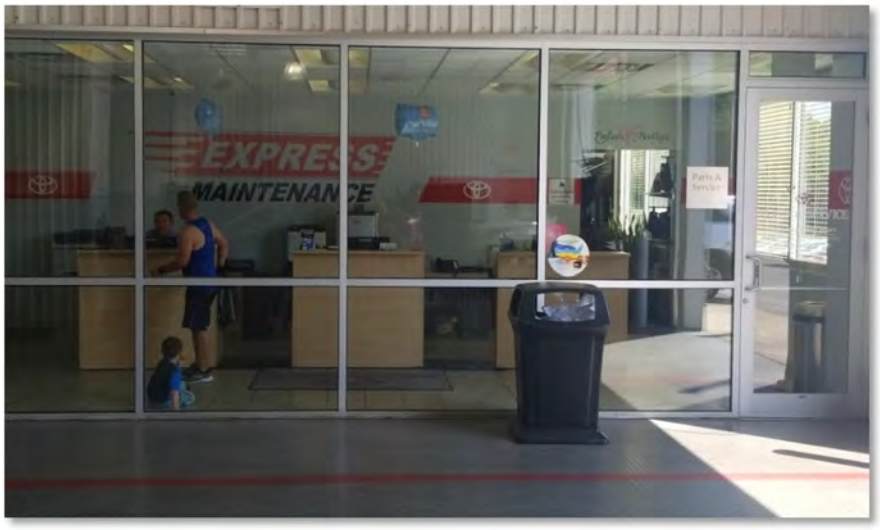
FIGURE 36

FIGURE 37

91. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures, product specifications, service information, warranty information, financing information, and various other literature, as well as Toyota authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 38

FIGURE 39



92. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, Toyota financial services and products, Toyota warranties, Toyota service from Toyota certified and/or trained technicians, Toyota parts, and Toyota accessories.

93. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized Toyota service, obtain scheduled maintenance under any Toyota Care plan, make repairs pursuant to any Toyota warranty, or obtain any recall/campaign work for all new Toyota automobiles and components, including the infringing automobiles and components.

94. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified Toyota

employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, Toyota certified brand advisors, Toyota certified geniuses or experts, Toyota certified technicians, and Toyota certified service advisors.

95. Toyota further ratifies and holds these authorized Toyota dealers out as the regular and established places of business of Toyota by providing these dealers sales promotions, providing these dealers financing for dealership improvements directed by Toyota, and sharing customer data with these dealers to provide customized Toyota services.

96. Toyota has established and ratified and holds these authorized Toyota dealers out as the regular and established places of business of Toyota by directing and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on Toyota's behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on Toyota's behalf pursuant to the foregoing terms of control and direction in order to be able to provide these Toyota automobiles, components, and services to consumers in this District.

General Motors

97. Upon information and belief, General Motors LLC is a limited liability company organized and existing under the laws of Delaware. On information and belief, General Motors LLC is a wholly owned subsidiary of General Motors Company and is responsible for making, marketing, distributing, offering for sale, and selling automotive vehicles and components from GM-managed brands Buick, Cadillac, Chevrolet, and GMC in the United States. On information and belief, General Motors LLC has thousands of employees based in and does business across

the State of Texas, including at, e.g., Arlington Assembly in Arlington, Fort Worth Parts Distribution Center in Roanoke, GM Financial Arlington Operations Service Center in Arlington, GM Financial Headquarters in Fort Worth, GM Financial San Antonio Customer Service Center in San Antonio, GM Austin Customer Engagement Center in Austin, Austin IT Innovation Center in Austin, and South Central Regional Office in Irving.

98. On information and belief, General Motors designs, manufactures, distributes, imports, offers for sale, and/or sells in the State of Texas and the Eastern District of Texas automotive vehicles and components thereof that infringe the ’318 and ’867 Patents asserted in this matter.

99. General Motors has regular and established places of business, at which it has committed acts of infringement and placed the accused products into the stream of commerce, throughout the State of Texas and in the Eastern District of Texas, including at, e.g., Maverick Chevrolet, Classic Cadillac Texarkana, Orr GMC Cadillac Longview, Wagner Cadillac, Gabriel/Jordan Chevrolet Cadillac, JM Chevrolet Cadillac, Moore Chevrolet Cadillac, Classic Chevrolet Cadillac, Wright Buick GMC, Yates Buick GMC, and Classic Cadillac Denison.

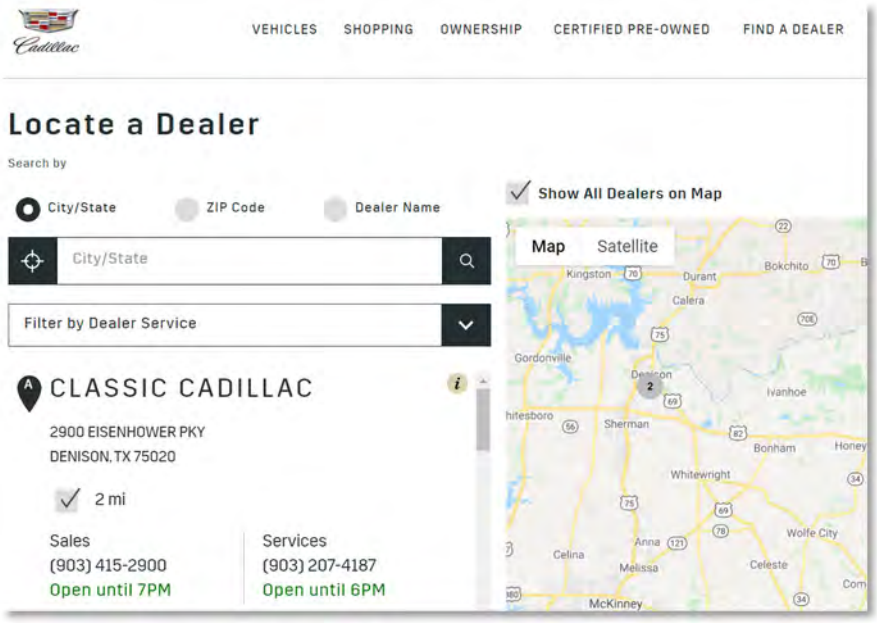
100. Upon information and belief, each of these authorized General Motors dealers in this District are regular, continuous, and established physical places of business of Defendants General Motors, being established, ratified, and/or controlled by General Motors as authorized dealers, which are the exclusive places of business at which General Motors offers for sale, sells, and provides authorized maintenance, warranty, and recall services for the General Motors automotive vehicles and components that infringe the ’318 and ’867 Patents asserted in this matter.

101. Upon information and belief, General Motors granted each of these authorized General Motors dealers in this District the exclusive right to offer for sale, sell, and service the

infringing General Motors vehicles in this District, at these particular geographical locations, and has further conditioned these authorized dealers' continued offering for sale, sale, and service of the infringing General Motors vehicles in this District on these authorized dealers' continued presence in this District, at these particular geographical locations, so that the infringing General Motors automobiles and components are offered for sale, sold, and/or distributed in this District.

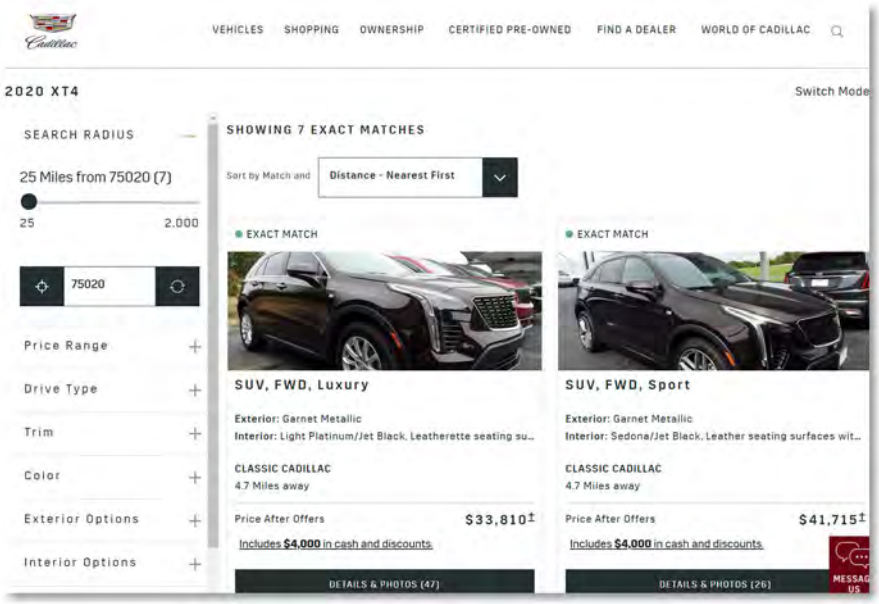
102. General Motors ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by listing each of them in General Motors' sales directories and on General Motors' website(s), including, e.g., as shown below:

FIGURE 40



103. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by offering for sale on General Motors' website(s) the infringing automobiles and components at the physical, geographical locations of these authorized General Motors dealers, including, e.g., as shown below:

FIGURE 41



104. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by requiring these authorized dealers to feature and use General Motors names, branding, trademarks, and/or trade dress, in each of these authorized dealers' names, including, e.g., Maverick Chevrolet, Classic Cadillac Texarkana, Orr GMC Cadillac Longview, Wagner Cadillac, Gabriel/Jordan Chevrolet Cadillac, JM Chevrolet Cadillac, Moore Chevrolet Cadillac, Classic Chevrolet Cadillac, Wright Buick GMC, Yates Buick GMC, and Classic Cadillac Denison, as well as in the marketing and advertising materials that these authorized dealers use and make to offer for sale and sell the infringing automobiles and components in this District, such as on each authorized dealer's website hosted and shown to consumers in this District.

105. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by controlling in whole or in part the name, geographical location, layout, structure, marketing, branding, and overall look and feel of these exclusive places to test drive and purchase the

infringing General Motors automobiles and components, including, e.g., as shown below:

FIGURE 42

FIGURE 43

106. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by requiring these businesses to store, display, distribute, and/or offer for sale marketing materials, brochures,

product specifications, service information, warranty information, financing information, and various other literature, as well as General Motors authorized service, parts, and accessories, for the infringing automobiles and components, including, e.g., as shown below:

FIGURE 44

FIGURE 45

107. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by

establishing, authorizing, and requiring these places of business to offer to consumers in this District, at the time of sale and/or distribution of the infringing automobiles and components, General Motors financial services and products, General Motors warranties, General Motors service from General Motors certified and/or trained technicians, General Motors parts, and General Motors accessories.

108. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by establishing, authorizing, and requiring consumers in this District to visit and use these authorized dealers in order to obtain authorized General Motors service, obtain scheduled maintenance under any General Motors service plan, make repairs pursuant to any General Motors warranty, or obtain any recall/campaign work for all new General Motors automobiles and components, including the infringing automobiles and components.

109. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors in this District by recruiting, hiring, training, offering compensation and benefits to, controlling, and/or labeling as authorized or certified General Motors employees and agents some or all of the employees or agents employed in this District by these authorized dealers—including for example, General Motors certified brand advisors, General Motors certified geniuses or experts, General Motors certified technicians, and General Motors certified service advisors.

110. General Motors further ratifies and holds these authorized General Motors dealers out as the regular and established places of business of General Motors by providing these dealers sales promotions, providing these dealers financing for dealership improvements directed by General Motors, and sharing customer data with these dealers to provide customized General

Motors services.

111. General Motors has established and ratified and holds these authorized General Motors dealers out as the regular and established places of business of General Motors by directing and controlling these authorized dealers' actions, sales, and services in the foregoing manner, and has consented to these authorized dealers acting on General Motors' behalf and being the exclusive places of business whereby the infringing automobiles and components are distributed, offered for sale, sold, and serviced in order to place these infringing articles into the stream of commerce in this District, and these authorized dealers have consented to act on General Motors' behalf pursuant to the foregoing terms of control and direction in order to be able to provide these Buick, Chevrolet, Cadillac, and GMC automobiles, components, and services to consumers in this District.

Continental

112. Upon information and belief, Defendant Continental AG is a corporation organized and existing under the laws of Germany with a place of business at Vahrenwalder Straße 9, D-30165 Hanover, Germany. On information and belief, Continental AG does business in the United States, State of Texas, and the Eastern District of Texas itself, or through its subsidiaries, affiliates, and agents, including Defendants Conti Temic microelectronic GmbH and ADC Automotive Distance Control Systems GmbH.

113. Upon information and belief, Defendant Conti Temic microelectronic GmbH ("Conti") is a corporation organized and existing under the laws of Germany with a place of business at Ringlerstr. 17, 85057 Ingolstadt, Germany. Conti is a wholly-owned subsidiary of UMB Beteiligungs GmbH, which is a wholly-owned subsidiary of Continental AG.

114. Upon information and belief, Defendant ADC Automotive Distance Control

Systems GmbH ("ADC") is a corporation organized and existing under the laws of Germany with a place of business at Peter-Dornier-Strasse 10, D-88131 Lindau, Germany Ringlerstr. 17, 85057 Ingolstadt, Germany. ADC is a wholly-owned subsidiary of Conti.

115. The Second Amended Complaint refers to Defendants Continental AG, Conti, and ADC collectively as Continental. Continental comprises one of the world's largest manufacturers and providers of telematic and other vehicle components, which each identified entity works in concert to sell under the Continental brand to and in the United States, State of Texas, and the Eastern District of Texas. These efforts have been successful. In its 2020 Annual Report, Continental AG stated that "Continental recorded sales totaling €4,753.4 million (PY: €6,087.7 million) with a group of companies under common control," including through sales in and to the United States.

116. Further, in furtherance of these efforts, Continental has hundreds of employees in and does business across the State of Texas, including at facilities at 440 Kohlenberg Rd, New Braunfels, TX 78130 and 3740 North Austin Street, Seguin, TX 78155:

