

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

BROADCOM CORPORATION,

Plaintiff,)

v.)

C.A. No. 2:18-cv-190

TOYOTA MOTOR CORPORATION; TOYOTA)
MOTOR SALES, U.S.A., INC., TOYOTA)
MOTOR ENGINEERING &)
MANUFACTURING NORTH AMERICA,)
INC.; TOYOTA MOTOR MANUFACTURING,)
TEXAS, INC.; PANASONIC CORPORATION;)
PANASONIC CORPORATION OF NORTH)
AMERICA; DENSO TEN LIMITED; DENSO)
TEN AMERICA LIMITED; RENESAS)
ELECTRONICS CORPORATION; JAPAN)
RADIO CORPORATION)

JURY TRIAL DEMANDED

Defendants.

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Broadcom Corporation (“Plaintiff” or “Broadcom”), by its attorneys, demands a trial by jury on all issues so triable and for its complaint against Toyota Motor Corporation, Toyota Motor Sales, U.S.A., Inc., Toyota Motor Engineering & Manufacturing North America, Inc., Toyota Motor Manufacturing, Texas, Inc. (collectively, “Toyota”), Panasonic Corporation, Panasonic Corporation of North America (collectively, “Panasonic”), Denso Ten Limited, Denso Ten America Limited (collectively, “Denso Ten”), Renesas Electronics Corporation (“Renesas”), and Japan Radio Corporation (“JRC”) (collectively, “Defendants”) and alleges as follows:

NATURE OF THE ACTION

1. This is a civil action for patent infringement under the patent laws of the United

States, Title 35, United States Code, Section 271, *et seq.*, involving United States Patent Nos. 6,937,187 (“187 patent”), 7,437,583 (“583 patent”), 7,512,752 (“752 patent”), 7,530,027 (“027 patent”), 8,284,844 (“844 patent”), 8,902,104 (“104 patent”) (collectively, “the patents-in-suit”), attached hereto as Exhibit A-F, respectively, and seeks damages and injunctive and other relief. The patents-in-suit can be broken down as follows:

Patents-in-Suit	Category
6,937,187 and 8,902,104	“GNSS Patents”
8,284,844 and 7,530,027	“Video/Graphics Processing Patents”
7,512,752 and 7,437,583	“Power/Memory Management Patents”

THE PARTIES

2. Broadcom is a corporation organized and existing under the laws of the State of California, having a principal place of business at 1320 Ridder Park Drive, San Jose, California 95131. Broadcom is the owner of the patents-in-suit. Founded by Henry Samueli and Henry Nicholas in 1991 in Los Angeles, California, Broadcom has grown to be a global leader in the semiconductor industry. Broadcom provides one of the industry’s broadest portfolios of highly-integrated computer chips that seamlessly deliver voice, video, data, GNSS, and multimedia connectivity in the home, office, mobile, and automotive environments. Broadcom was acquired by Avago Technologies Limited in 2016 and currently operates as a wholly-owned indirect subsidiary of an ultimate corporate parent now known as Broadcom Inc. (formerly known as Broadcom Limited), both of which are referred to herein as “Broadcom Inc.” From 2015 to 2017, Broadcom Inc. and its predecessor Avago Technologies Limited spent \$7.0 billion on research and development for its products.

3. Broadcom has a long history of developing innovative, cutting-edge technologies in the semiconductor industry. For example, Broadcom’s wireless communications business unit

has been at the forefront of innovation in the design and development of GPS processing devices and related services. Similarly, Broadcom's set-top box division has generated and continues to develop advancements in the fields of graphics and video processing. As alleged herein, Defendants have unfairly incorporated Broadcom's technology into their products, including imported infotainment systems and automobiles containing such systems.

4. On information and belief, Defendant Toyota Motor Corporation ("TMC") is a corporation organized and existing under the laws of the country of Japan, having a principal place of business at 1 Toyota-Cho, Toyota City, Aichi Prefecture 471-8571, Japan.

5. On information and belief, Defendant Toyota Motor Sales, U.S.A., Inc. ("TMS") is a corporation organized and existing under the laws of the State of California, having a principal place of business at 6565 Headquarters Drive, Plano, Texas 75024.

6. On information and belief, Defendant Toyota Motor Engineering & Manufacturing North America, Inc. ("TEMA") is a corporation organized and existing under the laws of the State of Kentucky, having a principal place of business at 6565 Headquarters Drive, Plano, Texas 75024.

7. On information and belief, Defendant Toyota Motor Manufacturing, Texas, Inc. ("TMMTX") is a corporation organized and existing under the laws of the State of Texas, having a principal place of business at 1 Lone Star Pass, San Antonio, TX 78264.

8. On information and belief, Defendant Panasonic Corporation ("Panasonic") is a corporation organized and existing under the laws of the country of Japan, having a principal place of business at 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501, Japan.

9. On information and belief, Defendant Panasonic Corporation of North America ("Panasonic America") is a corporation organized and existing under the laws of the State of

Delaware, having a principal place of business at Two Riverfront Plaza, 828 McCarter Highway, Newark, NJ 07102.

10. On information and belief, Defendant Denso Ten Limited (“Denso”) is a corporation organized and existing under the laws of the country of Japan, having a principal place of business at 2-28, Goshō-dori, 1-chome, Hyogo-ku, Kobe City, Japan.

11. On information and belief, Defendant Denso Ten America Limited (“Denso America”) is a corporation organized and existing under the laws of the State of California, having a principal place of business at 20100 Western Avenue, Torrance, CA 90501.

12. On information and belief, Defendant Renesas Electronics Corporation (“Renesas”) is a corporation organized and existing under the laws of the country of Japan, having a principal place of business at Toyosu Foresia, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan.

