

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA**

BAYERISCHE MOTOREN WERKE AG,)	
BMW OF NORTH AMERICA, LLC,)	
)	
Plaintiffs,)	Case No.
)	
v.)	JURY TRIAL DEMANDED
)	
ARIGNA TECHNOLOGY LIMITED,)	
)	
Defendant.)	
)	

COMPLAINT

Plaintiffs Bayerische Motoren Werke AG and BMW of North America, LLC (“Plaintiffs”), by and through their undersigned counsel, file this Complaint and Jury Demand against Defendant Arigna Technology Limited (“Defendant”), and allege as follows:

NATURE OF THE ACTION

1. This is an action for declaratory judgment of noninfringement and invalidity of a United States Patent pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202, and the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.*

2. Plaintiffs seek declaratory judgment that none of the claims of U.S. Patent No. 7,397,318 (the “’318 Patent”) are infringed by oscillators contained in radar sensor modules incorporated into certain of Plaintiffs’ vehicles. Plaintiffs further seek declaratory judgment that each of the claims of the ’318 Patent is invalid under one or more subsections of the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.*

3. Plaintiffs seek this relief because Defendant has sued Plaintiffs alleging that they have infringed the ’318 Patent by using, selling, and/or offering for sale vehicles that incorporate

radar sensor modules that contain allegedly infringing oscillators. Defendant's lawsuit has placed a cloud over Plaintiffs' continuing manufacture and sale of certain of its vehicles, thereby creating an actual and justiciable controversy between Plaintiffs and Defendant.

THE PARTIES

4. Plaintiff Bayerische Motoren Werke AG is a company organized and existing under the laws of Germany, and maintains its principal place of business at Petuelring 130, 80809, Munich, Germany.

5. Plaintiff BMW of North America, LLC is a company organized and existing under the laws of the United States of America, and is a Delaware Limited Liability Company with its principal place of business in Woodcliff Lake, New Jersey. Plaintiff BMW of North America, LLC is a wholly-owned, but indirect, subsidiary of Plaintiff Bayerische Motoren Werke AG.

6. On information and belief, Defendant Arigna Technology Limited is a company organized and existing under the laws of Ireland, and having a principal place of business at The Hyde Building, Carrickmines, Suite 23, Dublin 18, Ireland.

JURISDICTION AND VENUE

7. The Court has subject matter jurisdiction over this action pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202; 28 U.S.C. §§ 1331 and 1338; and the Patent Laws of the United States, 35 U.S.C. §§ 1 et seq.

8. The Court has personal jurisdiction over Defendant pursuant to 35 U.S.C. § 293, which provides that, in cases involving a "patentee not residing in the United States," this Court "shall have the same jurisdiction to take any action respecting the patent or rights thereunder that it would have if the patentee were personally within the jurisdiction of the court."

9. Upon information and belief, Defendant is the owner of all rights, title, and interest of the '318 Patent at the United States Patent and Trademark Office. Upon information and belief, Defendant is an Irish resident and citizen, and as such, is a "patentee not residing in the United States" under 35 U.S.C. § 293. Upon information and belief, Defendant has not filed with the United States Patent and Trademark Office "a written designation stating the name and address of a person residing within the United States on whom may be served process or notice of proceedings affecting the patent or rights thereunder." 35 U.S.C. § 293. Thus, Defendant is subject to this Court's personal jurisdiction under 35 U.S.C. § 293.

10. Venue is proper in this judicial district under 28 U.S.C. § 1391(b)(3) because Defendant is subject to this Court's personal jurisdiction under 35 U.S.C. § 293. Venue is also proper under 28 U.S.C. § 1391(c)(3) because a defendant that does not reside in the United States may be sued in any judicial district.

BACKGROUND

11. The '318 Patent bears the title "Voltage-Controlled Oscillator," and states that it issued on July 8, 2008. The '318 Patent identifies Takayuki Matsuzuka as the sole inventor. A copy of the '318 Patent is attached as Exhibit A.

12. The '318 Patent lists "Mitsubishi Electric Corporation" as the assignee. The United States Patent and Trademark Office Assignment Database contains a record of an assignment of the '318 Patent from Mitsubishi Electric Corporation to Defendant executed February 13, 2020, and recorded March 6, 2020, at Reel/frame 052042/0651.