FIGURE 46

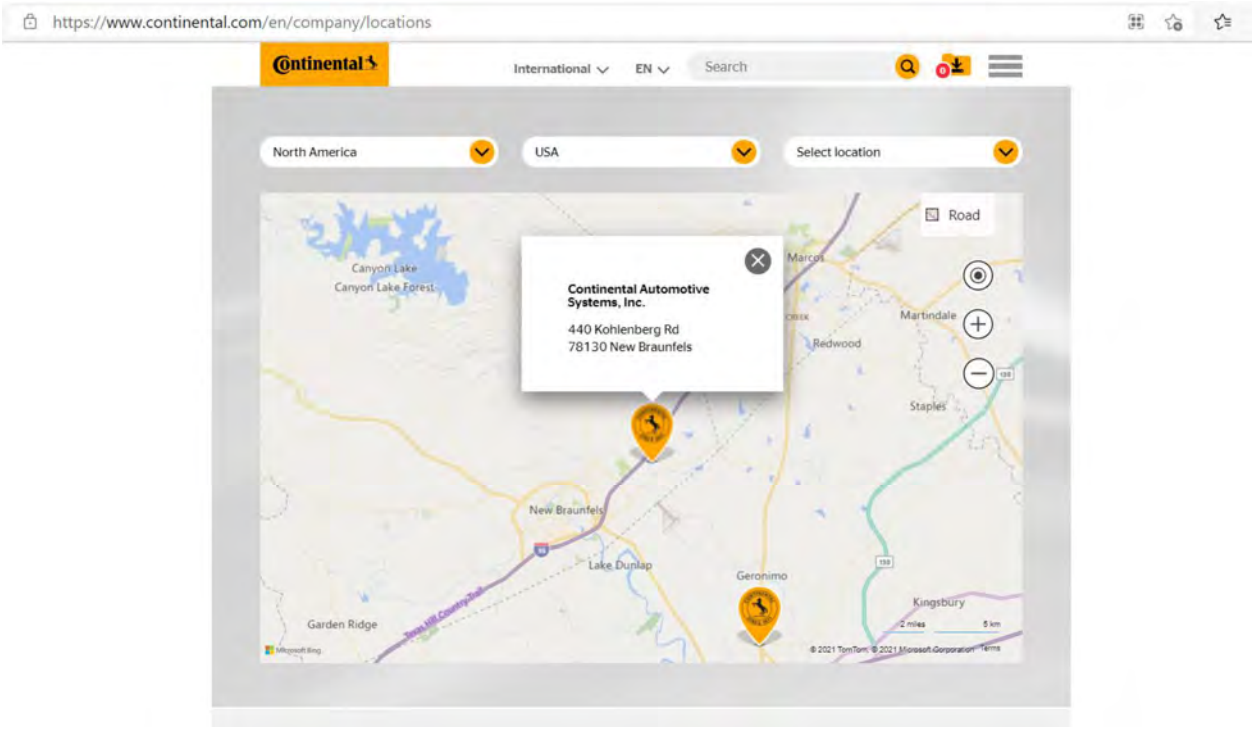


FIGURE 47

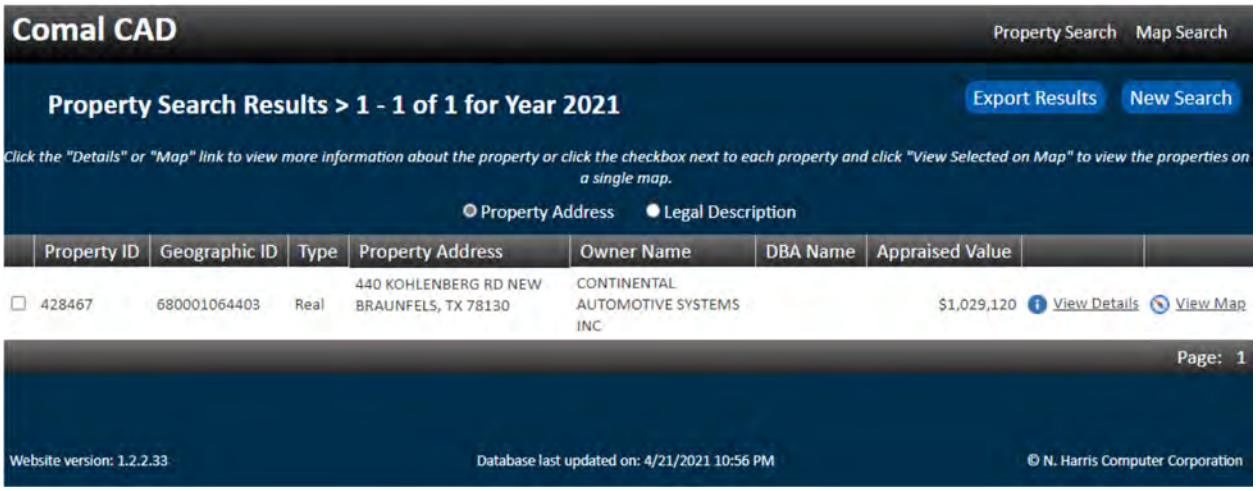


FIGURE 48

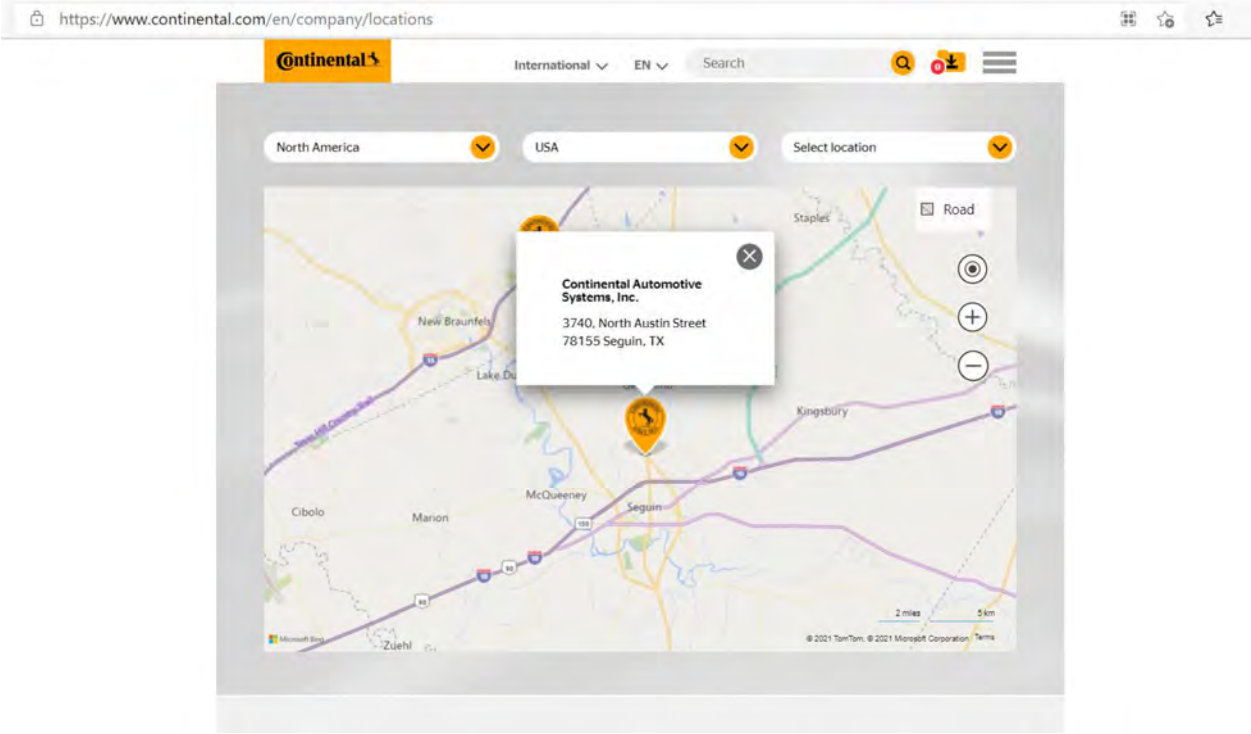


FIGURE 49

117. Further, on information and belief, Continental designs, manufactures, distributes, imports, offers for sale, and/or sells automotive components in and to entities in the United States, the State of Texas, and the Eastern District of Texas that infringe the '318 Patent asserted in this

matter. Such entities include Volkswagen AG; Volkswagen Group of America, Inc.; Bayerische Motoren Werke AG; BMW of North America, LLC; Daimler AG; Mercedes-Benz USA, LLC; Nissan Motor Company, Ltd.; Nissan North America, Inc.; Tesla, Inc.; Tesla Motors TX, Inc.; Toyota Motor Corporation; Toyota Motor North America, Inc.; and General Motors LLC (collectively, "Continental Customers")—each of which Continental has admitted is a Continental customer who manufactures, distributes, imports, offers for sale, and/or sells one or more automotive vehicles in the United States, the State of Texas, and the Eastern District of Texas that incorporate at least Continental's ARS4-Series radar sensor modules pursuant to "agreements with the Customers relating to the manufacture and supply of Plaintiffs' ARS4-Series radar sensor modules for use in the Customers' vehicles." Complaint, Dkt. 1 in Case 1:21-cv-00826-AJT-JFA (E.D. Va.) at ¶¶ 15-24.

118. Further, Continental specifically designed such ARS4-Series components for use and sale in the United States, including by seeking and obtaining FCC approval for such components to be used in the United States. https://fcc.report/FCC-ID/OAYARS4A/.

JURISDICTION AND VENUE

119. This is an action for patent infringement arising under the patent laws of the United States. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

120. This Court has personal jurisdiction over each Defendant because each Defendant conducts business in and has committed acts of patent infringement in this District, the State of Texas, and elsewhere in the United States and has established minimum contacts with this forum state such that the exercise of jurisdiction over each Defendant would not offend the traditional notions of fair play and substantial justice. Upon information and belief, each Defendant transacts substantial business with entities and individuals in the State of Texas and the Eastern District of

Texas, by among other things, importing, offering to sell, distributing, and selling products that infringe the Asserted Patents, including the infringing automotive vehicles and components thereof that each Defendant purposefully directs into the State of Texas and this District as alleged herein, as well as by providing service and support to its customers in this District. Each Defendant places the accused automotive vehicles and components thereof into the stream of commerce via authorized and established distribution channels with the knowledge and expectation that they will be sold in the United States, including in the State of Texas and this District, and do not otherwise permit the sale of the accused automotive vehicles and components thereof in the State of Texas, or in this District, outside of these established, authorized, and ratified distribution channels and dealer networks.

121. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b), because each and every Defendant either is a foreign corporation who is not a resident of the United States and is subject to personal jurisdiction in this District, and thus is subject to venue in any judicial district including this District, resides in this District, and/or has committed acts of infringement in this District and has a regular and established place of business in this District.

122. Each Defendant is subject to this Court's general and specific jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to each Defendant's substantial business in the State of Texas and this District, including through its past infringing activities, because each Defendant regularly does and solicits business herein, and/or because each Defendant has engaged in persistent conduct and/or has derived substantial revenues from goods and services provided to customers in the State of Texas and this District.

SINGLE ACTION

123. This suit is commenced against Defendants pursuant to 35 U.S.C. § 299 in a single

action because (a) a right to relief is asserted against Defendants jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, and/or selling of the same accused products or processes and (b) questions of fact common to all Defendants will arise in the action.

124. Plaintiff is informed and believes, and on that basis alleges, that Defendants Volkswagen, BMW, Mercedes-Benz, Nissan, Tesla, Toyota, General Motors, and Continental import, manufacture, offer for sale, and/or sell the same products and processes accused in this action, with respect to the Patents asserted in this action, including because, as alleged below, each Defendant designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP Semiconductors MR2001 chip package.

