

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

**CONVERSANT WIRELESS LICENSING
S.À R.L.**

Plaintiff,

v.

**LG ELECTRONICS, INC. and
LG ELECTRONICS U.S.A., INC.**

Defendants.

Case No. 2:19-cv-00142

JURY TRIAL DEMANDED

**CONVERSANT WIRELESS LICENSING S.À R.L.'S
COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff, Conversant Wireless Licensing S.à r.l. (“Conversant Wireless”) brings this action and makes the following allegations of patent infringement for its Complaint relating to U.S. Patent Nos. 6,633,536 and 7,804,850 (the “Patents-in-Suit”), against Defendants LG Electronics, Inc. and LG Electronics U.S.A., Inc. (collectively, “LG” or “Defendant”):

THE PARTIES

1. Plaintiff Conversant Wireless is a corporation duly organized and existing under the laws of the Grand Duchy of Luxembourg, having a principal place of business at 12, Rue Jean Engling, L-1466 Luxembourg. Until July 20, 2017, Conversant Wireless was known by the company name “Core Wireless Licensing S.à r.l.” Conversant Wireless has a regular and established place of business and does business relating to the Patents-in-Suit in connection with its wholly-owned subsidiary, Conversant Wireless Licensing Ltd. (“Conversant Wireless USA”), a corporation duly organized and existing under the laws of the State of Texas, having a principal place of business at 5601 Granite Parkway, Suite 1300, Plano, TX 75024, which is within the Eastern District of Texas. All pertinent documents and discovery relevant to this matter either reside at Conversant Wireless USA’s local address or will be produced at that address. Conversant Wireless is the owner of record of the patents involved in this action.

2. Defendant LG Electronics, Inc. is a corporation organized and existing under the laws of Korea with its principal place of business at LG Twin Towers, 128 Yeoui-daero, Yeongdungpo-gu, Seoul 150-721, Republic of Korea. On information and belief, this Defendant may be served with process at its principal place of business. Defendant LG Electronics, Inc. designs, makes, and sells many different products throughout the world for consumer use, including wireless mobile communications devices. Defendant LG Electronics, Inc. is a parent corporation of Defendant LG Electronics U.S.A., Inc.

3. Defendant LG Electronics U.S.A., Inc. is a wholly-owned subsidiary of Defendant LG Electronics, Inc. and is a Delaware corporation with a regular and established place of business in the Eastern District of Texas at 2151-2155 Eagle Parkway, Fort Worth, Texas 76177. Defendant LG Electronics U.S.A., Inc. is registered to do business in the State of Texas and has been since at least April 3, 1984. Defendant LG Electronics U.S.A., Inc. may be served with process at its registered agent for service of process at United States Corporation Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701. Defendant LG Electronics U.S.A., Inc. distributes wireless mobile communication devices to customers throughout the United States. On information and belief, Defendant LG Electronics U.S.A., Inc. imports such wireless communication devices from its parent corporation Defendant LG Electronics, Inc. in South Korea, where they are designed and made.

JURISDICTION

4. This action arises under the patent laws of the United States. Accordingly, this Court has subject matter jurisdiction over the patent claims pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over the Defendants pursuant to due process or the Texas Long Arm Statute because the Defendants have established minimum contacts with the Eastern District of Texas. The Defendants manufacture (directly or indirectly through third party manufacturers) and/or assemble products that are and have been used, offered for sale, sold, and purchased in the Eastern District of Texas. The Defendants, directly and/or through their distribution network, place wireless mobile communication devices within the stream of commerce, which stream is directed at this district, with the knowledge that those products will be sold and offered for sale in the State of Texas, including the Eastern District of Texas. The

Defendants' business activities in the Eastern District of Texas are regular and persistent, and through these activities the Defendants derive substantial ongoing revenue and business advantages. Defendant LG Electronics, Inc. has coordinated with and/or directed its wholly-owned subsidiary Defendant LG Electronics U.S.A., Inc. to establish and maintain the Defendants' largest distribution point in the United States of America within the Eastern District of Texas at the regular and established place of business located at 2151-2155 Eagle Parkway, Fort Worth, Texas 76177, which upon information and belief is a 1.2 million-square-foot distribution hub. Defendants also employ individuals in the Dallas/Fort Worth area, including within the County of Denton, and elsewhere in the State of Texas. Defendants have purposefully availed themselves of and voluntarily submitted to the laws of the State of Texas by, for example, commencing litigation within the State of Texas, maintaining offices and facilities in the Eastern District of Texas and the State of Texas, and by LG Electronics U.S.A., Inc. registering with the Texas Secretary of State's Office to do business in the State of Texas and appointing a registered agent for service of process in the State of Texas. Defendants, directly and through subsidiaries or intermediaries, have committed and continue to commit acts of infringement in this District by, among other things, making, using, importing, offering for sale, and/or selling products that infringe the Patents-in-Suit, and inducing others to infringe the Patents-in-Suit. The exercise of personal jurisdiction over the Defendants is appropriate under the applicable jurisdictional statutes and would not offend traditional notions of fair play and substantial justice.

VENUE

6. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 (b) – (d) and 1400(b) because the Defendants maintain a regular and established place of business in this District, including by maintaining a physical place of business located at 2151-2155 Eagle

Parkway, Fort Worth, Texas 76177, and the Defendants have committed, and continue to commit, acts of infringement within this District, including providing wireless mobile communication devices that are used, offered for sale, sold, and have been purchased in the State of Texas, including in the Eastern District of Texas.

FACTUAL ALLEGATIONS

I. PATENTS-IN-SUIT

7. On October 14, 2003, United States Patent No. 6,633,536 (“the ’536 Patent”) was duly and legally issued for inventions titled “*Signalling In A Digital Mobile Communications System.*” Conversant Wireless owns the ’536 Patent and holds the right to sue and recover damages for infringement thereof. The Defendants had actual notice of the ’536 Patent no later than March 6, 2013. A true and correct copy of the ’536 Patent is attached hereto as Exhibit 1.

