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12 Attorneys for Plaintiff *Rembrandt Wireless Technologies, LP*

13 UNITED STATES DISTRICT COURT  
14 CENTRAL DISTRICT OF CALIFORNIA

16 REMBRANDT WIRELESS  
17 TECHNOLOGIES, LP,

18 Plaintiff,

19 v.

21 BROADCOM INCORPORATED and  
22 BROADCOM CORPORATION,

23 Defendant.

) Case No.: 8:19-cv-708

) COMPLAINT FOR  
) INFRINGEMENT OF U.S.  
) PATENT NOS. 8,457,228 &  
) 8,023,580

) DEMAND FOR JURY TRIAL

1 Plaintiff Rembrandt Wireless Technologies LP (“Rembrandt” or “Plaintiff”)  
2 hereby submits this Complaint against Defendants Broadcom Incorporated and  
3 Broadcom Corporation (collectively, “Broadcom”) and states as follows:

4 **THE PARTIES**

5 1. Rembrandt is a Virginia limited partnership, having a principal place  
6 of business at 401 City Ave., Suite 900, Bala Cynwyd, Pennsylvania 19004.

7 2. Rembrandt is the assignee and owner of the patents at issue in this  
8 action: United States Patent No. 8,457,228 (“the ’228 Patent”) and United States  
9 Patent No. 8,023,580 (“the ’580 Patent”).

10 3. Rembrandt is informed and believes, and on that basis alleges, that  
11 Broadcom Incorporated is a Delaware corporation with its principal places of  
12 business at 1320 Ridder Park Dr., San Jose, California 95131. Broadcom  
13 Incorporated may be served with process through its registered agent, Corporation  
14 Service Company, 251 Little Falls Drive, Wilmington, Delaware, 19808.

15 4. Rembrandt is informed and believes, and on that basis alleges, that  
16 Broadcom Corporation is a California corporation with its principal place of  
17 business at 1320 Ridder Park Dr., San Jose, California 95131. On information and  
18 belief, Broadcom Corporation is a wholly-owned subsidiary of Broadcom  
19 Incorporated. Broadcom Corporation may be served with process through its  
20 registered agent, CSC – Lawyers Incorporating Service, 2710 Gateway Oaks  
21 Drive, Suite 150N, Sacramento, CA 95833.

22 **JURISDICTION AND VENUE**

23 5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§  
24 1331 and 1338(a) because this action arises under the patent laws of the United  
25 States, 35 U.S.C. §§ 101 *et seq.*

26 6. The Court has personal jurisdiction over Defendants, including  
27 because Defendants have minimum contacts within the State of California;  
28 Defendants have purposefully availed themselves of the privileges of conducting

1 business in the State of California; Defendants regularly conduct business within  
2 the State of California; and Plaintiff's cause of action arises directly from  
3 Defendants' business contacts and other activities in the State of California,  
4 including at least by virtue of Defendants' infringing systems, devices, and  
5 methods, which are at least sold, practiced, and/or used in the State of California.  
6 Further, this Court has general jurisdiction over Defendants, including due to their  
7 continuous and systematic contacts with the State of California. Further, on  
8 information and belief, Defendants are subject to the Court's jurisdiction, including  
9 because Defendants have committed patent infringement in the State of California.

10 7. Venue is proper in this federal district pursuant to 28 U.S.C.  
11 §§1391(b)-(c) and 1400(b). Without limitation, on information and belief,  
12 Defendants have regular and established places of business in this District, and in  
13 California, and at least some of its infringement of the patents-in-suit occurs in this  
14 District, and in California.

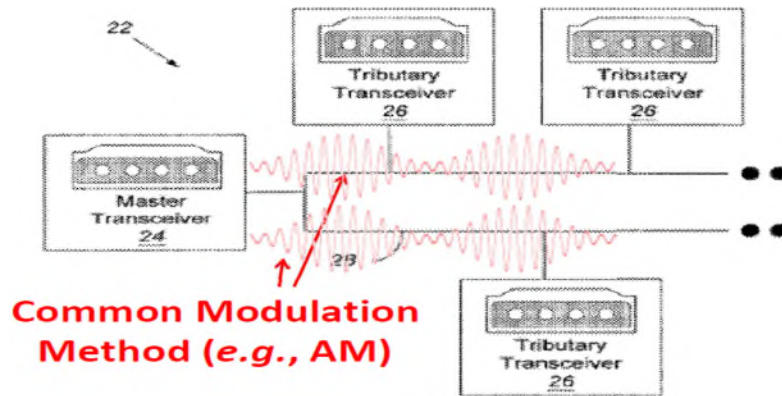
15 8. Without limitation, on information and belief, venue is proper in this  
16 District because Defendants have physical places from which their business is  
17 conducted within this District comprising Broadcom offices, including at 15101  
18 Alton Parkway, Irvine, California 92618 and 5300 California Avenue, Irvine,  
19 California 92617; the business conducted at such places is steady, uniform,  
20 orderly, and/or methodical, and is settled and not transient, including, but not  
21 limited to, distribution, sales, and/or offers for sale, including related to infringing  
22 methods and apparatuses. On information and belief, Defendants also have  
23 Broadcom offices in multiple locations throughout the state of California, and it  
24 has significant corporate facilities in San Diego, CA and Santa Clara, CA as well.  
25 Further, on information and belief, Defendants are subject to venue in this District,  
26 including because Defendants have committed patent infringement in this District.  
27 Pursuant to 35 U.S.C. § 271, Defendants infringe the patents-in-suit by the  
28 infringing acts described herein in this District. Further, Defendants solicit and