THE ASSERTED PATENTS

125. This action asserts causes of action for infringement of United States Patent No. 7,397,318 (the "'318 Patent") and United States Patent No. 8,247,867 (the "'867 Patent") (collectively, the "Asserted Patents"). The Asserted Patents are valid and enforceable United States Patents, the entire right, title, and interest to which Arigna owns by assignment.

126. The Asserted Patents relate to radar and hybrid and electric vehicle technology used in automotive vehicles and components thereof.

127. On July 8, 2008, the U.S. Patent and Trademark Office duly and legally issued the '318 Patent, which is entitled "Voltage-Controlled Oscillator." Plaintiff holds all rights and title to the Patent, including the sole and exclusive right to bring a claim for its infringement. A true and correct copy of the Patent is attached as **Exhibit A**.

128. The '318 Patent generally claims a voltage-controlled oscillator comprising a

voltage-controlled oscillation section, a frequency control bias circuit, a temperature compensation bias circuit, and a temperature compensation bias generation circuit. The patented invention relates to a voltage-controlled oscillator operating in a microwave or millimeter wave region and, more particularly, to voltage-controlled oscillators capable of correcting variation in oscillation frequencies with temperature and shifting the range of voltages applicable across a variable-capacitance element to a region on the high-voltage side.

129. On August 21, 2012, the U.S. Patent and Trademark Office duly and legally issued the ’867 Patent, which is entitled “Semiconductor Device.” Plaintiff holds all rights and title to the Patent, including the sole and exclusive right to bring a claim for its infringement. A true and correct copy of the Patent is attached as **Exhibit B**.

130. The ’867 Patent generally claims a semiconductor device with a trench gate structure and trench contact structure that is capable of minimizing a cell size while keeping a low on-resistance. This semiconductor device is used in, as one example, the traction inverter of an electric vehicle to take supply voltage from the vehicle’s battery and deliver power to the vehicle’s wheels.

131. Plaintiff owns all rights, title, and interest in and to the Asserted Patents and possesses all rights of recovery.

FACTUAL ALLEGATIONS

132. As referred to in this Second Amended Complaint, and consistent with 35 U.S.C. § 100(c), the “United States” means “the United States of America, its territories and possessions.”

133. None of the Defendants has any right to practice the intellectual property protected by the Asserted Patents.

134. Each Defendant makes, uses, offers to sell, sells, and/or imports into the United

States, products made in accordance with the '318 Patent, including but not limited to the Volkswagen Tiguan, the Volkswagen ID.4, the Audi Q3, the BMW 8 Series, the BMW 7 Series, the BMW 5 Series, the BMW 3 Series, the BMW X3, the BMW X4, the BMW X5, the BMW X6, the BMW X7, the BMW M5, the Mercedes-Benz A Class, the Mercedes-Benz C Class, the Mercedes-Benz CLA, the Mercedes-Benz CLS, the Mercedes-Benz E Class, the Mercedes-Benz GLB, the Mercedes-Benz GLC, the Mercedes-Benz GLE, the Mercedes-Benz GLS, the Mercedes-Benz S Class, the Mercedes-Benz GT, the Mercedes-Benz C Class, including the Mercedes-AMG variants of the foregoing vehicles, the Nissan Titan, the Nissan Rogue, the Nissan Rogue Sport, the Nissan Altima, the Nissan Maxima, the Nissan Kicks, the Nissan Versa, the Nissan Murano, the Nissan Leaf, the Infiniti QX50, the Infiniti Q60, the Tesla Model S, the Tesla Model X, the Tesla Model Y, the Tesla Model 3, the Toyota Camry, the Toyota Tundra, the Toyota CH-R, the Toyota 4Runner, the Toyota Tacoma, the Buick Enclave, the Buick Regal Sportback, the Buick Regal TourX, the Buick Lacrosse, the Cadillac XT4, the Cadillac XT5, the Cadillac XT6, the Cadillac CT6, the Cadillac XTS, the Chevrolet Blazer, the Chevrolet Traverse, and the GMC Acadia, in addition to other vehicles.

135. Defendants Volkswagen, BMW, and General Motors make, use, offer to sell, sell, and/or import into the United States, products made in accordance with the '867 Patent, including but not limited to the Volkswagen e-Golf, the Volkswagen Golf GTE, the Volkswagen ID.3, the Volkswagen ID.4, the BMW i3, the BMW i8, the BMW X3 xDrive30e, the BMW X5 xDrive45e, and the Chevrolet Bolt, in addition to other vehicles.

136. Further, Plaintiff has not made, used, offered for sale, sold, and/or imported into the United States any product that practices the Asserted Patents. Plaintiff further states that it is not aware of any licensee that made, used, offered for sale, sold, and/or imported into the United

States any product that practices the Asserted Patents prior to June 26, 2020.

COUNT 1
INFRINGEMENT OF U.S. PATENT NO. 7,397,318

137. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:

Volkswagen

138. Volkswagen has infringed and continues to infringe at least claim 2 of the ’318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the ’318 Patent. Volkswagen is liable for its infringement of the ’318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

139. More specifically, Volkswagen designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the ’318 Patent.

140. Claim 2 is illustrative of the ’318 Patent. It recites “[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode,

a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

141. The NXP MR2001 meets every element of this claim.[2] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

FIGURE 50

NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

142. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias

[2] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Volkswagen's products infringe the '318 Patent.

to a second end of the variable-capacitance element.

143. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

144. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

145. Volkswagen makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the Volkswagen Tiguan, the Volkswagen ID.4, and the Audi Q3.

146. Volkswagen has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., Volkswagen and Audi authorized dealers in the Eastern District of Texas.

147. Volkswagen committed the foregoing infringing activities without license from Arigna. Volkswagen's acts of infringement have damaged Arigna, as owner and assignee of the

'318 Patent. Arigna is entitled to recover from Volkswagen the damages it has sustained as a result of Volkswagen's wrongful acts in an amount subject to proof at trial. Volkswagen's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

148. No later than the filing of the Complaint, Dkt. 1, Volkswagen has had actual knowledge of the '318 Patent.

BMW

149. BMW has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. BMW is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

150. More specifically, BMW designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

151. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation

bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

152. The NXP MR2001 meets every element of this claim.[3] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

FIGURE 51

NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

153. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance

[3] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which BMW's products infringe the '318 Patent.

element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

154. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

155. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

156. BMW makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the BMW 8 Series, the BMW 7 Series, the BMW 5 Series, the BMW 3 Series, the BMW X3, the BMW X4, the BMW X5, the BMW X6, the BMW X7, and the BMW M5.

157. BMW has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., BMW authorized dealers in the Eastern District of Texas.

158. BMW committed the foregoing infringing activities without license from Arigna. BMW's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from BMW the damages it has sustained as a result of BMW's wrongful acts in an amount subject to proof at trial. BMW's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

159. No later than the filing of the Complaint, Dkt. 1, BMW has had actual knowledge of the '318 Patent.

Mercedes-Benz

160. Mercedes-Benz has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. Mercedes-Benz is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

161. More specifically, Mercedes-Benz designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

162. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias

generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

163. The NXP MR2001 meets every element of this claim.[4] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

FIGURE 52

NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

[4] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Mercedes-Benz's products infringe the '318 Patent.

164. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

165. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

166. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

167. Mercedes-Benz makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the Mercedes-Benz A Class, the Mercedes-Benz C Class, the Mercedes-Benz CLA, the Mercedes-Benz CLS, the Mercedes-Benz E Class, the Mercedes-Benz GLB, the Mercedes-Benz GLC, the Mercedes-Benz GLE, the Mercedes-Benz GLS, the Mercedes-Benz S Class, the

Mercedes-Benz GT, and the Mercedes-AMG variants of the foregoing vehicles.

168. Mercedes-Benz has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., Mercedes-Benz authorized dealers in the Eastern District of Texas.