13. The '318 Patent issued with two claims. Claims 1 and 2 are both independent claims.

DEFENDANT'S LAWSUIT AGAINST PLAINTIFFS

14. BMW AG manufactures and sells vehicles in Germany. BMW NA distributes and markets automotive vehicles in the United States. Certain of Plaintiffs' automotive vehicles incorporate ARS4-Series radar sensor modules. On information and belief, Conti Temic microelectronic GmbH, ADC Automotive Distance Control Systems GmbH, and/or their foreign affiliates (collectively "Conti") manufacture and sell the ARS4-Series radar sensor modules. The ARS4-Series radar sensor modules contain oscillators, which are sold and used as part of the ARS4-Series radar sensor modules. On information and belief, the oscillators contained in the ARS4-Series radar sensor modules are manufactured and sold by third-party NXP USA, Inc. and/or its foreign affiliates (collectively "NXP") under the name NXP MR2001. Plaintiffs do not design or manufacture the Conti ARS4-Series radar sensor modules or the NXP oscillators.

15. On July 22, 2021, Defendant filed a Second Amended Complaint alleging patent infringement against Bayerische Motoren Werke AG and BMW of North America, LLC (and other parties) in the United States District Court for the Eastern District of Texas (Civil Action No. 2:21-cv-00054-JRG) alleging infringement of the '318 Patent. A copy of the Second Amended Complaint is attached as Exhibit B.

16. Defendant alleges in its Second Amended Complaint that it "is the owner of all rights, title, and interest in and to" the '318 Patent. *See* Exhibit B, ¶ 1.

17. Defendant's allegations of infringement of the '318 Patent are based on Plaintiffs' alleged sale or offer for sale of automotive vehicles that incorporate Conti ARS4-Series radar sensor modules containing NXP MR2001 oscillators. *See* Exhibit B at ¶ 124.

18. Defendant generally alleges that each Plaintiff "designs, manufactures, assembles, imports, offers for sale, and/or sells automotive vehicles and components thereof that incorporate

the NXP Semiconductors MR2001 chip package” which Defendant alleges “infringes at least independent claim 2 of the ’318 Patent.” *See, e.g.*, Exhibit B, ¶¶ 124, 150.

19. A copy of Defendant’s infringement contention disclosures against Plaintiffs is attached as Exhibit C. In connection with the -054 lawsuit, Defendant served infringement contentions on Plaintiffs on July 1, 2021, accusing Plaintiffs of infringing claims 1 and 2 of the ’318 patent. Exhibit C.

20. A copy of Defendant’s infringement contentions claim charts against Plaintiffs are attached as Exhibit D. Defendant’s infringement contentions allege that each Plaintiff “makes, uses, sells, offers for sale, and/or imports vehicles and components thereof that incorporate one or more infringing NXP MR2001V devices, including, e.g., the BMW 8 Series, the BMW 7 Series, the BMW 6 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, and the BMW M8.” Exhibit D at 1. Defendant alleges that the named BMW vehicles infringe claims 1 and 2 of the ’318 Patent because they contain the NXP MR2001 oscillators.

21. On September 27, 2021, Defendant served Plaintiffs with supplemental infringement contentions accusing five additional vehicles—the BMW 2 Series, BMW 4 Series, BMW M3, BMW M4, and BMW Z4—of infringing the ’318 Patent based on their incorporation of ARS4-Series radar sensor modules containing the NXP MR2001 oscillators. The named BMW vehicles in the infringement contentions and the supplemental infringement contentions are herein collectively referred to as the “allegedly infringing vehicles.”

22. On information and belief, Defendant has not identified or accused any product other than Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators as infringing the ’318 Patent.

23. Plaintiffs have manufactured and/or sold the allegedly infringing vehicles within the statute of limitations for patent infringement, and continue to manufacture, offer for sale, and sell the allegedly infringing vehicles, and therefore, have a reasonable apprehension that Defendant may file an action against Plaintiffs and allege that Plaintiffs have infringed or are infringing the '318 Patent by making, using, offering for sale, and/or selling the aforementioned allegedly infringing vehicles. Indeed, Defendants have sued Plaintiffs in the United States District Court for the Eastern District of Texas (Civil Action No. 2:21-cv-00054-JRG). However, the Federal Circuit's recent, binding precedent in *In re: Volkswagen Group of America, Inc.* and *In re: Hyundai Motor America*. (Opinion in Case Nos. 22-108 and 22-109), indicates that venue was and is improper in the Eastern District of Texas. *See* Exhibit D.

