

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

UNM RAINFOREST INNOVATIONS,

Plaintiff,

v.

TOYOTA MOTOR NORTH AMERICA,  
INC., TOYOTA MOTOR SALES, U.S.A.,  
INC., and TOYOTA MOTOR  
ENGINEERING & MANUFACTURING  
NORTH AMERICA, INC.

Defendants

Civil Action No. 1:23-cv-00424

JURY TRIAL DEMANDED

**ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT**

UNM Rainforest Innovations (“UNMRI”) files this Original Complaint for Patent Infringement and Jury Demand against Toyota Motor North America, Inc., Toyota Motor Sales, U.S.A., Inc., and Toyota Motor Engineering & Manufacturing North America, Inc. (collectively, “Toyota”). UNMRI alleges infringement of United States Patent Number 8,265,096 (“’096 Patent”) as follows.

**PRELIMINARY STATEMENT**

1. The University of New Mexico (“UNM”) is a public educational institution based in Albuquerque, New Mexico, and serves as the State of New Mexico’s flagship research institution. UNM serves over 25,000 students and comprises over 1,700 faculty members across its main campus in Albuquerque and branch campuses in Gallup, Los Alamos, Rio Rancho, Taos, and Los Lunas, New Mexico. Over the past 20 years, UNM researchers have disclosed over 1,700 new inventions resulting in over 500 issued United States patents. This action is for patent infringement and just compensation for unlicensed

deployment of in-vehicle Wi-Fi configured to operate on and with the IEEE 802.11ac or IEEE 802.11ax wireless networking standard(s) in violation of the '096 Patent.

### **THE PARTIES**

2. Plaintiff UNMRI is a New Mexico nonprofit research park corporation formed, owned, and controlled entirely by the Board of Regents of the University of New Mexico (“UNM”).

3. UNMRI’s mission includes nurturing inventions researched and developed at UNM, promoting technological collaboration between UNM and other universities and research institutes, and thereby catalyzing economic development in the State of New Mexico.

4. UNMRI furthers its mission by licensing and, if necessary, enforcing its inventions and reinvesting proceeds into continued research and development at and technological collaboration with UNM, for the benefit of and for the State of New Mexico and the United States.

5. UNMRI is located at the UNM Lobo Rainforest Building, 101 Broadway Boulevard, Suite 1100, Albuquerque, New Mexico 87102.

6. Plaintiff UNMRI, UNM, and the Board of Regents of UNM are arms of the State of New Mexico and enjoy sovereign immunity under common law, statutes, and constitutions of the United States and the State of New Mexico including, but not limited to, the Eleventh Amendment of the United States Constitution and Article 12 of the New Mexico Constitution. *See Regents of University of New Mexico v. Knight*, 321 F.3d 1111

(Fed. Cir. 2003); *STC.UNM v. Quest Diagnostics Inc.*, CIV 17-1123 MV/KBM, 2019 WL 1091390, at \*1 (D.N.M. Mar. 8, 2019).

7. By filing this lawsuit or prosecuting this action, Plaintiff UNMRI does not waive, either expressly or implicitly, its sovereign immunity, the sovereign immunity of UNM or its Board of Regents, or the sovereign immunity enjoyed by any arm of the State of New Mexico under the laws of the United States or the State of New Mexico, to any *inter partes* review, *ex parte* reexamination, or other post-grant proceeding at the United States Patent and Trademark Office or its Patent Trial and Appeal Board, to any other administrative actions or proceedings whatsoever, to any noncompulsory counterclaims, or to any other federal or state proceedings whatsoever, whether initiated by Defendants or an entity other than Defendants.

8. Toyota Motor Corporation is an automobile manufacturer incorporated under the Commercial Code of Japan and existing under its Companies Act. Toyota Motor Corporation operated through 569 consolidated subsidiaries and 168 associates and joint ventures as of March 31, 2023, and its principal executive offices are located at 1 Toyota-cho, Toyota City, Aichi Prefecture 471-8571, Japan.

9. Defendant Toyota Motor North America, Inc. is a corporation with its principal place of business at 6565 Headquarters Drive, Plano, Texas 75024. Toyota Motor North America, Inc. brings together Toyota Motor Corporation's marketing, sales, engineering, and manufacturing arms in North America on one shared campus. Toyota Motor North America, Inc. can be served with process through its registered agent, C T Corporation System, at 1999 Bryan Street, Suite 900 Dallas, Texas 75201.

10. Defendant Toyota Motor Sales, U.S.A., Inc. is a corporation with a place of business located at 6565 Headquarters Drive, Plano, Texas 75024. Toyota Motor Sales, U.S.A., Inc., can be served with process through its registered agent, C T Corporation System, at 1999 Bryan Street, Suite 900 Dallas, Texas 75201.