8. On September 28, 2010, United States Patent No. 7,804,850 (“the ’850 Patent”) was duly and legally issued for inventions titled “*Slow MAC-E For Autonomous Transmission In High Speed Uplink Packet Access (HSUPA) Along With Service Specific Transmission Time Control.*” Conversant Wireless owns the ’850 Patent and holds the right to sue and recover damages for infringement thereof. The Defendants had actual notice of the ’850 Patent no later than May 23, 2012. A true and correct copy of the ’850 Patent is attached hereto as Exhibit 2.

II. BACKGROUND

9. In 2011, Conversant Wireless acquired a portfolio of close to 2,000 patents and patent applications previously owned by Nokia Corporation (“Nokia”), obtaining all right, title, and interest in, to and under the patents and patent applications in the portfolio, including without limitation the right to sue for past, present, or future infringements of the patents and patent applications acquired. By reason of the aforesaid, Conversant Wireless has, since 2011, been the

owner of the '536 and '850 patents (the "Patents-in-Suit") and the right to enforce them. Before Conversant Wireless became the owner of the Patents-in-Suit, the Patents-in-Suit were originally invented by, procured by, or assigned to Nokia.

10. Nokia is and has been a member of the European Telecommunications Standards Institute ("ETSI"), a non-profit Standard Setting Organization headquartered in France. Conversant and/or Nokia have made declarations in respect of the Patents-in-Suit to ETSI, one of the organizational partners of the Third Generation Partnership Project ("3GPP") that organizes and maintains the development of telecommunications standards applicable to mobile communications products, devices, and services. Telecommunications standards applicable to wireless mobile communications devices include second generation technologies such as Global System for Mobile ("GSM") and GSM Packet Radio Service ("GPRS"), third generation technologies such as Universal Mobile Telecommunications System ("UMTS") and High Speed Packet Access ("HSPA"), and fourth generation technologies such as Long-Term Evolution ("LTE"). With respect to the Patents-in-Suit, the declarations and affirmations made by Conversant Wireless and/or Nokia include a provision to the effect that the declarant is prepared to grant irrevocable licenses to the Patents-in-Suit on fair, reasonable, and non-discriminatory terms ("FRAND"). Conversant Wireless has specifically agreed to grant a license to the Patents-in-Suit under FRAND terms to willing licensees who negotiate in good faith. For example, on July 22, 2014, Conversant Wireless made a declaration to ETSI to the effect that it is willing and prepared to grant irrevocable licenses on terms and conditions that are FRAND with respect to the patents that it owns that cover functionality that has been implemented in mobile communications devices that is in compliance with the requirements and technical specifications of the mobile communications standards that are promulgated by and maintained by 3GPP.

III. CONVERSANT WIRELESS'S ATTEMPTS TO LICENSE THE DEFENDANTS

11. Conversant Wireless became the owner of the Patents-in-Suit in September 2011. During the subsequent three years, Conversant Wireless engaged LG attempting to negotiate FRAND license terms with LG related to Conversant Wireless's patents acquired from Nokia, including the Patents-in-Suit. In the course of at least nine in-person technical and business meetings, Conversant Wireless presented LG with infringement allegations and made several licensing offers on FRAND terms. LG refused to make a single counteroffer for a license to any of Conversant Wireless's patents, including the Patents-in-Suit, related to mobile telecommunications products that implement functionality described in the technical specifications relating to the communications standards promulgated by ETSI and 3GPP.

12. As soon as Conversant Wireless became the owner in September 2011 of the Patents-in-Suit, Conversant Wireless contacted LG representatives offering an agreement whereby the parties would be prohibited from initiating any lawsuit or any other legal or administrative action worldwide for approximately six months to insure the parties were free to negotiate a portfolio license in peace and good faith. LG rejected Conversant Wireless's offer within a week.

13. On March 26, 2012, Conversant Wireless sent a formal notice letter to one of LG's legal representatives in the United States, Mr. Roger S. Borovoy. That letter identified seven patents LG is believed to infringe and listed exemplary LG products infringing each patent claim identified. Upon information and belief, Mr. Borovoy passed the letter on to LG on or around March 26, 2012. At Mr. Borovoy's request, on April 18, 2012, Conversant Wireless sent a substantively identical notice letter to Mr. JungSheek Juhn, LG's Intellectual Property Director in Korea. Both letters requested a meeting between the parties.

14. On May 23, 2012, nine LG and Conversant Wireless representatives met in person at LG in Seoul, South Korea. At that meeting, Conversant Wireless's representatives presented infringement claim charts concerning seven patents identified in the notice letters. Conversant Wireless also provided LG with infringement claim charts for six additional patents, including the '850 Patent asserted herein.

15. On August 29, 2012, eleven of the parties' representatives again met in person at LG in Seoul, South Korea. The parties continued technical discussions concerning the patents Conversant Wireless had identified, and at the same meeting Conversant Wireless confirmed that it would honor its ETSI/FRAND licensing obligations.

16. On November 29, 2012, eleven of the parties' representatives again met in person at LG in Seoul, South Korea and continued the parties' technical presentations on the 13 patents previously identified, including the '850 Patent asserted herein.

17. On March 6, 2013, ten of the parties' representatives met in person in Redwood City, California. Conversant Wireless presented infringement claim charts on six additional patents, including the '536 Patent asserted herein. Conversant Wireless also informed LG that it had offered to license its standard-essential patent portfolio to Apple at a FRAND rate. Conversant Wireless then offered to license its standard-essential patent portfolio to LG at the same FRAND rate. LG did not agree to take a license.