24. Plaintiffs' allegedly infringing vehicles do not infringe and have not infringed, either directly or indirectly, any claim of the '318 Patent. In view of Defendant's allegations that Plaintiffs' vehicles infringe the '318 Patent, and its patent infringement claims against automotive vehicles allegedly incorporating the Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators—including the allegedly infringing vehicles—a substantial controversy exists between the parties which is of sufficient immediacy and reality to warrant declaratory relief.

**FIRST CAUSE OF ACTION
(Declaratory Judgment of Non-Infringement)**

25. Plaintiffs reallege and incorporate paragraphs 1 to 24 as if fully set forth herein.

26. An actual controversy exists with respect to the '318 Patent due at least to Defendant's assertion that Plaintiffs infringe claims 1 and 2 of the '318 Patent through their sale of the allegedly infringing vehicles that allegedly incorporate the Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators. Defendant's wrongful assertion of the '318

Patent against Plaintiffs has caused and will continue to cause Plaintiffs irreparable injury and damage.

27. On information and belief, Defendant's infringement allegations are premised on circuit diagrams which Defendant alleges show the circuit structure of the circuitry of a Conti ARS4-Series radar sensor module, including the NXP MR2001 oscillator. *See, e.g.*, Exhibit D at 3.

28. On information and belief, the circuit diagrams on which Defendant relies to allege infringement are incorrect because they include one or more connections and/or circuit components that are not present in the NXP MR2001, and/or because they omit one or more connections and/or circuit components which are present in the NXP MR2001.

29. On information and belief, the circuit diagrams on which Defendant relies to allege infringement were not produced from an accurate teardown or inspection of an actual Conti ARS4-Series radar sensor module.

30. On information and belief, the circuit diagrams on which Defendant relies to allege infringement were not produced from an accurate teardown or inspection of an actual NXP MR2001.

31. On information and belief, Defendant has not performed any teardown or circuit inspection of an actual Conti ARS4-Series radar sensor module contained in at least one of Plaintiffs' allegedly infringing vehicles.

32. On information and belief, Defendant has not performed any teardown or circuit inspection of an actual NXP MR2001 oscillator allegedly contained in at least one of Plaintiffs' allegedly infringing vehicles.

33. On information and belief, Conti ARS4-Series radar sensor modules incorporated into at least one of Plaintiffs' allegedly infringing vehicles do not include "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," as required by claims 1 and 2 of the '318 Patent.

34. On information and belief, Conti ARS4-Series radar sensor modules incorporated into at least one of Plaintiffs' allegedly infringing vehicles do not include "a temperature compensation bias generation circuit...having: a transistor having a collector or drain connected to the temperature compensation bias circuit, 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 and having a second end that is grounded; 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 the other end of the second resistor; a third resistor having a first end connected to the emitter or source of the transistor; and an emitter or source bias application terminal connected to the other end of the third resistor," as required by claim 1 of the '318 Patent.

35. On information and belief, Conti ARS4-Series radar sensor modules incorporated into at least one of Plaintiffs' allegedly infringing vehicles do not include "a 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,” as required by claim 2 of the ‘318 Patent.

36. On information and belief, NXP MR2001 oscillators contained in Conti ARS4-Series radar sensor modules, which are incorporated into at least one of Plaintiffs’ allegedly infringing vehicles, do not include any temperature compensation circuit, and on at least this basis, Conti ARS4-Series radar sensor modules cannot infringe claim 1 or claim 2 of the ‘318 Patent.

37. On information and belief, NXP MR2001 oscillators contained in Conti ARS4-Series radar sensor modules, which are incorporated into at least one of Plaintiffs’ allegedly infringing vehicles, cannot infringe claim 1 or claim 2 of the ‘318 Patent at least because at least some of the allegedly infringing components of the Conti ARS4-Series radar sensor are not “connected to” each other as required under a proper construction of that term.

38. Because Plaintiffs’ vehicles allegedly incorporating Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators do not meet each and every limitation of claims 1 and 2 of the ‘318 Patent, Plaintiffs’ vehicles do not infringe directly or indirectly any claim of the ‘318 Patent, either literally or under the doctrine of equivalents.

39. Plaintiffs use, sale, or offer for sale of vehicles allegedly incorporating Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators does not infringe, directly or indirectly, any claim of the ‘318 Patent, either literally or under the doctrine of equivalents.