13. On information and belief, Defendant Japan Radio Corporation (“JRC”) is a corporation organized and existing under the laws of the country of Japan, having a principal place of business at Nakano Central Park East, 10-1, Nakano 4-chome, Nakano-ku, Tokyo 164-8570, Japan.

JURISDICTION AND VENUE

14. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

15. On information and belief, jurisdiction and venue for this action are proper in this Judicial District.

16. This Court has personal jurisdiction over Defendants at least because they (i) have a principal and/or regular and established place of business in the State of Texas and this Judicial

District; (ii) are organized and existing under the laws of the State of Texas; (iii) have purposefully availed themselves of the rights and benefits of the laws of the State of Texas and this Judicial District; (iv) have done and are doing substantial business in the State of Texas and this Judicial District, directly or through intermediaries, both generally and, on information and belief, with respect to the allegations in this Complaint, including their one or more acts of infringement in the State of Texas and this Judicial District; (v) maintain continuous and systematic contacts in the State of Texas and this Judicial District; (vi) and/or place products alleged to be infringing in this Complaint in the stream of commerce with awareness that those products are sold and offered for sale in the State of Texas and this Judicial District.

17. Venue is proper in this Judicial District as to Defendants under 28 U.S.C. §§ 1391(b)-(c) and 1400(b) at least because they (i) are not resident in the United States; (ii) are organized and existing under the laws of the State of Texas; and/or (iii) have committed acts of infringement and have a regular and established place of business in this Judicial District.

JOINDER

18. Joinder is proper under at least Federal Rule of Civil Procedure 20 and 35 U.S.C. § 299 at least because Defendants' infringing conduct alleged herein arises 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, or selling of the same accused product or process, and questions of fact common to all Defendants will arise in this action.

THE PATENTS-IN-SUIT

19. Broadcom incorporates herein by reference its summary of the patents-in-suit in the Verified Complaint of Broadcom Corporation Under Section 337 of the Tariff Act of 1930, As Amended and all supporting exhibits, filed on May 7, 2018, in *Certain Infotainment Systems*,

Components Thereof, and Automobiles Containing the Same, Inv. No. 337-TA-__ (“Broadcom’s ITC Complaint”).¹

U.S. Patent No. 6,937,187

20. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 6,937,187 entitled “METHOD AND APPARATUS FOR FORMING A DYNAMIC MODEL TO LOCATE POSITION OF A SATELLITE RECEIVER” (“’187 patent”), including the right to sue and to recover for infringement thereof. A copy of the ’187 patent is attached hereto as Exhibit A. The ’187 patent was duly and legally issued on August 30, 2005, naming Frank van Diggelen and Charles Abraham as the inventors.

21. The ’187 patent has 10 claims: 2 independent claims and 8 dependent claims.

22. The ’187 patent presented a new method and apparatus for locating position of a satellite signal receiver that improved upon prior systems. The invention of the ’187 patent estimates certain states in order to calculate a position of the satellite signal receiver faster than conventional methods. In one example, pseudoranges are obtained that estimate the range of a satellite signal receiver to a plurality of satellites. An absolute time and a position are computed using the pseudoranges at a first time. The absolute time is then used to compute another position at a subsequent time. In another example, a plurality of states associated with a satellite signal receiver are estimated, where the plurality of states include a time tag error state. A dynamic model is then formed relating the plurality of states, the dynamic model operative to compute position of the satellite signal receiver. One embodiment of the system is shown in

¹ The investigation number associated with Broadcom’s ITC Complaint will be assigned upon institution of the ITC action.

FIG. 1, reproduced below.

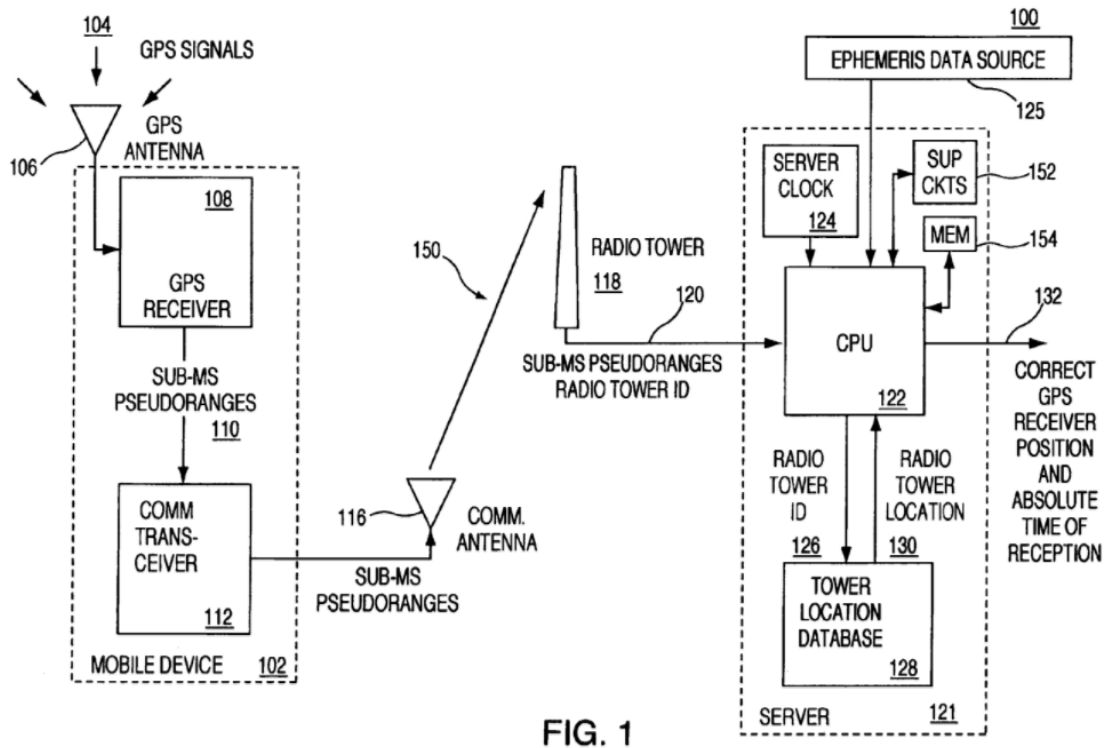


FIG. 1

23. The claims of the '187 patent, including claim 1 (reproduced below), recite at least these inventive concepts of the '187 patent:

1. A method, comprising:

estimating a plurality of states associated with a satellite signal receiver, the plurality of states including a time tag error state, the time tag error state relating a local time associated with said satellite signal receiver and an absolute time associated with signals from a plurality of satellites; and

forming a dynamic model relating the plurality of states, the dynamic model operative to compute position of the satellite signal receiver.

('187 patent at claim 1.) The subject matter described and claimed by the '187 patent, including the method of claim 1, was novel and not well-understood, routine, or conventional at the time of the '187 patent.

24. On information and belief, Defendants had knowledge of the '187 patent,

including at least as of the date of this Complaint.

U.S. Patent No. 7,437,583

25. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 7,437,583 entitled “METHOD AND SYSTEM FOR FLEXIBLE CLOCK GATING CONTROL” (“’583 patent”), including the right to sue and to recover for infringement thereof. A copy of the ’583 patent is attached hereto as Exhibit B. The ’583 patent was duly and legally issued on October 14, 2008, naming Paul Lu as the inventor.

26. The ’583 patent has 26 claims: 4 independent claims and 22 dependent claims.

27. The ’583 patent generally relates to a system for controlling clocks. In conventional systems, when the integrated circuit is fabricated a clock gating system would be hardwired to control the flow of the clock signals. In such systems, however, the clock gating system cannot be modified after fabrication. The ’583 patent improved on conventional systems by introducing a processor and hardware based clock gating system, which allows for modifications to the clock-gating system after fabrication through the processor and associated clock gate registers.

28. The claims of the ’583 patent, including claim 17 (reproduced below), recite at least these inventive concepts of the ’583 patent:

17. A system for distributing clock signals within an electronic device, the system comprising:

at least one processor that determines a status of at least one gate that controls flow of a clock signal to at least one device coupled to said at least one gate; and

said at least one processor controls said at least one gate based on said determined status.

(’583 patent at claim 17.) The systems for distributing clock signals within an electronic device described and claimed by the ’583 patent, including the system for distributing clock signals

within an electronic device of claim 17, was novel and not well-understood, routine, or conventional at the time of the '583 patent.

29. On information and belief, Defendants had knowledge of the '583 patent, including at least as of the date of this Complaint.

U.S. Patent No. 7,512,752

30. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 7,512,752 entitled "SYSTEMS, METHODS, AND APPARATUS FOR PIXEL FETCH REQUEST INTERFACE" ("752 patent"), including the right to sue and to recover for infringement thereof. A copy of the '752 patent is attached hereto as Exhibit C. The '752 patent was duly and legally issued on March 31, 2009, naming Alexander G. MacInnis as the inventor.

31. The '752 patent has 21 claims: 3 independent claims and 18 dependent claims.

32. The '752 patent generally relates to a memory access unit. The '752 patent improved upon prior systems by implementing a memory access unit to create efficient requests to the memory controller. In conventional systems, the system would request information from memory by sending requests directly to the memory controller. However, this process required the use of substantial memory and processing resources. The '752 patent improved on this process by introducing a memory access unit that interfaces between the module requesting memory data and the memory controller. The memory access unit uses logic and a queue to create efficient requests to the memory controller.

33. The claims of the '752 patent, including claim 1 (reproduced below), recite at least these inventive concepts of the '752 patent:

1. A memory access unit for accessing data for a module, said memory access unit comprising:

an output port for providing access requests for lists of addresses in a memory over a link to a memory controller; and

a queue for queuing the access requests for the lists of addresses.

(’752 patent at claim 1.) The memory access units described and claimed by the ’752 patent, including the memory access unit of claim 1, were novel and not well-understood, routine, or conventional at the time of the ’752 patent.

34. On information and belief, Defendants had knowledge of the ’752 patent, including at least as of the date of this Complaint.

U.S. Patent No. 7,530,027

35. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 7,530,027 entitled “GRAPHICS DISPLAY SYSTEM WITH GRAPHICS WINDOW CONTROL MECHANISM” (“’027 patent”), including the right to sue and to recover for infringement thereof. A copy of the ’027 patent is attached hereto as Exhibit D. The ’027 patent was duly and legally issued on May 5, 2009, naming Alexander G. MacInnis, Chengfuh Jeffrey Tang, Xiaodong Xie, James T. Patterson, and Greg A. Kranawetter as the inventors.

36. The ’027 patent has 20 claims: 2 independent claims and 18 dependent claims.

37. The ’027 patent presents a new system for processing graphics images for display that uses graphics windows, window descriptors for said graphics windows, and a display engine to reduce the memory required to process graphics images. When creating graphics displays, a region of the graphic often needs to be rendered with other displayed objects, or graphics, on top of it or beneath it. In conventional graphics processing systems, this is done by rendering the objects using the number of distinct pixels needed to fill the region. This conventional process, however, required a large memory size and memory bandwidth. The ’027 patent improved on the conventional process by introducing graphics windows, which include window descriptors containing parameters describing and controlling each window. In the ’027 patent, a display engine uses the window descriptors to blend all of the graphics windows into a complete image.