18. On July 18, 2013 and September 26, 2013, the parties' representatives met face-to-face for a fifth and sixth time at LG in Seoul, South Korea to continue discussing technical and business issues. LG did not provide any counteroffer during either meeting or agree to take a license.

19. On December 11, 2013, the parties' representatives met face-to-face for a seventh

time in Washington, D.C. At that meeting, Conversant Wireless made a second licensing offer at a FRAND rate to LG based upon a methodology different from Conversant Wireless's first offer, but fully consistent with the principles of FRAND licensing. LG did not accept the offer, provide any counteroffer, or agree to take a license.

20. On February 14, 2014, the parties' representatives met in person for an eighth time at LG in Seoul, South Korea to continue their business negotiations. LG indicated that it was not in a position to provide any counteroffer and refused to provide one.

21. On June 19, 2014, the parties' representatives met for a ninth time at LG in Seoul, South Korea. Prior to the meeting, LG represented to Conversant Wireless's then-CEO, Mr. John Lindgren, that LG would make its first monetary offer to take a license at the meeting. However, the meeting in Seoul lasted for less than an hour and LG made it clear that it had no intention of making any counteroffer for a license to Conversant Wireless's patents, including to the patents-in-suit.

22. In a letter dated August 25, 2014, LG confirmed having received two offers from Conversant Wireless for a license on the whole of the portfolio of Conversant Wireless's standard-essential patents. Consistent with LG's actions during the June 19, 2014 meeting, the letter still made no counteroffer.

23. During the nearly three years of technical and business meetings between Conversant Wireless and LG, LG repeatedly engaged in tactics and made requests intended to stall negotiations, including for example, indicating that LG's representatives were not available several months in advance of a proposed meeting, and generally seeking a maximum interval between successive meetings. Conversant Wireless accommodated LG's requests and delays to the best of its ability.

24. Following these nearly three years of meetings, Conversant Wireless brought suit to enforce its intellectual property rights against LG in the Eastern District of Texas in 2014. This litigation and its outcomes are described in detail below, including when in September 2016 a jury found that LG had willfully infringed Conversant Wireless's patents at issue in the litigation.

25. On February 15, 2017, Conversant Wireless representatives met with LG and its representatives in South Korea and extended a revised worldwide offer to the whole of the portfolio of Conversant Wireless's standard-essential patents with respect to LG's smartphones, cellular tablets, and feature phones. LG did not counteroffer.

26. On December 6, 2017, Conversant Wireless presented to LG a revised worldwide offer to the whole of the portfolio of Conversant Wireless's standard-essential patents that was determined based on the methodology for determining a worldwide FRAND license used by Mr. Justice Birss in the *Unwired Planet v. Huawei* decision of April 5, 2017.¹ LG did not counteroffer.

27. LG has provided Conversant Wireless no compensation in return for a license to use the Patents-in-Suit.

IV. CONVERSANT WIRELESS'S LITIGATION WITH THE DEFENDANTS IN THE EASTERN DISTRICT OF TEXAS

28. On September 26, 2014, Conversant Wireless (then known by its former company name "Core Wireless Licensing S.à r.l.") filed a Complaint in the Eastern District of Texas alleging patent infringement by the Defendants with respect to certain of the Defendants' wireless mobile communication products that had been released as of that time.² That Complaint included

¹ *Unwired Planet International Ltd. v. Huawei Technologies Co. Ltd. & Anor*, 2017 EWHC 711 (Pat), decided April 5, 2017 (*see also* confidential version 2017 EWHC 705 (Pat)), *affirmed* 2018 EWCA Civ 2344, decided October 23, 2018 (dismissing Huawei's appeal).

² Core Wireless Licensing S.à r.l.'s Complaint for Breach of Contract, Declaratory Relief, and Patent Infringement, September 26, 2014 (No. 2:14-cv-912, Dkt. No. 1).

allegations that the Defendants had committed and continued to commit acts of infringement with respect to the Patents-in-Suit. That Complaint also included allegations that the Defendants' acts of infringement had been and continue to be willful and sought enhanced damages pursuant to 35 U.S.C. § 284 as well as attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise allowed by law, pre-judgment and post-judgment interest as allowed by law, and costs of suit, among other relief.

29. From September 12, 2016 to September 16, 2016, Conversant Wireless and the Defendants³ conducted a trial regarding Conversant Wireless's assertion that the Defendants have committed acts of infringement with respect to the Patents-in-Suit. During the trial, the jury heard substantial evidence that LG's devices implement functionality that causes those products to infringe Claim 19 of the '536 Patent and Claim 21 of the '850 Patent.

30. This evidence at trial of LG's infringement included documentation establishing that LG's accused products include relevant components as required by the claims of the Patents-in-Suit, including, for example, a memory and a transceiver.⁴ The presence of these components was not disputed at trial.⁵

31. This evidence at trial of LG's infringement also included documentation and testimony by Conversant Wireless's expert witnesses establishing that LG's products adhere to mandatory technical specifications promulgated with respect to telecommunications standards by 3GPP, and that LG's products infringe the Patents-in-Suit by implementing mandatory features

³ At trial, the Defendants were Defendant LG Electronics, Inc. and the LG-affiliate LG Electronics MobileComm U.S.A., Inc. On September 5, 2018, the Court granted the Defendants' Unopposed Motion to Substitute Named Defendants and Amend Caption, pursuant to which Defendant LG Electronics U.S.A., Inc. was substituted as the defendant in the -912 action in place of LG Electronics MobileComm U.S.A., Inc. This Complaint names as Defendants both Defendant LG Electronics, Inc. and Defendant LG Electronics U.S.A., Inc.