169. Mercedes-Benz committed the foregoing infringing activities without license from Arigna. Mercedes-Benz's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from Mercedes-Benz the damages it has sustained as a result of Mercedes-Benz's wrongful acts in an amount subject to proof at trial. Mercedes-Benz's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

170. No later than the filing of the Complaint, Dkt. 1, Mercedes-Benz has had actual knowledge of the '318 Patent.

Nissan

171. Nissan has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. Nissan is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

172. More specifically, Nissan designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

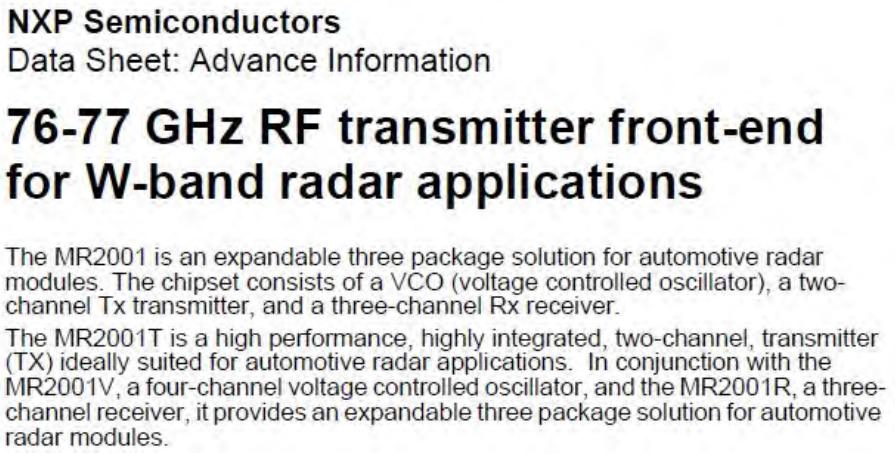
173. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a

frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

174. The NXP MR2001 meets every element of this claim.[5] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

[5] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Nissan's products infringe the '318 Patent.

FIGURE 53



NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

175. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

176. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

177. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector

or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

178. Nissan makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the Nissan Titan, the Nissan Rogue, the Nissan Rogue Sport, the Nissan Altima, the Nissan Maxima, the Nissan Kicks, the Nissan Versa, the Nissan Murano, the Nissan Leaf, the Infiniti QX50, and the Infiniti Q60.

179. Nissan has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., Nissan authorized dealers in the Eastern District of Texas.

180. Nissan committed the foregoing infringing activities without license from Arigna. Nissan's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from Nissan the damages it has sustained as a result of Nissan's wrongful acts in an amount subject to proof at trial. Nissan's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

181. No later than the filing of the Complaint, Dkt. 1, Nissan has had actual knowledge of the '318 Patent.

Tesla

182. Tesla has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. Tesla is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

183. More specifically, Tesla designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

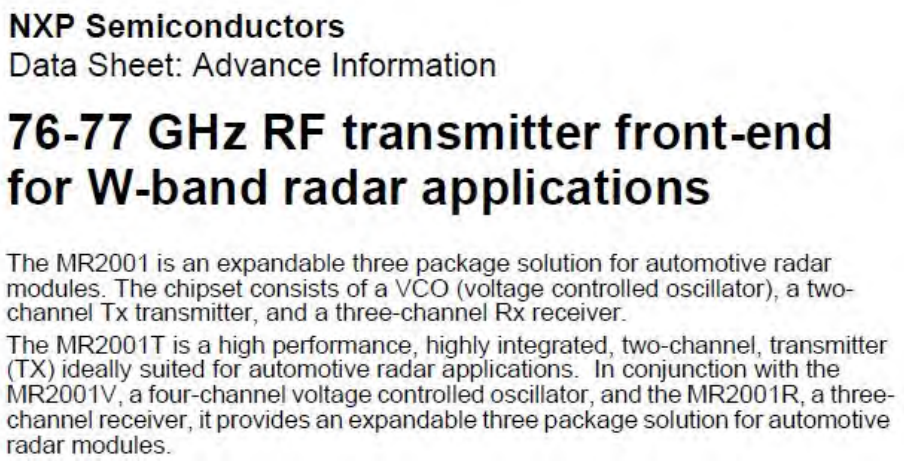
184. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

185. The NXP MR2001 meets every element of this claim.[6] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls

[6] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Tesla's products infringe the '318 Patent.

oscillation frequency through a voltage applied to a variable-capacitance element.

FIGURE 54



NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

186. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

187. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

188. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the

temperature compensation bias application circuit and a second end that is grounded. A collector or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

189. Tesla makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including the Tesla Model S, the Tesla Model X, the Tesla Model Y, and the Tesla Model 3.

190. Tesla has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., Tesla authorized dealers in the Eastern District of Texas.

191. Tesla committed the foregoing infringing activities without license from Arigna. Tesla's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from Tesla the damages it has sustained as a result of Tesla's wrongful acts in an amount subject to proof at trial. Tesla's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

192. No later than the filing of the Complaint, Dkt. 1, Tesla has had actual knowledge of the '318 Patent.

Toyota

193. Toyota has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. Toyota is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

194. More specifically, Toyota designs, manufactures, assembles, imports, offers for

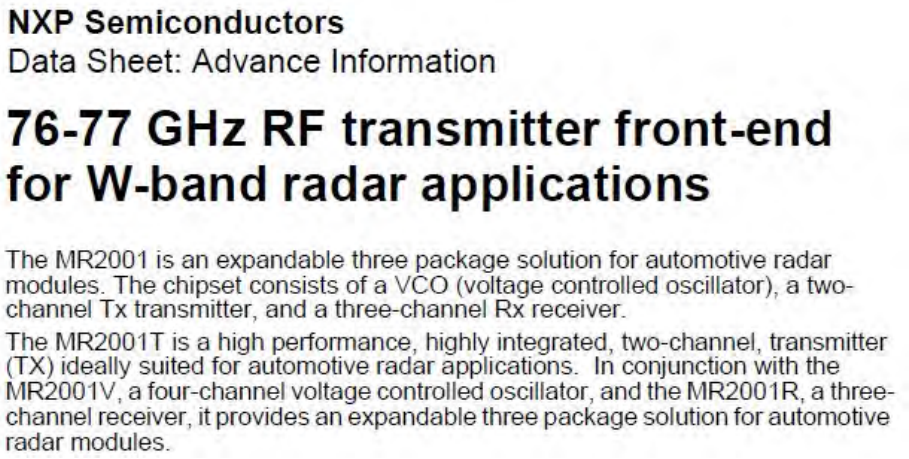
sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

195. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

196. The NXP MR2001 meets every element of this claim.[7] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

[7] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Toyota's products infringe the '318 Patent.

FIGURE 55



NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

The MR2001T is a high performance, highly integrated, two-channel, transmitter (TX) ideally suited for automotive radar applications. In conjunction with the MR2001V, a four-channel voltage controlled oscillator, and the MR2001R, a three-channel receiver, it provides an expandable three package solution for automotive radar modules.

197. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

198. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

199. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector

or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

200. Toyota makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the Toyota Camry, the Toyota Tundra, the Toyota CH-R, the Toyota 4Runner, and the Toyota Tacoma.

201. Toyota has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., Toyota authorized dealers in the Eastern District of Texas.

202. Toyota committed the foregoing infringing activities without license from Arigna. Toyota's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from Toyota the damages it has sustained as a result of Toyota's wrongful acts in an amount subject to proof at trial. Toyota's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

203. No later than the filing of the Complaint, Dkt. 1, Toyota has had actual knowledge of the '318 Patent.

General Motors

204. General Motors has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. General Motors is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

205. More specifically, General Motors designs, manufactures, assembles, imports,

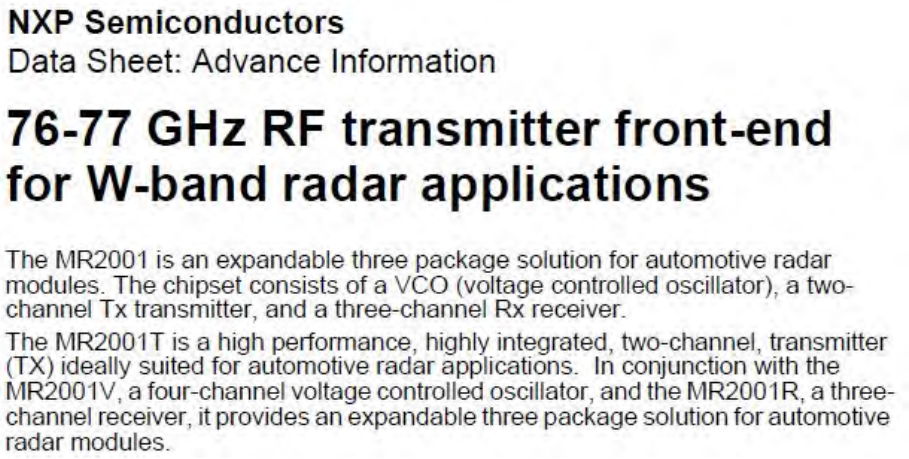
offers for sale, and/or sells automotive vehicles and components thereof that incorporate the NXP MR2001, which infringes at least independent claim 2 of the '318 Patent.