1 induce customers/users in this District, including via their development, marketing,  
2 and sales of its infringing chips. On information and belief, Defendants have  
3 customers/users who are residents of this District and who purchase, acquire,  
4 and/or use Defendants' infringing products in this District.

5 **INFRINGEMENT OF U.S. PATENT NO. 8,457,228**

6 9. On June 4, 2013, United States Patent No. 8,457,228 was duly and  
7 legally issued for inventions entitled "System and Method of Communication  
8 Using at Least Two Modulation Methods." The '228 Patent claims priority back  
9 through a string of continuation applications to US Application No. 09/205,205,  
10 which was filed on December 4, 1998, and to Provisional Application No.  
11 60/067,562, filed on December 5, 1997. Thus, each of the asserted claims of the  
12 '228 Patent are entitled to a priority date of December 5, 1997. The '228 Patent  
13 expired on December 4, 2018, but Rembrandt is entitled to damages for  
14 infringement that occurred before the expiration of the '228 Patent. Rembrandt  
15 was assigned the '228 Patent and continues to hold all rights and interest in the  
16 '228 Patent, including the right to recover damages for past infringement. A true  
17 and correct copy of the '228 Patent is attached as Exhibit A.

18 10. According to the '228 Patent, prior master/slave systems could  
19 communicate only when all network devices used a single common type of  
20 modulation method. *See* '228 Patent at 1:29-67, 3:64-4:5. Thus, if a slave using  
21 an additional type of modulation method were added to the network, the new slave  
22 could not easily communicate with the master using the different modulation type  
23 because it would not be compatible with the common type of modulation method.  
24 *Id.* Annotated figure 1 of the '228 Patent shows a master/slave system, where all  
25 devices in the network communicate using only a single common type of  
26 modulation method (such as the amplitude modulation used by AM radio), even  
27 though some of the devices may be capable of communication via other types of  
28 modulation methods:



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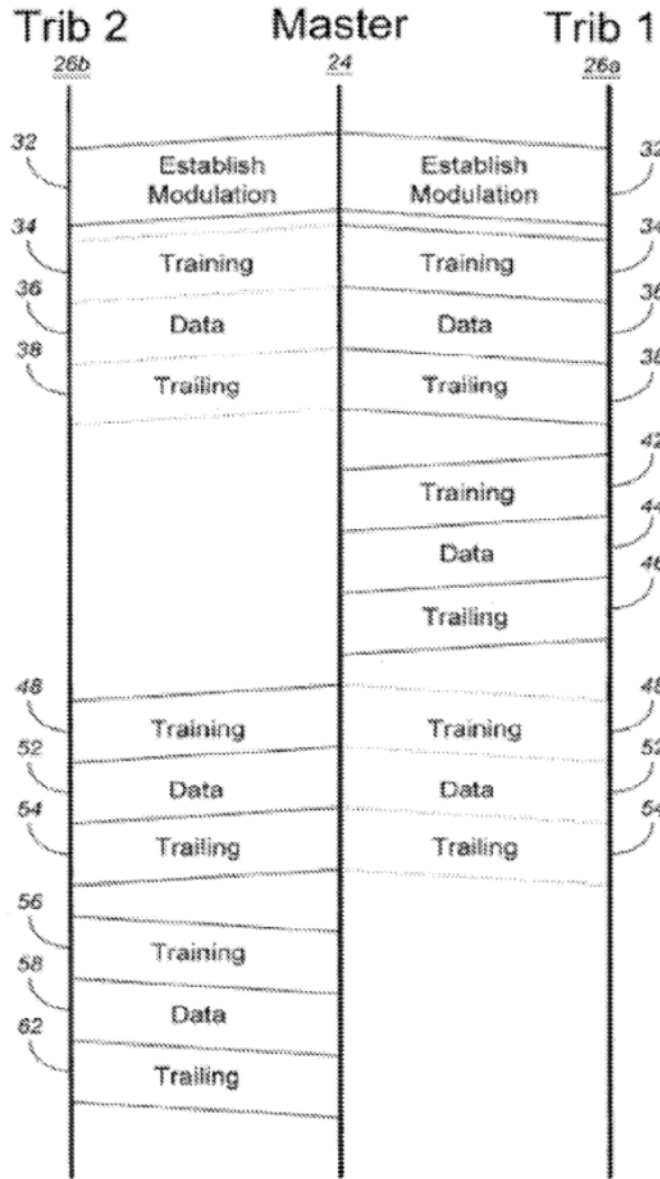
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FIG. 1  
Prior Art