⁴ See, e.g., -912 Trial Transcript, 9/13/16 Afternoon Session at 7:24-9:11, 14:4-24 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

⁵ See -912 Trial Transcript, 9/15/16 Morning Session at 34:14-16, 35:5-10 (No. 2:14-cv-912, Dkt. No. 40) (testimony by LG expert Mr. Mark Lanning).

in accordance with the relevant technical specifications. With respect to Claim 19 of the '536 Patent, Conversant Wireless's expert witness Dr. Richard Wesel testified that the LG GSM products he analyzed implement the GSM RATSCCH message detection functionality in accordance with the mandatory GSM technical specifications admitted into evidence and therefore infringe.⁶ With respect to Claim 21 of the '850 Patent, Conversant Wireless's expert witness Dr. Charles Jackson testified that the LG HSPA products he analyzed implement the UMTS HSPA Continuous Packet Connectivity UL DRX functionality in accordance with mandatory UMTS HSPA technical specifications admitted into evidence and therefore infringe.⁷ With respect to both the GSM RATSCCH functionality and the UMTS HSPA CPC UL DRX functionality, the evidence at trial also established that telecommunications carriers that purchase LG's phones require LG to implement these specific features as described in the technical specifications promulgated by 3GPP.⁸

32. The evidence at trial of LG's infringement also included documentation and testimony by Conversant Wireless's expert witnesses establishing that LG's products implement the infringing functionalities in the source code included in each products' baseband processor chip. Conversant Wireless expert witness Dr. Wesel testified to evidence establishing that each of the LG GSM products he analyzed implement the GSM RATSCCH message detection functionality in source code in an infringing manner and possess the hardware and software

⁶ -912 Trial Transcript, 9/12/16 Afternoon Session at 123:22-128:24, 130:1-3; 9/13/16 Morning Session at 21:13-16, 23:21-24:9, 30:21-25; 9/15/16 Afternoon Session at 32:12-39:9 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

⁷ -912 Trial Transcript, 9/15/16 Afternoon Session at 82:16-24 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson); -912 Trial Transcript, 9/15/16 Morning Session at 35:1-4 (No. 2:14-cv-912, Dkt. No. 40) (testimony by LG expert Mr. Mark Lanning agreeing that LG's products accused of infringing the '850 Patent support the CPC feature).

⁸ -912 Trial Transcript, 9/12/16 Afternoon Session at 130:9-131:11 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel regarding GSM RATSCCH functionality); -912 Trial Transcript, 9/13/16 Afternoon Session at 18:10-19:18 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson regarding UMTS HSPA CPC functionality).

components to perform it, and therefore LG's GSM products infringe Claim 19 of the '536 Patent.⁹ And Conversant Wireless's expert witness Dr. Jackson testified to evidence establishing that the LG products he analyzed each implement the HSPA Continuous Packet Connectivity UL DRX functionality in source code in an infringing manner and possess the hardware and software components to perform it, and therefore LG's HSPA products infringe Claim 21 of the '850 Patent.¹⁰

33. During the trial, evidence was admitted establishing the history of Conversant Wireless's meetings and licensing discussions with LG prior to commencement of litigation. This evidence showed that during the pre-suit licensing discussions and negotiations, LG had claimed its products did not support the CPC UL DRX feature relevant to the accusation of infringement of the '850 Patent.¹¹ With respect to the entirety of the several years of pre-suit licensing negotiations between the parties, there was no evidence presented at trial that LG ever made a counteroffer or offer to license the Patents-in-Suit or any of Conversant Wireless's patents.¹²

34. On September 16, 2016, at the conclusion of the trial, the jury returned a verdict finding that Claim 19 of the '536 Patent and Claim 21 of the '850 Patent were not invalid and were infringed by the Defendants. The jury awarded Conversant Wireless damages in the amount of \$2,280,000 and found that LG's infringement was willful. On November 2, 2016, the Court entered final judgment holding (1) that LG infringed Claim 19 of the '536 Patent and Claim 21 of the '850 Patent; (2) that Claim 19 of the '536 Patent and Claim 21 of the '850 Patent were not

⁹ -912 Trial Transcript, 9/12/16 Afternoon Session at 103:19-108:14, 125:3-9; 9/13/16 Morning Session at 5:15-22, 7:18-8:5, 9:2-6, 11:11-12:4, 25:3-6, 25:23-26:17, 31:20-36:5 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

¹⁰ -912 Trial Transcript, 9/15/16 Afternoon Session at 53:10-55:25, 62:8-23 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

¹¹ Memorandum Opinion and Order, September 27, 2018 (No. 2:14-cv-912, Dkt. No. 677 at 10) (citing Trial Ex. PTX-1689).

¹² Memorandum Opinion and Order, September 27, 2018 (No. 2:14-cv-912, Dkt. No. 677 at 14).

invalid; (3) that Conversant Wireless be awarded \$2,280,000 in damages; (4) that LG's infringement was willful; and (5) that Conversant Wireless be awarded \$456,000 as enhanced damages pursuant to LG's willful infringement.¹³

35. On November 30, 2016, LG filed a Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Non-Infringement),¹⁴ as well as a Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Invalidity).¹⁵ Subsequently, on July 19, 2018, the Court denied LG's motion with respect to non-infringement,¹⁶ and on September 25, 2018, the Court denied LG's motion with respect to invalidity.¹⁷

36. On November 30, 2016, LG filed a Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Damages), as well as a Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Willfulness and Enhanced Damages).¹⁸ Subsequently, on September 27, 2018, the Court granted LG's motion to set aside the jury's verdict on damages and ordered a new trial on damages.¹⁹ The Court also denied LG's motion to set aside the jury's verdict on willfulness and the Court's resulting determination of enhanced damages, agreeing to reconsider the level of enhanced damages following the conclusion of the new trial on damages. The new jury trial on damages

¹³ Final Judgment, November 2, 2016 (No. 2:14-cv-912, Dkt. No. 47).