206. Claim 2 is illustrative of the '318 Patent. It recites "[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded."

207. The NXP MR2001 meets every element of this claim.[8] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls oscillation frequency through a voltage applied to a variable-capacitance element.

[8] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which General Motors' products infringe the '318 Patent.

FIGURE 56



NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

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208. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

209. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

210. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the temperature compensation bias application circuit and a second end that is grounded. A collector

or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

211. General Motors makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing NXP MR2001, including but not limited to the Buick Enclave, Buick Regal Sportback, Buick Regal TourX, Buick Lacrosse, Cadillac XT4, Cadillac XT5, Cadillac XT6, Cadillac CT6, Cadillac XTS, Chevrolet Blazer, Chevrolet Traverse, and GMC Acadia.

212. General Motors has imported and sold, and continues to sell and offer for sale, these vehicles and components thereof in the United States, including through, e.g., General Motors authorized dealers in the Eastern District of Texas.

213. General Motors committed the foregoing infringing activities without license from Arigna. General Motors' acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from General Motors the damages it has sustained as a result of General Motors' wrongful acts in an amount subject to proof at trial. General Motors' infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

214. No later than the filing of this Second Amended Complaint, General Motors has had actual knowledge of the '318 Patent.

Continental

215. Continental has infringed and continues to infringe at least claim 2 of the '318 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 2 of the '318 Patent. Continental is liable for its infringement of the '318 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

216. More specifically, Continental designs, manufactures, assembles, imports, offers for sale, and/or sells automotive components that incorporate the NXP MR2001, which infringes at least independent claim 2 of the ’318 Patent.

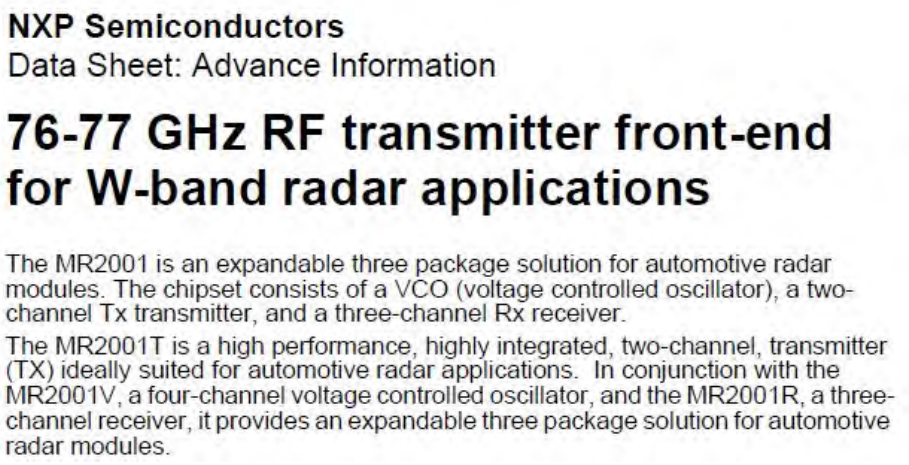
217. Claim 2 is illustrative of the ’318 Patent. It recites “[a] voltage-controlled oscillator comprising a voltage-controlled oscillation section which controls oscillation frequency through a voltage applied to a variable-capacitance element; a frequency control bias circuit which applies a frequency control bias to a first end of the variable-capacitance element; a temperature compensation bias circuit which applies a temperature compensation bias to a second end of the variable-capacitance element; and a temperature compensation bias generation circuit which generates the temperature compensation bias and supplies the temperature compensation bias generated to the temperature compensation bias circuit, the temperature compensation bias generation circuit having: a diode having a cathode connected to the temperature compensation bias application circuit; a transistor having a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source; a first resistor having a first end connected to the collector or drain of the transistor; a collector or drain bias application terminal connected to a second end of the first resistor; a second resistor having a first end connected to the base or gate of the transistor; a base or gate bias application terminal connected to a second end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor and having a second end that is grounded; and a fourth resistor having a first end connected to the temperature compensation bias application circuit and having a second end that is grounded.”

218. The NXP MR2001 meets every element of this claim.[9] The NXP MR2001 includes a voltage-controlled oscillator comprising a voltage-controlled oscillation section that controls

[9] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Continental’s products infringe the ’318 Patent.

oscillation frequency through a voltage applied to a variable-capacitance element.

FIGURE 57



NXP Semiconductors

Data Sheet: Advance Information

76-77 GHz RF transmitter front-end for W-band radar applications

The MR2001 is an expandable three package solution for automotive radar modules. The chipset consists of a VCO (voltage controlled oscillator), a two-channel Tx transmitter, and a three-channel Rx receiver.

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219. The voltage-controlled oscillator of the NXP MR2001 also includes a frequency control bias circuit that applies a frequency control bias to a first end of the variable-capacitance element, and a temperature compensation bias circuit that applies a temperature compensation bias to a second end of the variable-capacitance element.

220. Further, the voltage-controlled oscillator of the NXP MR2001 includes a temperature compensation bias generation circuit, which generates the temperature compensation bias and supplies it to the temperature compensation bias circuit.

221. The temperature compensation bias generation circuit of the voltage-controlled oscillator of the NXP MR2001 includes a diode with a cathode connected to the temperature compensation bias application circuit, and a transistor with a collector or drain connected to the anode of the diode, a base or a gate, and an emitter or a source. Further, the temperature compensation bias generation circuit includes a first resistor with a first end connected to the collector or drain of the transistor, a second resistor with a first end connected to the base or gate of the transistor, a third resistor with a first end connected to the emitter or source of the transistor and a second end that is grounded, and a fourth resistor with a first end connected to the

temperature compensation bias application circuit and a second end that is grounded. A collector or drain bias application terminal is connected to a second end of the first resistor, and a base or gate bias application terminal is connected to a second end of the second resistor.

222. Continental makes, uses, imports, offers for sale, and/or sells automotive components that incorporate the infringing NXP MR2001, including but not limited to the ARS4-Series components.

223. Continental has imported and sold, and continues to sell and offer for sale, these components in the United States, including through, e.g., its sales of such components to each of the above identified Defendants for use in their respective vehicles.

224. Continental committed the foregoing infringing activities without license from Arigna. Continental's acts of infringement have damaged Arigna, as owner and assignee of the '318 Patent. Arigna is entitled to recover from Continental the damages it has sustained as a result of Continental's wrongful acts in an amount subject to proof at trial. Continental's infringement of Arigna's rights under the '318 Patent will continue to damage Arigna.

225. On information and belief, Continental has had actual knowledge of the '318 Patent and its alleged infringement of it since being informed of Arigna's contentions by one or more of the Continental Customers, which "sought indemnification and defense" from Continental against Arigna's infringement claims prior to the filing of this Second Amended Complaint. Complaint, Dkt. 1 in Case 1:21-cv-00826-AJT-JFA (E.D. Va.) at ¶ 22.

226. Despite such knowledge, Continental has admitted that it "continue[s] to manufacture, offer for sale, and sell their ARS4-Series radar sensor modules" in and to the United States. Complaint, Dkt. 1 in Case 1:21-cv-00826-AJT-JFA (E.D. Va.) at ¶ 23.

227. In addition, Continental indirectly infringed, and continues to indirectly infringe,

the ’318 Patent in violation 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including each of the Continental Customers, as well as other partners, service providers, manufacturers, importers, resellers, customers, and/or end users, in this District and elsewhere in the United States, through its manufacture and sale of the ARS4-Series components, and through its creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such components with knowledge and the specific intent that its efforts will result in the direct infringement of the ’318 Patent by such entities.

228. Such active steps include, for example, advertising and marketing the ARS4-Series components to the Continental Customers and others, obtaining FCC approval for such devices to be utilized in the United States, and distributing and selling such devices to consumers and resellers knowing that they would be marketed, offered for sale, and used in the United States.

229. Further, Continental took, and admits that it intends to continue to take, such active steps after receiving the above described notice of the ’318 Patent and its infringement of it. Complaint, Dkt. 1 in Case 1:21-cv-00826-AJT-JFA (E.D. Va.) at ¶ 23.

230. In addition, Continental has indirectly infringed and continues to indirectly infringe the ’318 Patent in violation 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, ARS4-Series components with knowledge that they are especially designed or adapted to operate in a manner that infringes the ’318 Patent and despite the fact that the infringing technology or aspects of such ARS4-Series components are not a staple article of commerce suitable for substantial non-infringing use.

231. In addition, Continental’s infringement of the ’318 Patent was and continues to be willful no later than the date that one or more of the Continental Customers “sought

indemnification and defense" from Continental against Arigna's infringement claims. Complaint, Dkt. 1 in Case 1:21-cv-00826-AJT-JFA (E.D. Va.) at ¶ 22.