11. The master/slave concept is described in the '228 Patent at col. 3, line 64-col. 5, line 7, with reference to Fig. 2. Briefly, Fig. 2 discloses a polled multipoint master/slave system. At the beginning of a session, the master established a common modulation type for communication with all its slaves (sequence 32 in Fig. 2). All slaves were identical in that they shared a common modulation with the master. The master then communicated with its slaves, one at a time, by sending a training sequence with the address of the slave with which it wants to communicate, followed by data, and finally a trailing sequence to end the communication (sequences 34-38 in Fig. 2). A slave could not initiate a communication, but, if the slave were polled by the master, it could respond to the master in a similar fashion (sequences 42-46 in Fig. 2). When the master had completed its communications with the first slave, it could then communicate with a second slave using the same negotiated common modulation (sequences 48-54 in Fig. 2).

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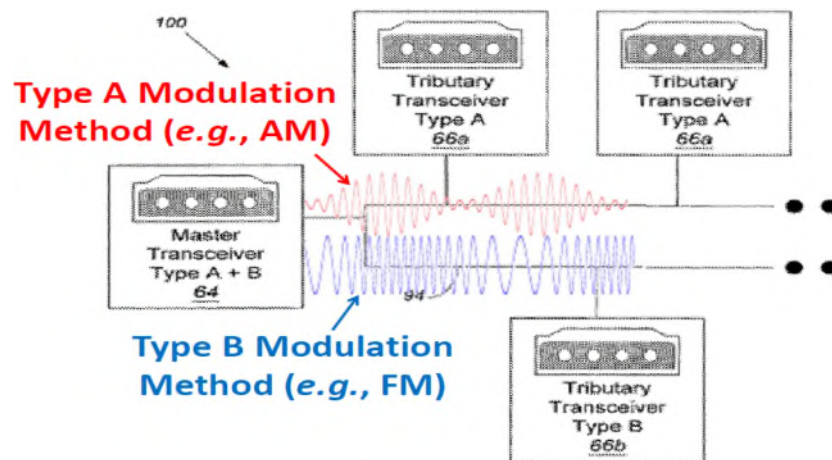


**FIG. 2**

12. In the context of the master/slave system described above, inventor Gordon Bremer created “a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible.” ’228 Patent at 2:20-23. Mr. Bremer solved the problem with his claimed master/slave communication system in which slaves can seamlessly communicate over a network through a master using different types of modulation methods, thereby permitting selection of the modulation type best suited for a particular application. ’228 Patent at 2:27-3:14, 5:32-46.

1           13. The claimed invention of the '228 Patent is further described with  
 2 reference to Figure 2 and in Figures 3-8 and the written description. Specifically,  
 3 Figures 3 and 4 show block diagrams of the master transceiver and tributary  
 4 transceivers, while Figure 5 shows a ladder diagram illustrating the operation of  
 5 those transceivers. Figures 6 and 7 show state diagrams for exemplary tributary  
 6 transceivers. Figure 8 shows a signal diagram for exemplary transmissions.

7           14. Annotated Fig. 4 shows an embodiment of the patented technology  
 8 where some devices in the network communicate using one type of modulation  
 9 method (e.g., amplitude modulation used by AM radio), while other devices  
 10 communicate using a different type of modulation method (e.g., the frequency  
 11 modulation used by FM radio):