This results in the creation of a pixel map in real time, which reduces memory requirements.

38. The claims of the '027 patent, including claim 11 (reproduced below), recite at least these inventive concepts of the '027 patent:

11. A system for processing graphics images, comprising:

a window controller for obtaining data that describes windows in which the graphics images are displayed, and for sorting the data in accordance with respective depths of the windows;

a display engine for blending the graphics images using alpha values associated with the graphics images; and

a memory for storing the graphics images,

wherein the window controller transmits header packets to the display engine, each header packet containing at least a portion of the data, said portion describing at least one of the windows, and

wherein the graphics images are transferred from the memory to the display engine responsive to said header packets.

('027 patent at claim 11.) The system for processing graphics images for display that uses graphics windows described and claimed by the '027 patent, including the system for processing graphics images of claim 11, was novel and not well-understood, routine, or conventional at the time of the '027 patent.

39. On information and belief, Defendants had knowledge of the '027 patent, including at least as of the date of this Complaint.

U.S. Patent No. 8,284,844

40. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 8,284,844 entitled "VIDEO DECODING SYSTEM SUPPORTING MULTIPLE STANDARDS" ("844 patent"), including the right to sue and to recover for infringement thereof. A copy of the '844 patent is attached hereto as Exhibit E. The '844 patent was duly and legally issued on October 9, 2012, naming Alexander G. MacInnis, Jose R. Alvarez, Sheng

Zhong, Xiaodong Xie, and Vivian Hsiun as the inventors.

41. The '844 patent has 14 claims: 1 independent claim and 13 dependent claims.

42. The '844 patent presented a new, cost-effective system for decoding digital video, encoded in any of a variety of bitstream formats, using hardware accelerators. The '844 patent's hardware accelerators assist a processor in performing certain decoding tasks that might otherwise be bottlenecks for real-time decoding if handled by the processor alone. Additionally, the hardware accelerators are configurable to support multiple existing as well as future encoding/decoding formats.

43. The claims of the '844 patent, including claim 1 (reproduced below), recite at least these inventive concepts of the '844 patent:

1. A digital media decoding system comprising:

a processor adapted to control a decoding process; and

a hardware accelerator coupled to the processor and adapted to perform a decoding function on a digital media data stream, wherein the accelerator is configurable to perform the decoding function according to a plurality of decoding methods.

('844 patent at claim 1.) The systems for decoding digital videos described and claimed by the '844 patent, including the digital media decoding system of claim 1, were novel and not well-understood, routine, or conventional at the time of the '844 patent.

44. On information and belief, Defendants had knowledge of the '844 patent, including at least as of the date of this Complaint.

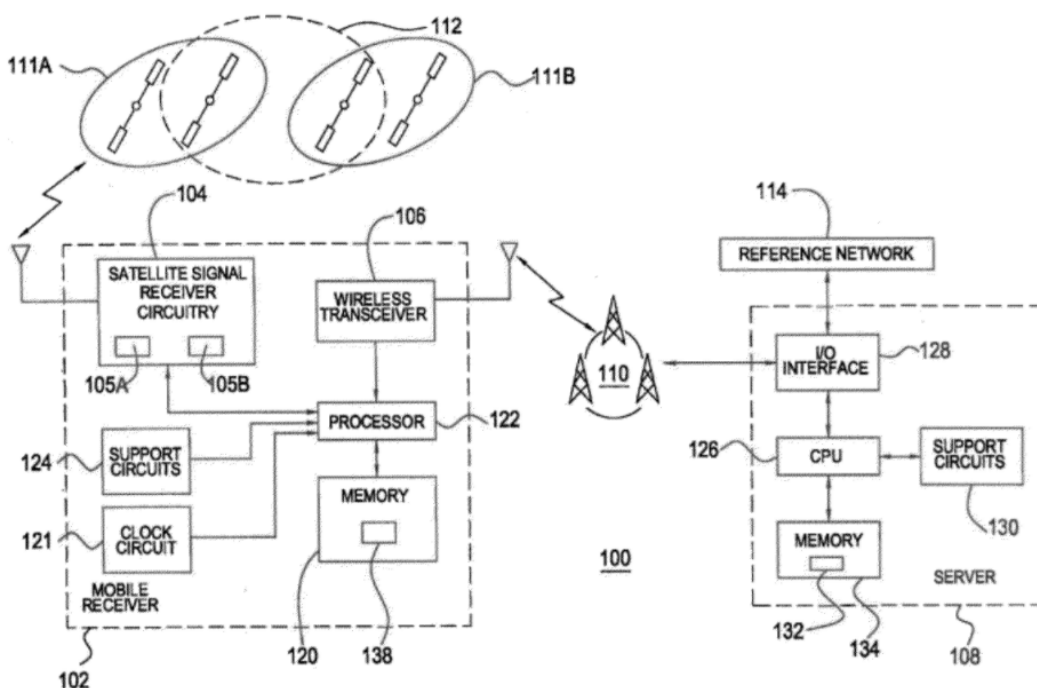
U.S. Patent No. 8,902,104

45. Broadcom is the lawful owner of all right, title, and interest in U.S. Patent No. 8,902,104 entitled "METHOD AND APPARATUS FOR COMBINING MEASUREMENTS AND DETERMINING CLOCK OFFSETS BETWEEN DIFFERENT SATELLITE

POSITONING SYSTEMS” (“’104 patent”), including the right to sue and to recover for infringement thereof. A copy of the ’104 patent is attached hereto as Exhibit F. The ’104 patent was duly and legally issued on December 2, 2014, naming Frank van Diggelen as the inventor.