¹⁴ LG's Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Non-Infringement) (Filed Under Seal) (No. 2:14-cv-911 lead case, No. 2:14-cv-912 consolidated member case, Dkt. No. 617).

¹⁵ LG's Renewed Motion for Judgment as a Matter of Law, and in the Alternative for a New Trial, in the -912 Case (Invalidity) (No. 2:14-cv-911 lead case, No. 2:14-cv-912 consolidated member case, Dkt. No. 616).

¹⁶ Memorandum Opinion and Order (Sealed), July 19, 2018 (No. 2:14-cv-911 lead case, No. 2:14-cv-912 consolidated member case, Dkt. No. 666).

¹⁷ Memorandum Opinion and Order, September 25, 2018 (No. 2:14-cv-911 lead case, No. 2:14-cv-912 consolidated member case, Dkt. No. 676).

¹⁸ Defendants' Renewed Motion for Judgment as a Matter of Law, and for a New Trial, in the -912 Case (Damages) (No. 2:14-cv-911, Dkt. No. 612) and Defendants' Renewed Motion for Judgment as a Matter of Law, and for a New Trial, in the -912 Case (Willfulness and Enhanced Damages) (No. 2:14-cv-911, Dkt. No. 614).

¹⁹ Memorandum Opinion and Order, September 27, 2018 (No. 2:14-cv-912, Dkt. No. 677).

commenced on February 25, 2019, and on February 27, 2019, the jury returned a unanimous verdict finding that the Defendants owed a reasonable royalty of \$1,326,225.40 for the previously found infringement of the '850 Patent and \$2,169,486.40 for the previously found infringement of the '536 Patent, such sums being jointly and severally due from Defendants LG Electronics, Inc. and LG Electronics U.S.A., Inc.²⁰

37. On March 7, 2019, the Court entered final judgment awarding damages jointly and severally against the Defendants in favor of Conversant Wireless in the sum of \$3,495,711.80.²¹ Further, the Court's final judgment provided that "[i]n light of the prior jury verdict of willful infringement and consistent with the Court's prior enhancement of 20% after the earlier trial herein, Plaintiff Core Wireless is hereby awarded enhanced damages against LG and shall accordingly have and recover, jointly and severally, from LG the additional sum of \$699,142.36, as an appropriate enhancement...Core Wireless is held to be the prevailing party, and as the prevailing party, Core Wireless shall recover its costs, jointly and severally, from LG."

38. To date, the Defendants have provided Conversant Wireless no compensation in return for a license to use the Patents-in-Suit.

V. DEFENDANTS' PRODUCTS PROVEN TO INFRINGE IN THE PRIOR CASE INVOLVING THE PATENTS-IN-SUIT (NO. 2:14-CV-912)

39. The damages awarded to Conversant Wireless pursuant to the Court's final judgment entered March 7, 2019 (No. 2:14-cv-912, Dkt. No. 130) only represent compensation with respect to Defendants' products that were both (i) identified and accused of infringing the Patents-in-Suit as of January 16, 2015, when in the prior case Conversant Wireless made its

²⁰ Jury Verdict, February 27, 2019 (No. 2:14-cv-912, Dkt. No. 120).

²¹ Final Judgment, March 7, 2019 (No. 2:14-cv-912, Dkt. No. 130).

disclosure of accused instrumentalities in accordance with Patent Rule 3-1(b) of this District,²² and (ii) proven to infringe during the jury trial that ended on September 16, 2016. Products released by the Defendants after Conversant Wireless's disclosure of accused instrumentalities on January 16, 2015 were not included in the prior case involving the Patents-in-Suit (No. 2:14-cv-912). Accordingly, Conversant Wireless has yet to obtain a judgment for an amount of damages to compensate Conversant Wireless for the Defendants' acts of infringement with respect to products released after January 16, 2015.

40. The following represents a complete list of Defendants' products that were proven to infringe the '536 Patent in the -912 case, sorted alphanumerically by model number (collectively, the "Products Proven To Infringe the '536 Patent in the -912 Case"):

Products Proven To Infringe the '536 Patent in the -912 Case (154 total)					
306G	CU575	D959TS	GU292	P504	V909
440G	CU720	E739BK	GU292A	P505	V909DW
530G	CU720A	E739BKDU	GU295	P506GO	VS870
A340	CU720C	E739KW	GU295A	P506GO1	VS870DU
A380	CU915	E960	GU295P	P509	VS930
AS323	CU920	E960W	GW820	P509BK	VS930DU
B450	D321	E970	H631TN	P509BKP	VS950
B450GO	D415RD	E970W	G631TNGO 1	P509MZ	VS950DU
B450GO1	D415RDGO	E980	H740	P509MZDU	VS980
B450GO2	D415RDGO 1	GD570AQ	H810	P509MZP	VS980DU
B460	D415RDGO 2	GD570AQD	H811LB	P509TN	VS980DW

²² Plaintiff Core Wireless Licensing S.à r.l.'s Disclosure of Asserted Claims and Infringement Contentions Pursuant to P.R. 3-1 and Document Production Accompanying Disclosure Pursuant to P.R. 3-2, dated January 16, 2015, identified Defendants' wireless mobile communication products accused of infringing the Patents-in-Suit.