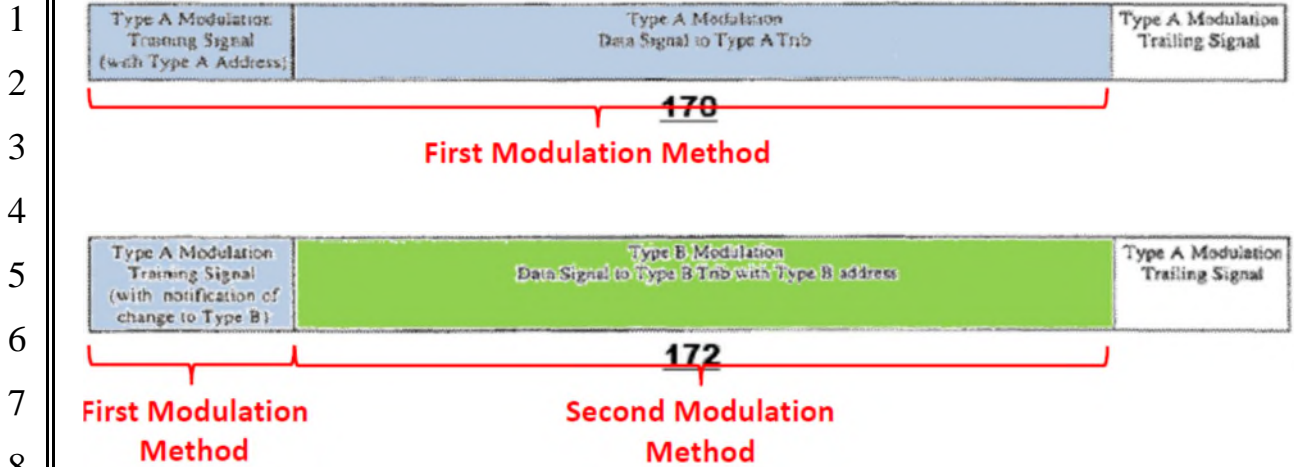


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**FIG. 4**

20 '228 Patent at 6:4-13. Such a system provides for greater efficiency, seamless  
 21 communication with all devices, backward-compatibility, and decreased costs. *Id.*  
 22 at 3:9-14; *see also id.* at 2:1-18, 5:32-46.

23           15. Annotated Fig. 8 shows two communications intended for different  
 24 slaves. The first communication 170 uses a first type of modulation method for  
 25 both the initial training signal and the subsequent data signal, while  
 26 communication 172 uses the first type of modulation method for the training signal  
 27 and the second type of modulation method for the data signal:

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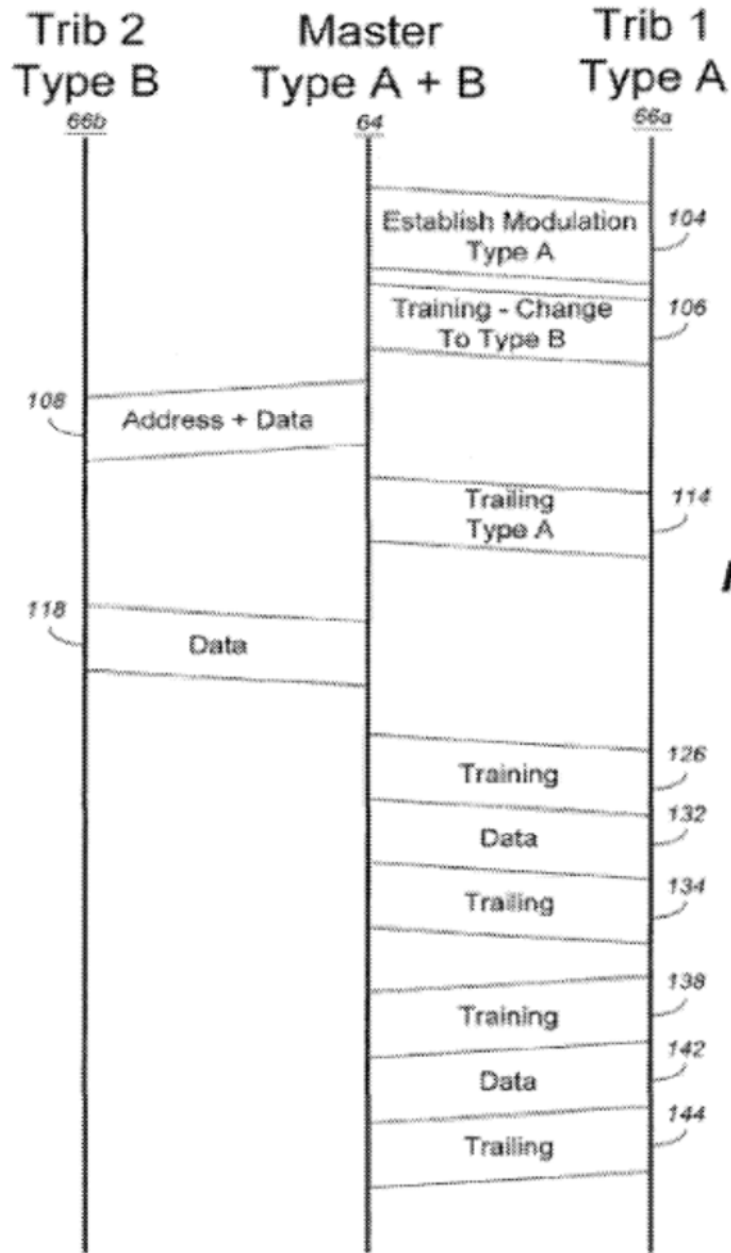


'228 Patent at Fig. 8, 4:45-48, 4:66-5:1. Information in the training signal indicates whether there will be an impending change from the first type of modulation method to the second type of modulation method. *Id.* (training signal includes “notification of change to Type B” modulation method).