46. The ’104 patent has 20 claims: 3 independent claims and 17 dependent claims.

47. The ’104 patent presented a new method and apparatus for combining measurements and determining clock offsets between different satellite positioning systems. The invention of the ’104 patent allows a satellite receiver to combine signals from satellites of different constellations (GPS, Galileo, GLONASS, etc.) to improve position accuracy. In one example, a mobile receiver obtains satellite measurement data with respect to a plurality of satellites from at least two satellite navigation systems, which increases the number of satellites in communication with the mobile receiver. The positioning accuracy of the mobile receiver may increase by increasing the number of satellites in communication with the mobile receiver. In one embodiment, the mobile receiver obtains data from a first satellite of a first satellite navigation system and a second satellite of a second satellite navigation system. After determining a difference between a time reference of the first satellite navigation system and a second time reference of the second satellite navigation system, position information for the mobile receiver is computed by combining the satellite measurement data and the satellite trajectory data of the satellites from the different satellite navigation systems. One embodiment of the system is shown in FIG. 1, reproduced below.



48. The claims of the '104 patent, including claim 1 (reproduced below), recite at least these inventive concepts of the '104 patent:

1. A method for determining a position of a mobile receiver, comprising:
 - measuring a first pseudorange from the mobile receiver to a first satellite of a first satellite navigation system;
 - measuring a second pseudorange from the mobile receiver to a second satellite of a second satellite navigation system;
 - determining a difference between a first time reference of the first satellite navigation system and a second time reference of the second satellite navigation system; and
 - combining the first pseudorange and the second pseudorange using the difference to generate combined first and second pseudoranges.

('104 patent at claim 1.) The methods and apparatus for combining measurements and determining clock offsets between different satellite positioning systems described and claimed by the '104 patent, including the method for determining a position of a mobile receiver of claim 1, were novel and not well-understood, routine, or conventional at the time of the '104 patent.

49. On information and belief, Defendants had knowledge of the '104 patent, including at least as of the date of this Complaint.

BACKGROUND OF DEFENDANTS' INFRINGING CONDUCT

50. On information and belief, Toyota is an automotive company that makes, uses, sells, offers for sale, and/or imports, or has otherwise made, used, sold, offered for sale, and/or imported, automotive vehicles including, among other things, various infotainment systems and components thereof.

51. On information and belief, Panasonic, Denso Ten, Renesas, and JRC make, use, sell, offer for sale, and/or import, or have otherwise made, used, sold, offered for sale, and/or imported, various infotainment systems and components thereof that are incorporated in Toyota's automotive vehicles including, for example, head units and SoCs (i.e., systems on a chip).

52. The chart below sets forth some examples of representative infotainment systems, components thereof, and automobiles containing infotainment systems and components thereof that infringe the patents-in-suit ("Representative Accused Products"):

Defendant	Representative Accused Products
Toyota	Prius automobiles; 86804-47330 (Prius III Nav System Kit); 86840-06011 (Camry Navigation System with WiFi Hotspot); 86804-0E280 (Highlander Receiver); 86804-08040 (Sienna Navigation Unit); 86804-02070 (Corolla Nav System Kit); 86804-06180 (Camry Receiver); 86804-06100 (Camry Navigation System Receiver)
Panasonic	Panasonic head units, such as Ser. Nos. 130105, 104020, 104069, 50021, and 112905, which are incorporated in Accused Toyota Navigation units, including 86804-0E280 (Highlander Receiver), 86804-08040 (Sienna Navigation Unit), 86804-07120 (Avalon Navigation Head Unit), 86804-47330 (Prius III Navigation System Kit), and 86840-06011 (Camry Navigation System with WiFi Hotspot), respectively; Panasonic MN2WS0210A3UB SoC

Defendant	Representative Accused Products
Denso Ten	Denso Ten head units, such as Ser. Nos. MMA00002, MM910406, and MM100046, which are incorporated in Accused Toyota Navigation units including 86804-06180 (Camry Receiver), 86804-02070 (Corolla Nav System Kit), and 86804-06100 (Camry Navigation System Receiver), respectively
Renesas	R-Car H2 SoC; R-Mobile A1 SoC
JRC	JRC TS0072; JRC TS0066; JRC 7DLTS0103; CCA-700

53. Defendants infringed and continue to infringe the '187, '583, '752, '027, '844, and '104 patents by making, using, selling, offering to sell, and/or importing, without license or authority, at least the Representative Accused Products as alleged herein.

54. Broadcom incorporates herein by reference its allegations concerning Defendants' infringing conduct made in Broadcom's ITC Complaint all supporting exhibits (including claim charts comparing exemplary claims of the patents-in-suit to the Representative Accused Products attached hereto as Exhibits G-Q).

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,937,187
(Toyota, Panasonic, Denso Ten, JRC)

55. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 54 above.

56. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and JRC's infringement of the '187 patent made in Broadcom's ITC Complaint.

57. On information and belief, Toyota, Panasonic, Denso Ten, and JRC have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '187 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 1-10 of the

'187 patent.

58. On information and belief, with knowledge of the '187 patent, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '187 patent, including claims 1-10, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '187 patent, including claims 1-10, with the intent encourage those customers and/or end-users to infringe the '187 patent.

59. By way of example, on information and belief, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants knowingly and intentionally induces users of one or more of the Representative Accused Products to directly infringe one or more claims of the '187 patent, including claims 1-10, by encouraging, instructing, and aiding one or more persons in the United States, including but not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and JRC Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes the '187 patent. For example, upon information and belief, at least the Toyota, Panasonic, Denso Ten, and JRC Defendants induce people in the United States to buy and operate automobiles containing hardware and software, including the accused head units and components thereof, which cause the claimed methods of the '187 to be performed when the car is operated. Such inducements include advertising, demonstrating, providing product information, user manuals, and other materials and activities that encourage individuals to operate the accused automobiles, head units, and components thereof in a manner that infringes

the asserted claims of the '187 patent. The Toyota, Panasonic, Denso Ten, and JRC Defendants, and/or others under Defendants' direction and control, actively induce by providing hardware and software that estimates a plurality of states associated with a satellite signal receiver, including a time tag error state, and forms a dynamic model relating the plurality of states, wherein the dynamic model is operative to compute the position of the satellite signal receiver in the accused products.