C395	D500BK	GD570AQP	H811VK	P509TNDU	VS985
C410	D500BKGO 1	GD570PK	L31L	P509TNP	VS985B
C729DW	D520BK	GD570PKD	L40G	P659BK	VS985DU
C729DWD U	D631	GD570PKP	LS980	P659BKGO	VS985K
C800DG	D725	GD570TG	LS980Z	P659BKGO 1	VS985R
C800DGDU	D800	GD570TGD U	LS991	P659TN	VS985RDU
C800TKGO	D801	GR700	LS995	P870	VS985W
C800VL	D801BK	GR700P	MS323	P930	VS985WD U
C900	D801WH	GS505GI	MS323WG	P999	VS985WK
C900D	D820	GS505GID	MS395	P999BN	VS986
C900P	D820BK	GS505GIP	MS450	P999DW	VS986B
CB630	D850	GS505NV	MS500	P999DWDU	VS986LD
CT810	D851TN	GS505NVD	MS631	P999WA	VS986W
CU405	D851WH	GS505NVP	MS631WH	US991	-
CU515	D950	GT950	MS659	V410	-

41. The following represents a complete list of Defendants' products that were proven to infringe the '850 Patent in the -912 case, sorted alphanumerically by model number (collectively, the "Products Proven To Infringe the '850 Patent in the -912 Case"):

Products Proven To Infringe the '850 Patent in the -912 Case (154 total)					
230	CU720C	E960	G631TNGO 1	P509	VS750DU
306G	CU915	E960W	H740	P509BK	VS870
A340	D321	E970	H810	P509BKP	VS870DU
A380	D415RD	E970W	H811LB	P509MZ	VS930

AS323	D415RDGO	E980	H811VK	P509MZDU	VS930DU
B450	D415RDGO 1	GD570AQ	L40G	P509MZP	VS950
B450GO	D415RDGO 2	GD570AQD	LS980	P509TN	VS950DU
B450GO1	D500BK	GD570AQP	LS980Z	P509TNDU	VS980
B450GO2	D500BKGO 1	GD570PK	LS990	P509TNP	VS980DU
C395	D520BK	GD570PKD	LS990DU	P659BK	VS980DW
C410	D631	GD570PKP	LS991	P659BKGO	VS985
C729DW	D725	GD570TG	LS995	P659BKGO 1	VS985B
C729DWD U	D800	GD570TGD U	LX370	P659TN	VS985DU
C800DG	D801	GR700	LX610	P870	VS985K
C800DGDU	D801BK	GR700P	MS323	P930	VS985R
C800TKGO	D801WH	GS505GI	MS323WG	P999	VS985RDU
C800VL	D820	GS505GID	MS395	P999BN	VS985W
C900	D820BK	GS505GIP	MS450	P999DW	VS985WD U
C900D	D850	GS505NV	MS500	P999DWDU	VS985WK
C900P	D851TN	GS505NVD	MS631	P999WA	VS986
CB630	D851WH	GS505NVP	MS631WH	US991	VS986B
CT810	D950	GT950	MS659	UX220	VS986LD
CU515	D959TS	GU292	P504	V410	VS986W
CU575	E739BK	GU292A	P505	V909	VX10000S
CU720	E739BKDU	GW820	P506GO	V909DW	-
CU720A	E739KW	H631TN	P506GO1	VS750	-

VI. DEFENDANTS' ACCUSED PRODUCTS PURSUANT TO THIS COMPLAINT

42. Since January 16, 2015, the Defendants have committed and continue to commit further acts of infringement, including by making, importing, selling, or offering for sale additional infringing wireless mobile communication products that were not included in the prior case between Conversant Wireless and the Defendants (No. 2:14-cv-912). The present Complaint alleges that certain of the Defendants' wireless mobile communication products not included in the -912 case and not yet in existence as of January 16, 2015 infringe the Patents-in-Suit because these products contain hardware and software to perform the functionality proven to cause LG's products to infringe during the prior case (No. 2:14-cv-912).

43. With respect to the '536 Patent, this Complaint alleges infringement as to the Defendants' wireless mobile communication products that contain the hardware and software that implements RATSCCH message detection functionality of GSM that as implemented in LG's phones has been proven to cause LG's products to infringe Claim 19 of the '536 Patent in the prior case (No. 2:14-cv-912). The following represents a non-exhaustive list of this subset of Defendants' products, sorted newest to oldest according to LG's website, excluding products postdating the expiration of the '536 Patent, and excluding the Products Proven To Infringe the '536 Patent in the -912 Case (collectively, the "GSM Products"²³): H931 Black, H931 Silver, LS998U, H932 Silver, H932U, VS996 Silver, US998U Unlocked, US998U Black, US998 Silver, US998 Unlocked, US998 LRA, AS998 ACG, US700 Unlocked, US997 Unlocked, US997U Unlocked, US700 Amazon, US997 Amazon, US997U, US997U USC, US997 Black Unlocked, US997 Platinum Unlocked, VS988 Black, VS988 Platinum, AS993 Black, AS993 Platinum, H871 Black, H871 Platinum, H871S, H872 Black, H872 Platinum, LS993 Black, LS993 Platinum, US997 Black, US997 Black LRA, US997 Platinum, US997 Platinum LRA, US701,