11. Defendant Toyota Motor Engineering & Manufacturing North America, Inc. is a corporation with a place of business located at 6565 Headquarters Drive, Plano, Texas 75024. Toyota Motor Engineering & Manufacturing North America, Inc. can be served with process through its registered agent, C T Corporation System, at 1999 Bryan Street, Suite 900 Dallas, Texas 75201.

12. Toyota is in the business of making, using, marketing, distributing, selling, and encouraging the sale and use of, both in the United States and abroad, automobiles with built-in Wi-Fi hotspot/access points and other systems and features which are configured to operate on or with the IEEE 802.11ac or IEEE 802.11ax wireless networking standard(s), including at least the following automobiles: 2022 Toyota Tundra, 2022 Toyota Tundra Hybrid, 2023 Toyota bZ4X, 2023 Toyota Corolla, 2023 Toyota Corolla Hybrid, 2023 Toyota Corolla Cross, 2023 Toyota Corolla Cross Hybrid, 2023 Toyota Corolla Hatchback, 2023 Toyota Highlander, 2023 Toyota Highlander Hybrid, 2023 Toyota Mirai, 2023 Toyota Prius, 2023 Toyota Prius Prime, 2023 Toyota RAV4, 2023 Toyota RAV4 Hybrid, 2023 Toyota RAV4 Prime, 2023 Toyota Sequoia Hybrid, 2023 Toyota Crown, 2023 Toyota Tundra, 2023 Toyota Tundra Hybrid, 2023 Toyota Venza Hybrid, 2024 Toyota Corolla, 2024 Toyota Corolla Hybrid, 2024 Toyota Corolla

Hatchback, 2024 Toyota Grand Highlander, 2024 Toyota Grand Highlander Hybrid, 2024 Toyota Tundra, and 2024 Toyota Tundra Hybrid.

13. On information and belief, on consolidated basis, Toyota Motor Corporation recorded unit sales of about eight million eight hundred twenty-two thousand (8,822,000) automobiles during the 12-month period ending on March 31, 2023, of which at least 30% occurred in the United States. On information and belief, Toyota made or recorded unit sales in excess of two million (2,000,000) automobiles in the United States during the 12-month period ending on March 31, 2023.

### **JURISDICTION**

14. This action arises under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. §§ 271, 281, 283, 284, and 285. This is a patent infringement lawsuit over which this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

15. This United States District Court for the Eastern District of Texas has general and specific personal jurisdiction over Defendants because Defendants are present in and transact and conduct business in and with residents of this District and the State of Texas.

16. UNMRI's causes of action arise, at least in part, from Defendants' contacts with and activities in this District and the State of Texas.

17. Toyota has committed acts of infringing the '096 Patent within this District and the State of Texas by making, using, selling, offering for sale, and/or importing in or into this District and elsewhere in the State of Texas products made by practicing the claimed method of the '096 Patent. Toyota, directly and through intermediaries, makes,

uses, sells, offers for sale, ships, distributes, advertises, promotes, and/or otherwise commercializes such infringing products in this District and the State of Texas. Toyota regularly conducts and solicits business in, engages in other persistent courses of conduct in, and derives substantial revenue from goods and services provided to residents of this District and the State of Texas.

### **VENUE**

18. Venue is proper for Toyota in this District because venue in a patent infringement action against a foreign defendant is proper in any judicial district and because Toyota maintains a regular and established place of business in this District located at 6565 Headquarters Drive, Plano, TX 75024. *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514, 1520 n.2 (2017) (citing *Brunette Mach. Works, Ltd. v. Kochum Indus., Inc.*, 406 U.S. 706, 711–714 (1972)).

19. UNMRI does not waive its sovereign immunity as to any venue, including district courts and administrative tribunals, other than this Court, namely the United States District Court for the Eastern District of Texas.

### **UNITED STATES PATENT NUMBER 8,265,096**

20. United States Patent Number 8,265,096 (“’096 Patent”) is titled “Method for Constructing Frame Structures.” The ’096 Patent issued on September 11, 2012, from United States Patent Application Number 12/168,855, which was filed on July 7, 2008, and claims priority to United States Provisional Patent Application Number 60/929,798, which was filed on July 12, 2007, and United States Provisional Patent Application Number

60/973,157, which was filed on September 17, 2007. A true and correct copy of the '096 Patent is attached as **Exhibit A1**.

21. The '096 Patent claims patent-eligible subject matter and is valid and enforceable. Claim 8 of the '096 Patent is an independent claim and recites:

A method of constructing a frame structure for data transmission, the method comprising:

generating a first section comprising data configured in a first format compatible with a first communication system using symbols;

generating a second section following the first section, the second section comprising data configured in a second format compatible with a second communication system using symbols, wherein the first communication system's symbols and the second communication system's symbols co-exist in one transmission scheme and wherein the second communication system has pilot symbols that are denser than those in the first communication system;

generating at least one non-data section containing information describing an aspect of data in at least one of the first section and the second section; and

combining the first section, the second section and the at least one non-data section to form the frame structure.