60. On information and belief, with knowledge of the '187 patent, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants also contributes to the infringement of one or more claims of the '187 patent in violation of 35 U.S.C. § 271(c), including claims 1-10, by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, operating automobiles containing the patented component including the hardware and software of the accused head units and components thereof causes the claimed methods of the '187 patent to be performed.. For example, upon information and belief, at least the Panasonic, Denso Ten, and JRC Defendants contribute to the infringement of one or more claims of the '187 patent by offering to sell or selling and/or importing the accused head units and/or components thereof that include a Global Navigation Satellite System (GNSS) receiver, which when installed in an automobile according to their natural and intended purpose, constitute a material part of the claimed inventions, are especially made and especially adapted for use in infringement, and are not staple items suitable for a substantial non-infringing use.

61. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and

JRC's inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '187 patent, including claims 1-10. On information and belief, Toyota, Panasonic, Denso Ten, and JRC had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

62. A chart comparing one or more claims of the '187 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and JRC's direct and/or indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) is attached hereto as Exhibit G.

63. On information and belief, with knowledge of the '187 patent, Toyota, Panasonic, Denso Ten, and JRC have willfully, deliberately, and intentionally infringed the '187 patent, and continue to willfully, deliberately, and intentionally infringe the '187 patent.

64. Toyota's, Panasonic's, Denso Ten's, and JRC's actions as alleged herein are without right, license, or permission under the '187 patent.

65. On information and belief, Toyota, Panasonic, Denso Ten, and JRC will continue to infringe the '187 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and JRC, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and JRC's acts of infringement and, unless they are enjoined from their infringement of the '187 patent, Broadcom will continue to suffer irreparable harm.

66. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and JRC the

damages at least in an amount adequate to compensate for their infringement of the '187 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 7,437,583
(Toyota, Panasonic, Denso Ten, Renesas)

67. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 66 above.

68. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and Renesas' infringement of the '583 patent made in Broadcom's ITC Complaint.

69. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '583 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 17-26 of the '583 patent.

70. On information and belief, with knowledge of the '583 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '583 patent, including claims 17-26, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '583 patent, including claims 17-26, with the intent encourage those customers and/or end-users to infringe the '583 patent.

71. By way of example, on information and belief, each of the Toyota, Panasonic,

Denso Ten, and Renesas Defendants actively induce infringement of the '583 patent by encouraging, instructing, and aiding one or more persons in the United States, including by not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and Renesas Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes at least one claim of the '583 patent, including claims 17-26.

72. On information and belief, with knowledge of the '583 patent, the Toyota, Panasonic, Denso Ten, and Renesas Defendants also contribute to the infringement of one or more claims of the '583 patent in violation of 35 U.S.C. § 271(c), including claims 17-26, by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

73. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and Renesas' inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '583 patent, including claims 17-26. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

74. Charts comparing one or more claims of the '583 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and Renesas' direct and/or

indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) are attached hereto as Exhibit H-I.

75. On information and belief, with knowledge of the '583 patent, Toyota, Panasonic, Denso Ten, and Renesas have willfully, deliberately, and intentionally infringed the '583 patent, and continue to willfully, deliberately, and intentionally infringe the '583 patent.

76. Toyota's, Panasonic's, Denso Ten's, and Renesas' actions as alleged herein are without right, license, or permission under the '583 patent.

77. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas will continue to infringe the '583 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and Renesas, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and Renesas' acts of infringement and, unless they are enjoined from their infringement of the '583 patent, Broadcom will continue to suffer irreparable harm.

78. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and Renesas the damages at least in an amount adequate to compensate for their infringement of the '583 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,512,752
(Toyota, Panasonic, Denso Ten, Renesas)

79. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 78 above.

80. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and Renesas' infringement of the '752 patent made in Broadcom's

ITC Complaint.

81. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '752 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 1-10 of the '752 patent.

82. On information and belief, with knowledge of the '752 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '752 patent, including claims 1-10, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '752 patent, including claims 1-10, with the intent encourage those customers and/or end-users to infringe the '752 patent.

83. By way of example, on information and belief, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants knowingly and intentionally induces users of one or more of the accused products to directly infringe one or more claims of the '752 patent, including claims 1-10, by encouraging, instructing, and aiding one or more persons in the United States, including by not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and Renesas Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes the '752 patent.

84. On information and belief, with knowledge of the '752 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants contribute to the infringement of one or more claims of the '752 patent in violation of 35 U.S.C. § 271(c), including claims 1-10, by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

85. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and Renesas' inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '752 patent, including claims 1-10. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

86. Charts comparing one or more claims of the '752 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and Renesas' direct and/or indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) are attached hereto as Exhibits J-K.

87. On information and belief, with knowledge of the '752 patent, Toyota, Panasonic, Denso Ten, and Renesas have willfully, deliberately, and intentionally infringed the '752 patent, and continue to willfully, deliberately, and intentionally infringe the '752 patent.

88. Toyota's, Panasonic's, Denso Ten's, and Renesas' actions as alleged herein are without right, license, or permission under the '752 patent.

89. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas will continue to infringe the '752 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and Renesas, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and Renesas' acts of infringement and, unless they are enjoined from their infringement of the '752 patent, Broadcom will continue to suffer irreparable harm.

90. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and Renesas the damages at least in an amount adequate to compensate for their infringement of the '752 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 7,530,027
(Toyota, Panasonic, Denso Ten, Renesas)

91. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 90 above.

92. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and Renesas' infringement of the '027 patent made in Broadcom's ITC Complaint.

93. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '027 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 11-20 of the

'027 patent.

94. On information and belief, with knowledge of the '027 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '027 patent, including claims 11-20, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '027 patent, including claims 11-20, with the intent encourage those customers and/or end-users to infringe the '027 patent.

95. By way of example, on information and belief, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants knowingly and intentionally induces users of one or more of the accused products to directly infringe one or more claims of the '027 patent, including claims 11-20, by encouraging, instructing, and aiding one or more persons in the United States, including by not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and Renesas Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes the '027 patent.

96. On information and belief, with knowledge of the '027 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants also contributes to the infringement of one or more claims of the '027 patent in violation of 35 U.S.C. § 271(c), including claims 11-20, by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple

article or commodity of commerce suitable for substantial non-infringing use.

97. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and Renesas' inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '027 patent, including claims 11-20. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

98. Charts comparing one or more claims of the '027 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and Renesas' direct and/or indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) are attached hereto as Exhibits L-M.

99. On information and belief, with knowledge of the '027 patent, Toyota, Panasonic, Denso Ten, and Renesas have willfully, deliberately, and intentionally infringed the '027 patent, and continue to willfully, deliberately, and intentionally infringe the '027 patent.

100. Toyota's, Panasonic's, Denso Ten's, and Renesas' actions as alleged herein are without right, license, or permission under the '027 patent.

101. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas will continue to infringe the '027 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and Renesas, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and Renesas' acts of infringement and, unless they are

enjoined from their infringement of the '027 patent, Broadcom will continue to suffer irreparable harm.

102. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and Renesas the damages at least in an amount adequate to compensate for their infringement of the '027 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,284,844
(Toyota, Panasonic, Denso Ten, Renesas)

103. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 102 above.

104. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and Renesas' infringement of the '844 patent made in Broadcom's ITC Complaint.

105. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '844 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 1-14 of the '844 patent.

106. On information and belief, with knowledge of the '844 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '844 patent, including claims 1-14, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise

encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '844 patent, including claims 1-14, with the intent encourage those customers and/or end-users to infringe the '844 patent.

107. By way of example, on information and belief, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants knowingly and intentionally induces users of one or more of the accused products to directly infringe one or more claims of the '844 patent, including claims 1-14, by encouraging, instructing, and aiding one or more persons in the United States, including by not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and Renesas Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes the '844 patent.

108. On information and belief, with knowledge of the '844 patent, each of the Toyota, Panasonic, Denso Ten, and Renesas Defendants also contributes to the infringement of one or more claims of the '844 patent in violation of 35 U.S.C. § 271(c), including claims 1-14, by offering to sell or selling and/or importing a patented component or material and/or apparatus used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use.

109. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and Renesas' inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '844 patent, including claims 1-14. On information and belief, Toyota, Panasonic, Denso Ten, and

Renesas had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

110. Charts comparing one or more claims of the '844 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and Renesas' direct and/or indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) are attached hereto as Exhibits N-P.

111. On information and belief, with knowledge of the '844 patent, Toyota, Panasonic, Denso Ten, and Renesas have willfully, deliberately, and intentionally infringed the '844 patent, and continue to willfully, deliberately, and intentionally infringe the '844 patent.

112. Toyota's, Panasonic's, Denso Ten's, and Renesas' actions as alleged herein are without right, license, or permission under the '844 patent.

113. On information and belief, Toyota, Panasonic, Denso Ten, and Renesas will continue to infringe the '844 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and Renesas, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and Renesas' acts of infringement and, unless they are enjoined from their infringement of the '844 patent, Broadcom will continue to suffer irreparable harm.

114. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and Renesas the damages at least in an amount adequate to compensate for their infringement of the '844 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 8,902,104
(Toyota, Panasonic, Denso Ten, JRC)

115. Broadcom incorporates by reference the allegations contained in paragraphs 1 to 114 above.

116. Broadcom incorporates herein by reference its allegations concerning Toyota's, Panasonic's, Denso Ten's, and JRC's infringement of the '104 patent made in Broadcom's ITC Complaint.

117. On information and belief, Toyota, Panasonic, Denso Ten, and JRC have been and are currently directly infringing, either literally or under the doctrine of equivalents, one or more claims of the '104 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing at least the Representative Accused Products within this Judicial District and/or elsewhere in the United States that infringe at least claims 1, 2, 5-13, 15, 16 of the '104 patent.

118. On information and belief, with knowledge of the '104 patent, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants have actively induced and continue to induce the direct infringement of one or more claims of the '104 patent, including claims 1, 2, 5-13, 15, 16, in violation of 35 U.S.C. § 271(b) by their customers and/or end users of the Representative Accused Products by selling, providing support for, providing instructions for use of, and/or otherwise encouraging their customers and/or end-users to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '104 patent, including claims 1, 2, 5-13, 15, 16, with the intent encourage those customers and/or end-users to infringe the '104 patent.