²³ Source: <http://www.lg.com/us/cell-phones>

H700 Black, H700 Chocolate Brown, LS777 Boost, LS777 Virgin, MP450 MetroPCS, MP450KT MetroPCS, TP450, US701 Black, US996 LRA, US996 Silver, US996 Titan, US996 Unlocked, L57BL, L63BL, L83BL, MP260 MetroPCS, L59BL, M327, LS777 Sprint, M150, M154, M430 Rose Gold, M430 Titan Gray, TP260 T-Mobile, M255, RS501, VS501, M322, VN220, H830 Silver, LS992 Silver, M257, US992 Silver, H918 Titan, LS997 Titan, AS992 Silver, AS992 Titan, H830 Gold, LS992 Gold, LS992 Pink, LS992 Titan, RS988, RS988 Silver, RS988 Titan, US992 Gold, US992 Pink, US992 Titan, K212, B470, B471, VS500PP, H910 Silver, H910 Titan, H820 Gold, H820 Pink, H820 Silver, H820 Titan, VS995 Silver, VS995 Titan, VS987 Silver, VS987 Titan, LS676 Boost, VS835, M210 T-Mobile, MS210 MetroPCS, MS210UK MetroPCS, MS550 MetroPCS, MS550BK MetroPCS, MS330 White, MS153, M153, LS676 Sprint, K450, US610, US610 Black, MS428, LS676 Virgin, LS775, LS775 Virgin Mobile, K373 Blue, K373 Gold, K425, K428SG, K540, K550, L43AL, L51AL, L53BL, L61AL, L81AL, LS450, LS450 Virgin, LS775 Sprint, MS330, RS500, VS425, VS500, K371, LS675 Black, AS330 Titan, H900 Opal Blue, H900 Space Black, H901BK, H790 Carbon, H790 Ice, H790 Quartz, LS675, LS675 Black, K120, K330 Silver, RS987 Space Black, VS990 Luxe White, VS990 Space Black.

44. With respect to the '850 Patent, this Complaint alleges infringement as to the Defendants' wireless mobile communication products that contain the hardware and software that implements the Continuous Packet Connectivity (CPC) functionality of HSPA+ known as uplink discontinuous reception ("UL DRX") that as implemented in LG's phones has been proven to cause LG's products to infringe Claim 21 the '850 Patent in the prior case (No. 2:14-cv-912). The following represents a non-exhaustive list of this subset of Defendants' products, sorted newest to oldest according to LG's website and excluding the Products Proven To Infringe the

'850 Patent in the -912 Case (collectively, the "HSPA Products"²⁴): LMG820UM0, LMG820UM1, LMG820UMB, LMG820QM7, LM-V405UA, LM-V405UAB, LMV405UA, LM-V405QA7, LM-V405TAB, V405UA0, V350AWM, V350ULM - Google Fi, V350ULM - Unlocked, G710ULM - Google Fi, LMQ850QM, G710ULM Unlocked, G710VMX, LGG710PM, LMG710TM, LMG710VM, G710ULM - LRA, G710ULM - ACG, Q617QA, LMQ710WA, Q710ULM, Q710ULM ACG, Q710ULM LRA, Q710ULM Unlocked, US998R Unlocked Matte, V350ULM - Amazon, X410ULMG RW, X410ULMG Unlocked, US998R Unlocked Glossy, X410ULML LRA, LMX220MA, L211BL, L713DL, Q710MS MetroPCS, Q710TS, Q710ULM Amazon, Q710CS, Q710ULS Spectrum, Q710US, X410CS, X410MK, LMX410UM, X410ULML Spectrum, Q610MA MetroPCS, Q610TA, LS993 Boost, LS993 Boost White, X212TAL, AN220, L413DL, L414DL, H931 Black, H931 Silver, LS998U, X410AS, X410AS K30, X410ASR, H932 Silver, H932U, VS996 Silver, US998U Unlocked, US998U Black, US998 Silver, US998 Unlocked, US998 LRA, AS998 ACG, X210APM, X210ULMG Unlocked, LMX210MA MetroPCS, US700 Unlocked, US997 Unlocked, US997U Unlocked, K410ULMG Amazon, US700 Amazon, US997 Amazon, US997U, US997U USC, US997 Black Unlocked, US997 Platinum Unlocked, VS988 Black, VS988 Platinum, AS993 Black, AS993 Platinum, H871 Black, H871 Platinum, H871S, H872 Black, H872 Platinum, LS993 Black, LS993 Platinum, US997 Black, US997 Black LRA, US997 Platinum, US997 Platinum LRA, X410TK, L157BL, L163BL, LS997 Boost, UN220, US701, H700 Black, H700 Chocolate Brown, LS777 Boost, LS777 Virgin, MP450 MetroPCS, MP450KT MetroPCS, TP450, US701 Black, US996 LRA, US996 Silver, US996 Titan, US996 Unlocked, L57BL, L63BL, L83BL, MP260 MetroPCS, L59BL, M327, LS777 Sprint, M150, M154, M430 Rose

²⁴ Source: <http://www.lg.com/us/cell-phones>

Gold, M430 Titan Gray, TP260 T-Mobile, M255, RS501, VS501, M322, VN220, H830 Silver, LS992 Silver, M257, US992 Silver, H918 Titan, LS997 Titan, AS992 Silver, AS992 Titan, H830 Gold, LS992 Gold, LS992 Pink, LS992 Titan, RS988, RS988 Silver, RS988 Titan, US992 Gold, US992 Pink, US992 Titan, K212, B470, B471, VS500PP, H910 Silver, H910 Titan, H820 Gold, H820 Pink, H820 Silver, H820 Titan, VS995 Silver, VS995 Titan, VS987 Silver, VS987 Titan, LS676 Boost, VS835, M210 T-Mobile, MS210 MetroPCS, MS210UK MetroPCS, MS550 MetroPCS, MS550BK MetroPCS, MS330 White, MS153, M153, LS676 Sprint, K450, US610, US610 Black, MS428, LS676 Virgin, LS775, LS775 Virgin Mobile, K373 Blue, K373 Gold, K425, K428SG, K540, K550, L43AL, L51AL, L53BL, L61AL, L81AL, LS450, LS450 Virgin, LS775 Sprint, MS330, RS500, VS425, VS500, K371, LS675 Black, AS330 Titan, H900 Opal Blue, H900 Space Black, H901BK, H790 Carbon, H790 Ice, H790 Quartz, LS675, LS675 Black, K120, K330 Silver, RS987 Space Black, VS990 Luxe White, VS990 Space Black, V530, UK750, UK750 Black, V520, V521, V930, V495, V496.