16. Mr. Bremer’s solution is captured and claimed in his seamless “switches” from one modulation type to another and is described with reference to Fig. 5:



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**FIG. 5**

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17. With reference to Fig. 5, for the Master (“Master Type A and B 64”) to communicate with a Type A trib (“Trib 1 Type A 66a”) using a negotiated first modulation type A method in the normal fashion, the Master transmits a “first message” (sequences 126, 132, 134). The “first message” includes (i) “first information” (training sequence 126) modulated according to the first modulation type A method and (ii) “second information” (transmission sequence 132) modulated according to the first modulation type A method and including data

1 intended for the Type A trib. The “first information” includes first message  
2 address information that is indicative of the Type A trib being an intended  
3 destination of the “second information.” ’228 Patent at 7:11-13 (“a training  
4 sequence 126 in which an address of a particular type A trib 66a is identified”).

5 18. For the Master (“Master Type A and B 64”) to communicate with a  
6 Type B trib (“Trib 2 Type B 66b”) using a second modulation type B method, the  
7 Master transmits a “second message” (sequences 106, 108, 114). The “second  
8 message” includes “third information” (training sequence 106) modulated  
9 according to the first modulation type A method and including information that is  
10 indicative of an impending change in modulation to the second modulation type B  
11 method. ’228 Patent at 6:27-30 (“To switch from type A modulation to type B  
12 modulation, master transceiver 64 transmits a training sequence 106 to type A trib  
13 in which these trib is notified of an impending change to type B modulation.”).  
14 The “second message” also includes “fourth information” (transmission sequence  
15 108) that is transmitted after transmission of the “third information,” is modulated  
16 according to the second modulation type B method, and includes data intended for  
17 the Type B trib. ’228 Patent at 6:32-36 (“After notifying the type A trib 66a of  
18 the change to type B modulation, master transceiver 64, using type B modulation,  
19 transmits data along with an address in sequence 108, which is destined for a  
20 particular type B trib 66b.”). In addition, the “second message” includes second  
21 message address information that is indicative of the Type B trib being an intended  
22 destination of the fourth information. *Id.*

23 19. The specification of the ’228 Patent describes the claimed switches as  
24 follows:

25 “To switch from type A modulation to type B modulation, master  
26 transceiver 64 transmits a training sequence 106 to type A trib 66a in which  
27 these trib is notified of an impending change to type B modulation....  
28 After notifying the type A trib 66a of the change to type B modulation,  
master transceiver 64, using type B modulation, transmits data along with an

1 address in sequence 108, which is destined for a particular type B trib  
2 66b....” [Col. 6, ll. 27-36.]

3 “If, however, master transceiver transmits a training sequence in  
4 which the type A trib 66a are notified of a change to type B modulation  
5 as indicated by sequence 106, then a transition is made to state 124 where all  
6 type B transmissions are ignored until a type A modulation trailing sequence  
7 (e.g., sequence 114) is detected. Upon detecting the type A trailing  
8 sequence, a type A trib 66a returns to state 122 where it awaits a training  
9 sequence.” [Col. 7, ll. 3-10.]

10 “To initiate a communication session with a type A trib 66a, master  
11 transceiver 64 transmits a training sequence 126 in which an address of a  
12 particular Type A trib 66a is identified. The identified Type A trib 66a  
13 recognizes its own address and transitions to state 128 to receive data from  
14 master transceiver 64 as part of sequence 132.” [Col. 7, ll. 11-16.]

15 20. The technology recited in the claims of the ’228 Patent provides an  
16 inventive concept and does not claim an abstract idea. Due to the inventive  
17 combination of elements, the claimed inventions achieve many benefits over prior  
18 art systems and methods, including the benefits noted above (*i.e.*, greater  
19 efficiency, seamless communication with all devices, backward-compatibility, and  
20 decreased costs). ’228 Patent at 3:9-14; *see also id.* at 2:1-18, 5:32-46.

21 21. The claimed inventive concepts greatly enhance and facilitate  
22 technological systems, architectures, and methods through the use of a master  
23 communication device in a master/slave relationship with other slave  
24 communication devices. The master communication device transmits messages  
25 with particular sequences using two different types of modulation methods to  
26 facilitate communication between different type slave devices. The technology  
27 recited in the claims of the ’228 Patent improves the functioning of computer  
28 devices and improves over existing technological processes, including with respect  
to master-slave communication systems that implement different types of  
modulation methods.

1           22. The '228 Patent describes systems and methods that solved technical  
2 problems. Those problems included the ability to communicate in a master-slave  
3 environment amongst devices that implement different families of modulation  
4 techniques. These problems also included backwards compatibility with older  
5 devices using different types of modulation.

6           23. The technological improvements described and claimed in the '228  
7 Patent were not conventional or generic at the time of their invention, but rather  
8 required novel and non-obvious solutions to problems and shortcomings in the art  
9 at the time. The inventions claimed in the '228 Patent also cover more than just  
10 the performance of well-understood, routine or conventional activities known in  
11 the art. For example, Claim 21 of the '228 Patent is directed to a particular master  
12 communication device that can communicate with slave devices using different  
13 families of modulation techniques.