COUNT 2
INFRINGEMENT OF U.S. PATENT NO. 8,247,867

232. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:

Volkswagen

233. Volkswagen has infringed and continues to infringe at least claim 8 of the '867 Patent in violation of 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 8 of the '867 Patent. Volkswagen is liable for its infringement of the '867 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

234. More specifically, Volkswagen designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate Infineon EDT2 IGBT semiconductor devices, including e.g., the Infineon FS770R08A6P2LB, FS820R08A6P2LB, and FS950R08A6P2B, that infringe at least independent claim 8 of the '867 Patent, including the Volkswagen e-Golf, the Volkswagen Golf GTE, the Volkswagen ID.3, and the Volkswagen ID.4.

235. The Infineon FS770R08A6P2LB, FS820R08A6P2LB, and FS950R08A6P2B are power modules from the Infineon HybridPACK Drive product family that have applications in hybrid and electric vehicles. The Infineon HybridPACK Drive modules incorporate the EDT2 IGBT semiconductor device generation, which uses a Micro-Pattern Trench-Field-Stop cell design.

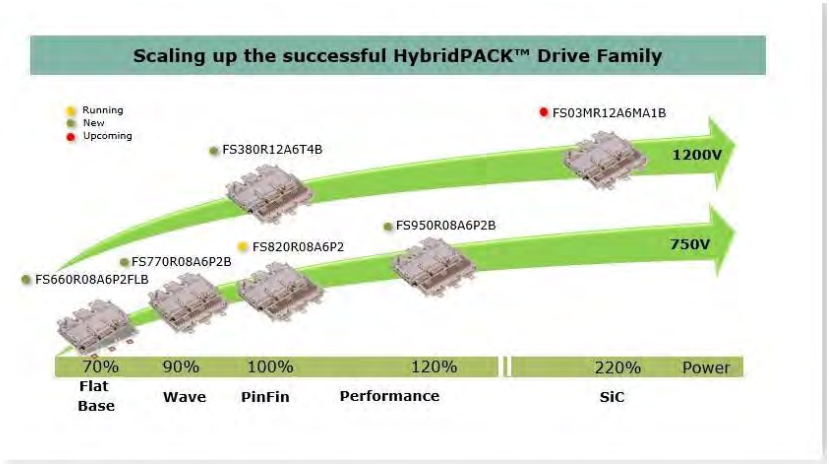
FIGURE 58

Source: https://www.infineon.com/cms/en/product/power/igbt/automotive-qualified-igbts/automotive-igbt-modules/?term=hybridpack&view=kwr&intc=searchkwr

FIGURE 59

Source: https://eepower.com/new-industry-products/power-modules-enable-fast-and-flexible-electrification-of-vehicles/#

FIGURE 60



Source: https://www.eetasia.com/hybridpack-drive-modular-power-semiconductor-solutions-for-a-fast-and-flexible-electrification-of-vehicles/

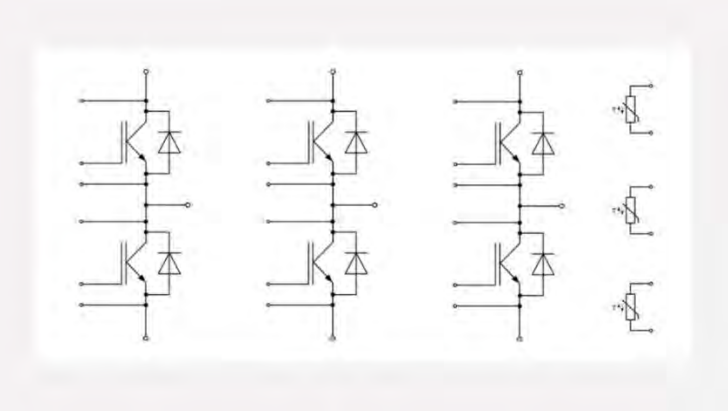
236. Claim 8 is illustrative of the '867 Patent. Claim 8 of the '867 Patent recites: "[a] semiconductor device, comprising: a base layer having a first conductivity type; a source layer formed on said base layer and having a second conductivity type; an insulating film formed on said source layer; a plurality of gate structures penetrating said base layer; a conductive portion penetrating said insulating film and said source layer, being in contact with an upper surface of said source layer, and electrically connected to said source layer and said base layer; and a source electrode formed on said insulating film and electrically connected to said conductive portion, wherein a dimension of a part in which the upper surface of said source layer and said conductive portion are in contact with each other is 10 nm or more and 40 nm or less."

237. The Infineon EDT2 IGBT devices identified above meet every element of this claim.[10] The Infineon EDT2 IGBT devices consist of six cells, each of which include an IGBT semiconductor device and diode.

FIGURE 61

[10] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Volkswagen's products infringe the '867 Patent.

FIGURE 62



Source: https://www.infineon.com/cms/en/product/power/igbt/igbt-modules/fs770r08a6p2lb/

238. Cross-sectional imaging of the Infineon EDT2 IGBT semiconductor devices shows an insulating film formed on top of a source layer, which in turn is formed on top of a base layer.

239. Further, cross-sectional and planar-view imaging of the device shows a plurality of gate structures that penetrate the base layer, and a source layer formed on top of an insulating film. A conductive portion of the device penetrates the insulating film and source layer, such that the conductive portion is in contact with the upper part of the source layer and is electrically connected to both the source layer and the base layer. The point of contact between the upper surface of the source layer and the conductive portion is 10 nanometers or more and 40 nanometers or less.

240. Volkswagen makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing Infineon EDT2 IGBT devices identified above, including the Volkswagen e-Golf, the Volkswagen Golf GTE, the Volkswagen ID.3, and the Volkswagen ID.4.

FIGURE 63

Source: https://www.automotiveworld.com/news-releases/volkswagen-relies-on-infineon-for-its-electric-future/

241. For example, the Volkswagen ID.4 incorporates the Infineon FS950R08A6P2B. Volkswagen's website currently offers its U.S. customers the option to reserve an ID.4, which will "travel[] across the ocean to the US, and arrive[] at [a] local dealer."

FIGURE 64

Source: https://www.vw.com/en/models/id-4.html

242. Further, Volkswagen authorized dealers in the United States currently offer the 2021 ID.4 for sale, including dealers located in the Eastern District of Texas.

243. Volkswagen committed the foregoing infringing activities without license from Arigna. Volkswagen's acts of infringement have damaged Arigna, as owner and assignee of the '867 Patent. Arigna is entitled to recover from Volkswagen the damages it has sustained as a result of Volkswagen's wrongful acts in an amount subject to proof at trial. Volkswagen's infringement of Arigna's rights under the '867 Patent will continue to damage Arigna.

244. No later than the filing of the First Amended Complaint, Dkt. 28, Volkswagen has had actual knowledge of the '867 Patent.

BMW

245. BMW has infringed and continues to infringe at least claim 8 of the '867 Patent in violation of 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 8 of the '867 Patent. BMW is liable for its infringement of the '867 Patent pursuant to 35 U.S.C.

§ 271(a), (b), and (c).

246. More specifically, BMW designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the Infineon EDT2 IGBT semiconductor devices, including e.g., the Infineon FS900R08A2P2_B31 and FS900R08A2P2_B32, that infringe at least independent claim 8 of the '867 Patent.

247. The Infineon FS900R08A2P2_B31 and FS900R08A2P2_B32 are part of the Infineon HybridPACK 2 product family, which consists of power modules designed for applications in hybrid and electric vehicles.

FIGURE 65

Source: https://www.infineon.com/cms/en/product/power/igbt/automotive-qualified-igbts/automotive-igbt-modules/

248. Claim 8 is illustrative of the '867 Patent. Claim 8 of the '867 Patent recites: "[a] semiconductor device, comprising: a base layer having a first conductivity type; a source layer formed on said base layer and having a second conductivity type; an insulating film formed on said source layer; a plurality of gate structures penetrating said base layer; a conductive portion penetrating said insulating film and said source layer, being in contact with an upper surface of said source layer, and electrically connected to said source layer and said base layer; and a source

electrode formed on said insulating film and electrically connected to said conductive portion, wherein a dimension of a part in which the upper surface of said source layer and said conductive portion are in contact with each other is 10 nm or more and 40 nm or less."

249. The Infineon FS900R08A2P2_B31 and FS900R08A2P2_B32 satisfy every element of this claim.[11] Both the Infineon FS900R08A2P2_B31 and FS900R08A2P2_B32 include a semiconductor device that comprises an insulating film formed on top of a source layer, which in turn is formed on top of a base layer.