119. By way of example, on information and belief, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants knowingly and intentionally induces users of one or more of the

accused products to directly infringe one or more claims of the '104 patent, including claims 1, 2, 5-13, 15, 16, by encouraging, instructing, and aiding one or more persons in the United States, including by not limited to end users who test and operate accused products at the direction of the Toyota, Panasonic, Denso Ten, and JRC Defendants, to make, use (including testing those devices and methods), sell, or offer to sell one or more of the accused products in a manner that infringes the '104 patent. For example, upon information and belief, at least the Toyota, Panasonic, Denso Ten, and JRC Defendants induce people in the United States to buy and operate automobiles containing hardware and software, including the accused head units and components thereof, that cause the claimed methods of the '104 to be performed when the car is operated. Such inducements include advertising, demonstrating, providing product information, user manuals, and other materials and activities that encourage individuals to operate the accused automobiles, head units, and components thereof in a manner that infringes the asserted claims of the '104 patent. The Toyota, Panasonic, Denso Ten, and JRC Defendants, and/or others under Defendants' direction and control, actively induce by providing hardware and software that measures a first pseudorange from a mobile receiver to a first satellite of a first satellite navigation system, measures a second pseudorange from the mobile receiver to a second satellite of a second satellite navigation system, determines a difference between a first time reference of the first satellite navigation system and a second time reference of the second satellite navigation system, and combines the first and second pseudoranges using the difference.

120. On information and belief, with knowledge of the '104 patent, each of the Toyota, Panasonic, Denso Ten, and JRC Defendants also contributes to the infringement of one or more claims of the '104 patent in violation of 35 U.S.C. § 271(c), including claims 1, 2, 5-13, 15, 16, by offering to sell or selling and/or importing a patented component or material and/or apparatus

used to practice a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement and not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, operating automobiles containing the patented component including the hardware and software of the accused head units and components thereof causes the claimed methods of the '104 patent to be performed. For example, upon information and belief, at least the Panasonic, Denso Ten, and JRC Defendants contribute to the infringement of one or more claims of the '104 patent by offering to sell or selling and/or importing the accused head units and/or components thereof that include a Global Navigation Satellite System (GNSS) receiver, which when installed in an automobile according to their natural and intended purpose, constitute a material part of the claimed inventions, are especially made and especially adapted for use in infringement, and are not staple items suitable for a substantial non-infringing use.

121. On information and belief, as a result of Toyota's, Panasonic's, Denso Ten's, and JRC's inducement of, and/or contribution to, infringement, their customers and/or end users made, used, sold, or offered for sale, and continue to make, use, sell, or offer to sell, the Representative Accused Products in ways that directly infringe one or more claims of the '104 patent, including claims 1, 2, 5-13, 15, 16. On information and belief, Toyota, Panasonic, Denso Ten, and JRC had actual knowledge of their customers' and/or end users' direct infringement at least by virtue of their sales, promotion, instruction, and/or otherwise promotion of the Representative Accused Products, at least as of the date of this Complaint.

122. Charts comparing one or more claims of the '104 patent to the Representative Accused Products and showing Toyota's, Panasonic's, Denso Ten's, and JRC's direct and/or indirect infringement in violation of 35 U.S.C. §§ 271(a)-(c) are attached hereto as Ex. Q.

123. On information and belief, with knowledge of the '104 patent, Toyota, Panasonic, Denso Ten, and JRC have willfully, deliberately, and intentionally infringed the '104 patent, and continue to willfully, deliberately, and intentionally infringe the '104 patent.

124. Toyota's, Panasonic's, Denso Ten's, and JRC's actions as alleged herein are without right, license, or permission under the '104 patent.

125. On information and belief, Toyota, Panasonic, Denso Ten, and JRC will continue to infringe the '104 patent unless and until they are enjoined by this Court. Toyota, Panasonic, Denso Ten, and JRC, by way of their infringing activities, have caused and continue to cause Broadcom to suffer damages in an amount to be determined, and have caused and are causing Broadcom irreparable harm. Broadcom has no adequate remedy at law against Toyota's, Panasonic's, Denso Ten's, and JRC's acts of infringement and, unless they are enjoined from their infringement of the '104 patent, Broadcom will continue to suffer irreparable harm.

126. Broadcom is entitled to recover from Toyota, Panasonic, Denso Ten, and JRC the damages at least in an amount adequate to compensate for their infringement of the '104 patent, which amount has yet to be determined, together with interest and costs fixed by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Broadcom Corporation requests that the Court enter judgment for Broadcom and against Defendants Toyota Motor Corporation, Toyota Motor Sales, U.S.A., Inc., Toyota Motor Engineering & Manufacturing North America, Inc., Toyota Motor Manufacturing, Texas, Inc., Panasonic Corporation, Panasonic Corporation of North America, Denso Ten Limited, Denso Ten America Limited, Renesas Electronics Corporation, and Japan Radio Corporation and enter the following relief:

A. A judgment that Defendants infringe the '187, '583, '752, '027, '844, and '104

patents;

B. A preliminary and permanent injunction restraining and enjoining Defendants, their officers, partners, agents, servants, employees, parents, subsidiaries, divisions, affiliate corporations, joint ventures, other related business entities and all other persons acting in concert, participation, or in privity with them, and their successors and assigns, from infringing the '187, '583, '752, '027, '844, and '104 patents;

C. An award of damages to Broadcom arising from Defendants' past and continuing infringement up until the date Defendants are finally and permanently enjoined from further infringement, including compensatory damages;

D. A determination that Defendants' infringement of the '187, '583, '752, '027, '844, and '104 patents has been willful, and an award of treble damages to Broadcom pursuant to 35 U.S.C. § 284;

E. A determination that this is an exceptional case and awarding Broadcom's attorneys' fees pursuant to 35 U.S.C. § 285;

F. An order awarding Broadcom costs and expenses in this action;

G. An order awarding Broadcom pre- and post-judgment interest on its damages; and

H. Such other and further relief in law or in equity as this Court deems just and proper.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff Broadcom Corporation respectfully requests a jury trial on all issues so triable.

May 7, 2018

Respectfully submitted by:

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