14           24. The '228 Patent claims inventions that provide technological solutions  
15 to technological problems. The written description of the '228 Patent describes in  
16 technical detail each of the elements of the claims, including a master device that  
17 can communicate with slave devices using different types of modulation methods  
18 according to particular sequences of messages.

19           25. The claims of the '228 Patent are not directed to basic tools of  
20 scientific and technological work, fundamental economic practices, or the use of an  
21 abstract mathematical formula. Rather, the claims are directed to a master  
22 communication device that can communicate with slave devices (which implement  
23 entirely different families of modulation techniques) using particular sequences of  
24 messages containing different types of modulation methods.

25           26. The '228 Patent does not preempt any abstract idea or otherwise  
26 preempt anything that would render them unpatentable. For example, one is free to  
27 practice the prior art of record. The '228 claims do not improperly inhibit further  
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1 discovery by tying up any building blocks of human ingenuity or technological  
2 work.

3 27. The '228 Patent claims cannot be practiced by a human alone.  
4 Indeed, master/slave communication systems using different types of modulation  
5 methods exist only in the context of wireless communication devices.

6 28. Upon information and belief, Broadcom has infringed directly and  
7 indirectly and continues to infringe directly and indirectly claim 21 of the '228  
8 Patent. The infringing acts include, but are not limited to, the manufacture, use,  
9 sale, importation, and/or offer for sale of products practicing any of the following  
10 Bluetooth specifications that support Enhanced Data Rate ("EDR"): Version 2.0 +  
11 EDR, Version 2.1 + EDR, Version 3.0 + HS, Version 4.0 + LE, Version 4.1,  
12 Version 4.2, or version 5 (collectively, the "Bluetooth EDR Specifications"). Such  
13 Broadcom products that support one or more of the Bluetooth EDR Specifications  
14 are hereinafter referred to as the "Broadcom Bluetooth EDR Products."

15 29. Broadcom's Bluetooth EDR Products include, but are not limited to,  
16 the: BCM2035, BCM2040, BCM2042, BCM2044, BCM2044S, BCM2045,  
17 BCM2046, BCM2047, BCM2048, BCM2049, BCM2070, BCM20702,  
18 BCM20705, BCM20705A1, BCM20705B0, BCM20730, BCM20733, BCM4329,  
19 BCM4330, BCM4313, BCM4334, BCM4335, BCM4356, BCM4358, BCM4375,  
20 BCM43012, BCM43142, BCM43241, BCM43572; and all other devices that use  
21 or permit use of Bluetooth EDR.

22 30. Broadcom's Bluetooth EDR Products satisfy the limitations of the  
23 claims of the '228 Patent. For example, each of Broadcom's Bluetooth EDR  
24 Product is a "master communication device" that can operate in the role of the  
25 master in a master-slave relationship and communicate with other Bluetooth EDR  
26 Products operating in the role of slaves. Further, each of Broadcom's Bluetooth  
27 EDR Products can transmit using at least two "different types" of modulation  
28 methods: (1) a "first" Gaussian Frequency Shift Keying (GFSK) modulation

1 method; and (2) a “second” Differential Phase Shift Keying (DPSK) modulation  
2 method. Each of Broadcom’s Bluetooth EDR Products can transmit a “first  
3 message” in the form of a Basic Rate packet (with a GFSK access code/header and  
4 a GFSK payload) and a “second message” in the form of an Enhanced Rate packet  
5 (with a GFSK access code/header and a DPSK payload). Further, the access  
6 code/header of the both messages includes “first message address data” comprising  
7 an LT\_ADDR.

8 31. Upon information and belief, at least as of the filing of this complaint,  
9 Broadcom also indirectly infringes one or more claims of the ’228 Patent by active  
10 inducement under 35 U.S.C. § 271(b). Broadcom has induced, caused, urged,  
11 encouraged, aided and abetted its direct and indirect customers to make, use, sell,  
12 offer for sale and/or import products which are interoperable according to the  
13 Bluetooth EDR Specifications and thereby infringe the ’228 Patent. Broadcom has  
14 done so by acts including, but not limited to, selling products that are interoperable  
15 according to the Bluetooth EDR Specifications to their customers; marketing the  
16 infringing capabilities of such products; and providing instructions, technical  
17 support and other support and encouragement for the use of such products. Such  
18 conduct by Broadcom was intended to and actually resulted in direct infringement,  
19 including the making, using, selling, offering for sale and/or importation of  
20 infringing Broadcom Bluetooth EDR Products in the United States. Broadcom has  
21 notice of the ’228 Patent by at least the date of this complaint but, upon  
22 information and belief, Broadcom knew of the ’228 Patent far earlier as a result of  
23 Broadcom following and/or press coverage of Rembrandt’s prior litigation  
24 asserting the ’228 Patent against Samsung, one of Broadcom’s biggest customers.  
25 Moreover, Broadcom knew of the ’228 Patent at least as early as December 3,  
26 2013, as it was served a subpoena in the *Rembrandt v. Samsung* litigation that  
27 identified the ’228 patent by its full patent number, and set forth the standards upon  
28 which Rembrandt’s infringement case was premised. Further, Broadcom

1 employee Stephen Hall was deposed in the *Rembrandt v. Samsung* litigation and  
2 attended trial in that case, where he was a witness.