22. The '096 Patent's named inventors are Yan-Xiu Zheng, Ren-Jr Chen, Chang-Lung Hsiao, and Pang-An Ting.

23. The '096 Patent's original patentee was Industrial Technology Research Institute ("ITRI"), which acquired exclusive ownership of the patented invention by written assignments from Yan-Xiu Zheng, Ren-Jr Chen, Chang-Lung Hsiao, and Pang-An Ting, recorded in the United States Patent and Trademark Office ("USPTO") on or about April 16, 2009.

24. Thereafter, ITRI conveyed to Sino Matrix Technology, Inc. (“SMT”) all rights, title, and interest in and to the ’096 Patent, including the right to sue and recover for past infringements, by written assignment recorded in the USPTO on or about March 14, 2018.

25. Thereafter, SMT conveyed to Plaintiff all rights, title, and interest in and to the ’096 Patent, including the right to sue and recover for past infringements, by written assignment recorded in the USPTO on or about September 11, 2018.

26. On information and belief, Toyota is not licensed to the ’096 Patent, either expressly or implicitly. Before filing suit, UNMRI notified Toyota of the ’096 Patent and its applicability to technology capable of operation on or with the IEEE 802.11ac wireless networking standard. Despite months to do so, Toyota failed to provide any evidence of use of only licensed parts.

### **THE ACCUSED INSTRUMENTALITIES**

27. Toyota designs, manufactures, imports, uses, sells, offers for sale, markets, and distributes products and processes, including automobiles with built-in Wi-Fi hotspot/access points and other systems and features, which are configured to operate on or with the IEEE 802.11ac or IEEE 802.11ax wireless networking standard(s).

28. Toyota’s “Accused Instrumentalities” include all products and processes configured to operate on or with the IEEE 802.11ac or IEEE 802.11ax wireless networking standard(s) (referred to in this complaint as “Wi-Fi 5/6 Networks”).

29. The Accused Instrumentalities include, but are not necessarily limited to, the following products: 2022 Toyota Tundra, 2022 Toyota Tundra Hybrid, 2023 Toyota bZ4X,



2023 Toyota Corolla, 2023 Toyota Corolla Hybrid, 2023 Toyota Corolla Cross, 2023 Toyota Corolla Cross Hybrid, 2023 Toyota Corolla Hatchback, 2023 Toyota Highlander, 2023 Toyota Highlander Hybrid, 2023 Toyota Mirai, 2023 Toyota Prius, 2023 Toyota Prius Prime, 2023 Toyota RAV4, 2023 Toyota RAV4 Hybrid, 2023 Toyota RAV4 Prime, 2023 Toyota Sequoia Hybrid, 2023 Toyota Crown, 2023 Toyota Tundra, 2023 Toyota Tundra Hybrid, 2023 Toyota Venza Hybrid, 2024 Toyota Corolla, 2024 Toyota Corolla Hybrid, 2024 Toyota Corolla Hatchback, 2024 Toyota Grand Highlander, 2024 Toyota Grand Highlander Hybrid, 2024 Toyota Tundra, and 2024 Toyota Tundra Hybrid; and any other automobile configured to operate on or with a Wi-Fi 5/6 Network—regardless of make (e.g., Toyota, Lexus), model year (e.g., 2017–2029), or model (e.g., 4Runner, Avalon, Avalon Hybrid, bZ4X, C-HR, Camry, Camry Hybrid, Corolla, Corolla Cross, Corolla Hatchback, Corolla Hybrid, Grand Highlander, Highlander, Hilander Hybrid, Mirai, Prius, Prius Prime, RAV4, RAV4 Hybrid, RAV4 Prime, Sequoia, Sienna, Sienna Hybrid, Tacoma, Toyota Crown, Tundra, Tundra Hybrid, Venza, ES 250, ES 300H, ES 350, GX 460, IS 300, IS 350, IS 500, LC 500, LC 500C, LC 500H, LS 500, LS 500 AWD, LS 500 AWD F Sport, LS 500 F Sport, LS 500 RWD, LS 500H, LX 600, NX 250, NX 300, NX 300H, NX 350, NX 350H, NX 450H+, RC 350, RC F, RX 350, RX 350H, RX 350L, RX 450H, RX 450H+, RX 450HL, RX 500H, RZ450E, TX 350, TX 550H, TX 550H+, UX 200, UX 250H).

**DIRECT, INDUCED, AND CONTRIBUTORY INFRINGEMENT OF  
THE '096 PATENT**

30. Toyota's Accused Instrumentalities capable of operation on or with a Wi-Fi 5/6 Network employ the patented frame structure for data transmission in which legacy communication format and very high throughput communication format are combined into a unitary frame structure. **Exhibit A2** is an exemplary chart illustrating this and how at least one claim of the '096 Patent covers an Accused Instrumentality.