250. Further, the semiconductor device in the Infineon FS900R08A2P2_B31 and FS900R08A2P2_B32 includes a plurality of gate structures that penetrate the base layer, and a source layer formed on top of an insulating film. A conductive portion of the device penetrates the insulating film and source layer, such that the conductive portion is in contact with the upper part of the source layer and is electrically connected to both the source layer and the base layer. The point of contact between the upper surface of the source layer and the conductive portion is 10 nanometers or more and 40 nanometers or less.

251. BMW makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof in the United States that incorporate the infringing Infineon EDT2 IGBT devices identified above, including the BMW i3, the BMW i8, the BMW X3 xDrive30e, and the BMW X5 xDrive45e, see, e.g.,

[11] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which BMW's products incorporating Infineon EDT2 IGBT devices infringe the '867 Patent.

FIGURE 66

Source: https://www.facebook.com/Infineon/posts/732466510169466/

FIGURE 67

Infineon drives BMW i3 to achieve highest energy efficiency

In the BMW i3 pure electric vehicle, only the total electric drive of the car uses 75 semiconductor devices from Infineon to maximize its efficiency. They include:

- › **AUDO Future**Single chip microcomputer
- › **HybridPACK™ 2** IGBT power module
- › **EiceDRIVER™**High voltage IGBT driver chip
- CoolMOS™ High Voltage MOSFET

Source: https://www.infineon.com/cms/cn/product/promopages/EV/BMWi3.html

252. For example, BMW sells and offers for sale in the United States these vehicles and components thereof through, e.g., BMW authorized dealers located in the Eastern District of Texas.

253. Further, BMW also designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the Infineon TRENCHSTOP 5 IGBT devices, including e.g., the Infineon AIGW50N65F5, that infringe at least independent claim 8 of the ’867 Patent, including, e.g., the BMW 330e.

254. The Infineon AIGW50N65F5 is an insulated-gate bipolar transistor ("IGBT") from the Infineon TRENCHSTOP 5 Discrete IGBT product family.

FIGURE 68

Source: https://www.infineon.com/cms/en/product/power/igbt/igbt-discretes/trenchstop-5/trenchstop-5-f5/#!details

255. The Infineon AIGW50N65F5 meets every element of claim 8, as recited above.[12] The AIGW50N65F5 is a semiconductor device comprising an insulating film formed on top of a source layer, which in turn is formed on top of a base layer.

256. Further, cross-sectional imaging of the Infineon AIGW50N65F5 shows a plurality of gate structures that penetrate the base layer, and a source layer formed on top of an insulating film. A conductive portion of the device penetrates the insulating film and source layer, such that the conductive portion is in contact with the upper part of the source layer and is electrically connected to both the source layer and the base layer. The point of contact between the upper

[12] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which BMW's products incorporating the Infineon TRENCHSTOP 5 IGBTs infringe the '867 Patent.

surface of the source layer and the conductive portion is 10 nanometers or more and 40 nanometers or less.

257. BMW makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the infringing Infineon AIGW50N65F5, including the BMW 330e.

258. For example, BMW has imported and sold, and continues to sell and offer for sale, the BMW 330e in the United States, including through, e.g., BMW authorized dealers in the Eastern District of Texas.

259. BMW committed the foregoing infringing activities without license from Plaintiff. BMW's acts of infringement have damaged Arigna, as owner and assignee of the '867 Patent. Arigna is entitled to recover from BMW the damages it has sustained as a result of BMW's wrongful acts in an amount subject to proof at trial. BMW's infringement of Arigna's rights under the '867 Patent will continue to damage Arigna.

260. No later than the filing of the First Amended Complaint, Dkt. 28, BMW has had actual knowledge of the '867 Patent.

General Motors

261. General Motors has infringed and continues to infringe at least claim 8 of the '867 Patent in violation of 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 8 of the '867 Patent. General Motors is liable for its infringement of the '867 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

262. More specifically, General Motors designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate the

Infineon EDT2 IGBT devices, including e.g., the Infineon FS820R08A6P2, that infringe at least independent claim 8 of the '867 Patent.

263. The Infineon FS820R08A6P2 is part of the Infineon HybridPACK 2 product family, which consists of power modules designed for applications in hybrid and electric vehicles.

FIGURE 69

Source: https://www.infineon.com/cms/en/product/power/igbt/automotive-qualified-igbts/automotive-igbt-modules/

264. Claim 8 is illustrative of the '867 Patent. Claim 8 of the '867 Patent recites: "[a] semiconductor device, comprising: a base layer having a first conductivity type; a source layer formed on said base layer and having a second conductivity type; an insulating film formed on said source layer; a plurality of gate structures penetrating said base layer; a conductive portion penetrating said insulating film and said source layer, being in contact with an upper surface of said source layer, and electrically connected to said source layer and said base layer; and a source electrode formed on said insulating film and electrically connected to said conductive portion, wherein a dimension of a part in which the upper surface of said source layer and said conductive portion are in contact with each other is 10 nm or more and 40 nm or less."

265. The Infineon FS820R08A6P2 satisfies every element of this claim.[13] The Infineon FS820R08A6P2 is a semiconductor device that comprises an insulating film formed on top of a source layer, which in turn is formed on top of a base layer.

266. Further, the semiconductor device in the Infineon FS820R08A6P2 includes a plurality of gate structures that penetrate the base layer, and a source layer formed on top of an insulating film. A conductive portion of the device penetrates the insulating film and source layer, such that the conductive portion is in contact with the upper part of the source layer and is electrically connected to both the source layer and the base layer. The point of contact between the upper surface of the source layer and the conductive portion is 10 nanometers or more and 40 nanometers or less.

267. General Motors makes, uses, imports, offers for sale, and/or sells automotive vehicles and components thereof in the United States that incorporate the infringing Infineon EDT2 IGBT devices identified above, including e.g., the Chevrolet Bolt.

268. For example, General Motors sells and offers for sale in the United States these vehicles and components thereof through, e.g., General Motors authorized dealers located in the Eastern District of Texas.

269. General Motors committed the foregoing infringing activities without license from Plaintiff. General Motors' acts of infringement have damaged Arigna, as owner and assignee of the '867 Patent. Arigna is entitled to recover from General Motors the damages it has sustained as a result of General Motors' wrongful acts in an amount subject to proof at trial. General Motors' infringement of Arigna's rights under the '867 Patent will continue to damage Arigna.

[13] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which General Motors' products incorporating Infineon EDT2 IGBT devices infringe the '867 Patent.

270. No later than the filing of the First Amended Complaint, Dkt. 28, General Motors has had actual knowledge of the ’867 Patent.

DEMAND FOR JURY TRIAL

271. Plaintiff Arigna hereby demands a jury trial for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Arigna requests entry of judgment in its favor and against Defendants as follows:

A. Declaring that Defendants Volkswagen, BMW, Mercedes-Benz, Nissan, Tesla, Toyota, General Motors, and Continental have each infringed United States Patent No. 7,397,318;

B. Declaring that Defendants Volkswagen, BMW, and General Motors have each infringed United States Patent No. 8,247,867.

C. Declaring that Volkswagen’s, BMW’s, Mercedes-Benz’s, Nissan’s, Tesla’s, and Toyota’s infringement of United States Patent No. 7,397,318 has been willful and deliberate, at least from the filing of the Complaint, Dkt. 1; that General Motors’ infringement of the ’318 Patent has been willful and deliberate, at least from the filing of the First Amended Complaint, Dkt. 28; and that Continental’s infringement of the ’318 Patent has been willful and deliberate, at least from the date a Continental Customer sought indemnification and defense from Continental against Arigna’s claims;

D. Declaring that Volkswagen’s, BMW’s, and General Motors’ infringement of United States Patent No. 8,247,867 has been willful and deliberate, at least from the filing of the First Amended Complaint, Dkt. 28;

E. Awarding damages to Plaintiff in an amount no less than a reasonable royalty for each Defendant's infringement of United States Patent Nos. 7,397,318 and 8,247,867, together with prejudgment and post-judgment interest and without limitation under 35 U.S.C. § 287;

F. Awarding attorney's fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law; and

G. Awarding such other costs and further relief as the Court may deem just and proper

Dated: July 22, 2021

Respectfully submitted,

/s/ Matthew R. Berry w/permission Andrea L. Fair

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CERTIFICATE OF SERVICE

I hereby certify that a copy foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel who are deemed to have consented to electronic service on this the 22nd day of July, 2021.

/s/ Andrea L. Fair
Andrea L. Fair