3 32. The acts of infringement by Broadcom have caused damage to  
4 Rembrandt, and Rembrandt is entitled to recover from Broadcom the damages  
5 sustained by Rembrandt as a result of Broadcom's wrongful acts in an amount  
6 subject to proof at trial. Specifically, Rembrandt seeks damages for Broadcom's  
7 infringement of the '228 Patent from its date of issuance, June 4, 2013, until the  
8 date that Samsung became licensed to the '228 Patent and became obligated to  
9 mark its licensed products with the '228 Patent number, which occurred on August  
10 27, 2018.

11 33. Upon information and belief, since at least the filing of this lawsuit,  
12 Broadcom's aforementioned actions have been, and continue to be, committed in a  
13 knowing and willful manner and constitute willful infringement of the '228 Patent.

14 **INFRINGEMENT OF U.S. PATENT NO. 8,023,580**

15 34. On September 20, 2011, United States Patent No. 8,023,580 was duly  
16 and legally issued for inventions entitled "System and Method of Communication  
17 Using at Least Two Modulation Methods." The '580 Patent claims priority back  
18 through a string of continuation applications to US Application No. 09/205,205,  
19 which was filed on December 4, 1998, and to Provisional Application No.  
20 60/067,562, filed on December 5, 1997. Thus, each of the asserted claims of the  
21 '580 Patent are entitled to a priority date of December 5, 1997. The '580 Patent  
22 expired on December 4, 2018, but Rembrandt is entitled to damages for  
23 infringement that occurred before the expiration of the '580 Patent. Rembrandt  
24 was assigned the '580 Patent and continues to hold all rights and interest in the  
25 '580 Patent, including the right to recover damages for past infringement. A true  
26 and correct copy of the '580 Patent is attached as Exhibit B.

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1           35. The '580 Patent shares the same specification as the '228 Patent.  
2 Accordingly, the above statements in paragraphs 9-27 above apply equally to the  
3 '580 Patent, and Rembrandt incorporates them by reference herein.

4           36. Upon information and belief, Broadcom has infringed directly and  
5 indirectly and continues to infringe directly and indirectly claims 2 and 59 of the  
6 '580 Patent. The infringing acts include, but are not limited to, the manufacture,  
7 use, sale, importation, and/or offer for sale of Broadcom Bluetooth EDR Products  
8 that practice any of the Bluetooth EDR Specifications (as those terms are defined  
9 above for the '228 Patent).

10           37. Broadcom's Bluetooth EDR Products satisfy the limitations of the  
11 claims of the '580 Patent. For example, each of Broadcom's Bluetooth EDR  
12 Product is a "communication device" that can operate in the role of the master in a  
13 master-slave relationship and communicate with other Bluetooth EDR Products  
14 operating in the role of slaves. Further, each of Broadcom's Bluetooth EDR  
15 Products can transmit using two "different types" of modulation methods: (1) a  
16 "first" Gaussian Frequency Shift Keying (GFSK) modulation method; and (2) a  
17 "second" Differential Phase Shift Keying (DPSK) modulation method. Each of  
18 Broadcom's Bluetooth EDR Products can transmit a "first sequence" with a GFSK  
19 access code/header whose LT\_ADDR and TYPE fields indicate the modulation  
20 method of a "second sequence" comprising a packet payload. Depending on the  
21 "first sequence," the "second sequence" will have either a GFSK payload (in the  
22 case of a Basic Rate packet) or a DPSK payload (in the case of an Enhanced Rate  
23 packet). Further, after transmitting an Enhanced Rate packet, each of Broadcom's  
24 Bluetooth EDR Products can subsequently transmit a Basic Rate packet with a  
25 payload communicating using the first GFSK modulation method.