31. Toyota has and continues to directly infringe the '096 Patent, literally and alternately under the doctrine of equivalents, by making, using, selling, offering for sale, and importing in or into the United States one or more apparatuses that embody and practice at least claim 8 of the '096 Patent in violation of 35 U.S.C. § 271(a) including, but not limited to, Toyota's Accused Instrumentalities capable of operation on or compatible with a Wi-Fi 5/6 Network.

32. Toyota, likewise, with knowledge of the '096 Patent and without authority, has actively induced and continues to actively induce infringement of at least claim 8 of the '096 Patent under 35 U.S.C. § 271(b), by intentionally inducing the infringing use, offer for sale, and/or sale of the Accused Instrumentalities by and with Wi-Fi 5/6 Networks and their operators and end-users. Each Accused Instrumentality employs the patented frame structure for data transmission in either the legacy format or the VHT format within a single frame. The Accused Instrumentalities are designed to be used by and with Wi-Fi 5/6 Networks and their operators in an infringing manner that practices the '096 Patent.

Similarly, the Accused Instrumentalities are configured to be used by end-users of Wi-Fi 5/6 Networks in an infringing manner that practices the '096 Patent.

33. Toyota actively induces Wi-Fi 5/6 Network operators and end-users to practice the '096 Patent, without authority, by, *inter alia*, designing and introducing into the stream of commerce the Accused Instrumentalities, which employ the patented frame structure for data transmission. Toyota encourages infringing use of the Accused Instrumentalities by the Wi-Fi 5/6 Network operators and end-users by, for example, publishing manuals, videos, and promotional literature describing and instructing in the operation of the Accused Instrumentalities in an infringing manner. At the encouragement by and direction of Toyota, the Wi-Fi 5/6 Network operators sell and offer for sale Accused Instrumentalities to end-users to be used in an infringing manner. Toyota provides and promotes services, functionality, subscriptions, discounts, and incentives to encourage end-users to connect multiple mobile devices to each Accused Instrumentality via Wi-Fi 5/6 Networks in order to access the internet. Such conduct results in induced infringements of at least claim 8 of the '096 Patent when the Accused Instrumentalities are used for their intended purpose.

34. Toyota, likewise, is liable for contributory infringement. Toyota, with knowledge of the '096 Patent and without authority, has offered to sell, sold, and imported into the United States the Accused Instrumentalities for use in practicing the patented apparatus and methods embodied in at least claim 8, which use constitutes a material part of the claimed invention. Toyota offered to sell, sold, and imported into the United States the Accused Instrumentalities knowing that each is especially made or adapted for use in

infringing the '096 Patent, and that each is not a staple article or commodity of commerce suitable for substantial non-infringing use as packaged, advertised, or sold because the Accused Instrumentalities are pre-configured by Toyota to employ the patented frame structure for data transmission.

35. Toyota's direct, indirect, and contributory infringement of the '096 Patent has caused, and will continue to cause, substantial and irreparable damage to UNMRI. UNMRI is, therefore, entitled to an award of damages adequate to compensate for Toyota's infringement of the '096 Patent, but not less than a reasonable royalty, together with pre- and post-judgment interest and costs as fixed by the Court under 35 U.S.C. § 284.

**JURY DEMAND**

36. Plaintiff UNMRI hereby demands a trial by jury for all causes of action.

**PRAYER FOR RELIEF**

37. Plaintiff requests the following relief:

A. A judgment that Defendants have directly infringed either literally and/or under the doctrine of equivalents and continue to directly infringe the '096 Patent.

B. A judgment that Defendants have induced infringement and continue to induce infringement of the '096 Patent.

C. A judgment that Defendants have contributorily infringed and continue to contributorily infringe the '096 Patent.

D. A judgment and order requiring Defendants to pay Plaintiff damages under 35 U.S.C. § 284, including treble damages for willful infringement as provided by

35 U.S.C. § 284, and supplemental damages for any continuing post-verdict infringement through entry of the final judgment with an accounting as needed.

E. A judgment that this is an exceptional case within the meaning of 35 U.S.C. § 285 and Plaintiff is, therefore, entitled to reasonable attorneys' fees.

F. A judgment and order requiring Defendants to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded.

G. A judgment and order awarding a compulsory ongoing royalty.

H. A judgment granting a preliminary and permanent injunction that restrains and enjoins Defendants, its officers, directors, employees, agents, servants, parents, subsidiaries, successors, assigns, and all those in privity, concert or participation with Defendants from directly or indirectly infringing the '096 Patent.

I. Such other and further relief as the Court deems just and equitable.

DATED: September 18, 2023

Respectfully submitted,

By: /s/ Chijioke E. Offor

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