40. In view of the foregoing, Plaintiffs seek and are entitled to declaratory judgment that the use, sale, and offer for sale of Plaintiffs' vehicles allegedly incorporating Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators do not infringe any claim of the '318 Patent. A judicial determination of the respective rights of the parties with respect to noninfringement of the claims of the '318 Patent is necessary and appropriate under 28 U.S.C. § 2201 to resolve the parties' dispute regarding alleged infringement of the '318 Patent.

**SECOND CAUSE OF ACTION
(Declaratory Judgment of Invalidity)**

41. Plaintiffs reallege and incorporate paragraphs 1 to 40 as if fully set forth herein.

42. An actual controversy exists with respect to the '318 Patent due at least to Defendant's assertion that Plaintiffs infringe claims 1 and 2 of the '318 Patent through their sale of vehicles allegedly incorporating the Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators. Defendant's wrongful assertion of the '318 Patent against Plaintiffs' allegedly infringing vehicles has caused and will continue to cause Plaintiffs irreparable injury and damage.

43. Each claim of the '318 Patent is invalid for failure to satisfy one or more conditions for patentability set forth in 35 U.S.C. § 101 et seq., including but not limited to Sections 102 and 103.

44. For example, each claim of the '318 Patent is invalid under 35 U.S.C. §§ 102 and/or 103 based on at least the following references (each of which is prior art to the '318 Patent), or combinations thereof:

- Applicant Admitted Prior Art ("AAPA");
- U.S. Patent No. 6,407,616 ("*Inagaki*");
- U.S. Patent No. 4,751,475 ("*Kubo*");

- U.S. Patent No. 7,230,493 (“*Kokubo*”);
- U.S. Patent No. 6,452,454 (“*Shapiro*”);
- U.S. Patent. No. 3,325,749 (“*Webb*”);
- U.S. Patent. No. 4,195,274 (“*Suganuma*”);
- U.S. Patent. No. 3,654,486 (“*Cubert*”).
- Japanese Patent Publication No. S57-131105 (“’JP105”); and
- Japanese Patent Publication No. H07-175544 (“’JP544”).

45. Each and every claim of the ’318 Patent has been rejected by the United States Patent and Trademark Office (the “Patent Office”). A copy of the Office Action in the 90/019,015 reexamination that rejects each and every claim of the ’318 Patent is attached as Exhibit F. The Patent Office rejected claim 1 as being unpatentable under 35 U.S.C. § 103 over ’JP105 and *Kubo*; or ’JP105, *Kubo*, and AAPA; or ’JP105, *Kubo*, AAPA, and *Kokubo*. Exhibit F at 20. The Patent Office rejected claim 2 as being unpatentable under 35 U.S.C. § 103 over *Kubo*, *Kokubo*, and *Shapiro*; or *Kubo*, AAPA, *Kokubo*, and *Shapiro*. Exhibit F at 9. The Patent Office also interpreted multiple claim limitations of the ’318 Patent under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, as means-plus-function terms, including “voltage-controlled oscillation section,” “variable-capacitance element,” “frequency control bias circuit,” and “temperature compensation bias circuit.” Exhibit F at 5-6.

46. In view of the foregoing, Plaintiffs seek and are entitled to declaratory judgment that the claims of the ’318 Patent are invalid and unenforceable. A judicial determination of the respective rights of the parties with respect to the invalidity of the claims of the ’318 Patent is necessary and appropriate under 28 U.S.C. § 2201 to resolve the parties’ dispute regarding the ’318 Patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs demand judgment as follows:

- A. Declaratory judgment that Plaintiffs' use, sale, offer for sale, and/or importation of third-party products, namely Conti ARS4-Series radar sensor modules containing the NXP MR2001 oscillators, does not infringe, directly, or indirectly, the '318 Patent;
 - B. Declaratory judgment that the claims of the '318 Patent are invalid;
 - C. Preliminary and permanent injunctive relief restraining Defendant and its agents, servants, employees, successors and assigns, and all others in concert and privity with them from wrongfully asserting the '318 Patent against Plaintiffs' products;
 - D. A declaration that this action is an exceptional case under 35 U.S.C. § 285;
 - E. An award to Plaintiffs of their attorneys' fees and costs incurred in this Action;
- and
- F. A grant of such other and further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiffs demand a trial by jury on all issues so triable.

Dated: March 22, 2022

Respectfully submitted,

/s/Lionel M. Lavenue _____

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