26           38. Upon information and belief, at least as of the filing of this complaint,  
27 Broadcom also indirectly infringes one or more claims of the '580 Patent by active  
28 inducement under 35 U.S.C. § 271(b). Broadcom has induced, caused, urged,



1 encouraged, aided and abetted its direct and indirect customers to make, use, sell,  
2 offer for sale and/or import products which are interoperable according to the  
3 Bluetooth EDR Specifications and thereby infringe the '580 Patent. Broadcom has  
4 done so by acts including but not limited to selling products that are interoperable  
5 according to the Bluetooth EDR Specifications to their customers; marketing the  
6 infringing capabilities of such products; and providing instructions, technical  
7 support and other support and encouragement for the use of such products. Such  
8 conduct by Broadcom was intended to and actually resulted in direct infringement,  
9 including the making, using, selling, offering for sale and/or importation of  
10 infringing Broadcom Bluetooth EDR Products in the United States. Broadcom has  
11 notice of the '580 Patent by at least the date of this complaint but, upon  
12 information and belief, Broadcom knew of the '580 Patent far earlier as a result of  
13 Broadcom following and/or press coverage of Rembrandt's prior litigation  
14 asserting the '580 Patent against Samsung, one of Broadcom's biggest customers.  
15 Moreover, Broadcom knew of the '580 Patent at least as early as December 3,  
16 2013, as it was served a subpoena in the *Rembrandt v. Samsung* litigation that  
17 identified the '580 patent by its full patent number, and set forth the standards upon  
18 which Rembrandt's infringement case was premised.

19         39. The acts of infringement by Broadcom have caused damage to  
20 Rembrandt, and Rembrandt is entitled to recover from Broadcom the damages  
21 sustained by Rembrandt as a result of Broadcom's wrongful acts in an amount  
22 subject to proof at trial. Specifically, Rembrandt seeks damages for Broadcom's  
23 infringement of the '580 Patent from the date by which Rembrandt disclaimed  
24 claims 32, 34, 40, 43, and 44, which occurred on December 4, 2014, until the date  
25 that Samsung became licensed to the '580 Patent and became obligated to mark its  
26 licensed products with the '580 Patent number, which occurred on August 27,  
27 2018.

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1           40. Upon information and belief, since at least the filing of this lawsuit,  
2 Broadcom's aforementioned actions have been, and continue to be, committed in a  
3 knowing and willful manner and constitute willful infringement of the '580 Patent.

4                           **REMBRANDT AND THE PATENTS-IN-SUIT**

5           41. Rembrandt has diligently protected the inventions in the patents-in-  
6 suit. For example, Rembrandt sought to obtain licenses from Samsung (one of  
7 Broadcom's biggest customers) and BlackBerry (another of Broadcom's  
8 customers), and it was engaged in litigation against both Samsung and Blackberry,  
9 including a jury trial against Samsung and a subsequent appeal brought by  
10 Samsung after the jury verdict in favor of Rembrandt. Ultimately, both Samsung  
11 and BlackBerry took a license and/or a release to the '228 and '580 Patents.  
12 Before Samsung obtained a license, a jury found Samsung liable for infringing the  
13 '228 and '580 Patents based on Samsung's use of Bluetooth EDR, and awarded  
14 past-damages of \$15.7 million, which constituted a royalty rate of approximately 5  
15 ½ cents per infringing unit. The Federal Circuit affirmed the finding that  
16 Bluetooth EDR infringed the '228 and '580 Patents.

17           42. The value of the patents-in-suit is further demonstrated by their  
18 repeated success against validity challenges. The claims were construed in the  
19 prior litigation after a *Markman* hearing. After a week-long trial, a jury found that  
20 all the asserted claims were valid. The Federal Circuit affirmed that finding that  
21 the '228 and '580 Patents were valid and infringed by Samsung, and that the claim  
22 construction was legally correct. Moreover, the United States Patent & Trademark  
23 Office refused to even institute *inter partes* reviews against claim 21 of the '228  
24 Patent and claims 2 and 59 of the '580 Patent. And the United States Patent &  
25 Trademark Office recently confirmed the validity of claim 21 of the '228 Patent  
26 and claims 2 and 59 of the '580 Patent in the course of *ex parte* reexamination  
27 challenges instituted by Samsung. In sum, the validity of the asserted claims of the  
28 '228 and '580 Patents has been reconfirmed in the course of a jury trial and

1 subsequent appeal, and in post-trial proceedings at the U.S. Patent & Trademark  
2 Office.

3 **JURY DEMAND**

4 43. Rembrandt demands a trial by jury on all issues so triable.

5 **PRAYER FOR RELIEF**

6 WHEREFORE, Rembrandt requests entry of judgment in its favor and  
7 against Broadcom as follows:

- 8 a) A declaration that Broadcom has infringed and is infringing U.S.  
9 Patent Nos. 8,457,228 and 8,023,580;
- 10 b) A declaration that Broadcom's infringement was willful;
- 11 c) An award of damages to Rembrandt arising out of Broadcom's  
12 infringement of U.S. Patent Nos. 8,457,228 and 8,023,580, including  
13 enhanced damages pursuant to 35 U.S.C. § 284, together with  
14 prejudgment and post-judgment interest, in an amount according to  
15 proof;
- 16 d) An award of attorneys' fees pursuant to 35 U.S.C. § 285 or as is  
17 otherwise permitted by law; and,
- 18 e) Granting Rembrandt its costs and further relief as the Court may deem  
19 just and proper.
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Dated: April 15, 2019

Respectfully submitted,

/s/ David M. Stein

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