FIRST COUNT

(Infringement of the '536 patent)

45. Conversant Wireless incorporates by reference the allegations set forth in Paragraphs 1- 44 of this Complaint as though fully set forth herein.

46. In violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe numerous claims of the '536 Patent, including at least Claim 19, by manufacturing, using, selling, offering to sell, and/or importing into the United States certain products and devices supporting GSM communications functionality, including without limitation the Defendants' GSM Products as defined above. Each of Defendants' GSM Products comprises hardware and software components that together practice every element of one or more

claims of the '536 Patent. These components include those hardware and software components that enable the set of wireless cellular communications functionalities known as GSM and implement GSM in compliance with the requirements of the technical standards applicable to mobile communications, including the GSM technical standard promulgated by 3GPP and various subsequent releases and versions thereof. These components enable the Defendants' GSM Products to perform GSM communications functionality, including the AMR RATSCCH message detection functionality of GSM. For purposes of illustration only, Defendants' LG X venture (AT&T) H700 Black shall be referenced as an "Exemplary GSM Product" in the following paragraphs to illustrate the manner in which all of Defendants' GSM Products contain and/or practice the elements that results in infringement of one or more claims of the '536 Patent.

47. Each of the Defendants' GSM Products comprises hardware components programmed by software to enable wireless mobile communications on a cellular network. Among other such components, integrated in each of Defendants' GSM Products named in this Complaint is a baseband processor that is manufactured for LG by Qualcomm.²⁵ The baseband processor serves an important function with respect to controlling the cellular communications functionality in LG's devices.²⁶ Qualcomm developed specialized source code for LG's devices.²⁷ Conversant Wireless's expert witness testified in the -912 case to evidence that Qualcomm's specialized source code for LG's GSM devices implements the AMR RATSCCH message detection functionality of GSM in the same manner in all of Qualcomm's source code

²⁵ LG's website, LG.com, indicates that each of Defendants' GSM Products named in this Complaint has a cellular chipset including a baseband processor manufactured for LG by Qualcomm. *See* -912 Trial Transcript, 9/12/16 Afternoon Session at 100:3-103:18 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

²⁶ -912 Trial Transcript, 9/12/16 Afternoon Session at 101:2-102:1 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

²⁷ -912 Trial Transcript, 9/12/16 Afternoon Session at 103:19-104:13 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel); -912 Trial Transcript, 9/13/16 Afternoon Session at 31:6-7 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

builds designed for LG.²⁸ This evidence was unrebutted by LG.²⁹ Accordingly, each of the Defendants’ GSM Products named in this Complaint implements the AMR RATSCCH message detection functionality in a manner that is functionally identical to the implementation of the same functionality in the Products Proven To Infringe The ’536 Patent In The -912 Case.

48. Each of the Defendants’ GSM Products comprises a receiver for receiving information and messages in a digital telecommunications system. For example, the Exemplary Accused Product is a receiver for receiving information such as, e.g., speech information, and messages such as, e.g., RATSCCH messages, in a digital telecommunications system. *See, e.g.*, 3GPP Technical Specifications including 3GPP TS 45.003 V6.1.0 (2003-11), Section 3.9.4 (describing channel coding of speech in the adaptive multi-rate speech channel at full rate (TCH/AFS)), Section 3.10.7 (describing channel coding of speech in the adaptive multi-rate speech channel at half rate (TCH/AHS)); 3GPP TS 45.009 V6.1.0 (defining messages that support adaptive multi-rate (AMR) speech transmissions, including “Robust, less-frequent signaling, based on frame stealing, used for changing the AMR configuration (RATSCCH)”). *See also*

The screenshot shows the product page for the LG X venture™ | AT&T. At the top, there is a star rating of 3.8 (172) and a 'Where to Buy' button. Below this is a navigation bar with tabs for Features, Tech Specs, Ratings & Reviews, Accessories, and Support. The Tech Specs tab is active, displaying the following information:

Processor Qualcomm Snapdragon™ 435 1.4 GHz x 4 + 1.1 x 4 GHz Octa-Core MSM8940	Technology GSM, UMTS, LTE
Network GSM, LTE, LTE CA	Frequencies GSM 850/900/1800/1900 MHz; LTE Bands 2/4/5/12/29/30 (LTE Roaming 1/3/7/20); CA
Size & Weight 6.0" (H) x 3.0" (W) x 0.36" (D); Weight: 5.8 oz.	Talk Time Up to 24 hours*

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²⁸ Trial Transcript, 9/12/16 Afternoon Session at 103:19-108:14; 9/13/16 Morning Session at 25:23-26:17, 31:20-36:5. (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

²⁹ -912 Trial Transcript, 9/14/16 Afternoon Session at 96:5-16, 109:5-25 (No. 2:14-cv-912, Dkt. No. 40) (testimony by LG expert Dr. Thomas Fuja).

³⁰ LG.com, <https://www.lg.com/us/cell-phones/lg-H700-Black-x-venture>

49. Each of the Defendants' GSM Products comprises a receiver comprising receiving means for receiving a signal via a transmission channel in frames wherein each frame has one of two states, the states being a good state and a bad state. For example, the Exemplary GSM Product has a receiving means for receiving a signal via a transmission channel that includes at least the baseband processor (for example, the integrated baseband processing components of the Qualcomm Snapdragon 435 MSM8940 which is a component of the Exemplary GSM Product³¹), a transceiver, and an antenna. Further, the aforesaid receiving means is for receiving a signal via a transmission channel in frames wherein each frame has one of two states, the states being a good state and a bad state. For example, the Exemplary GSM Product's receiving means is configured to receive the signal in frames, which is evidenced in the definitions of the frame structure in 3GPP TS 45.009 V6.1.0 and 3GPP TS 45.003 v6.1.0, including Figure 1b and Section 3.9. Furthermore, each frame has one of two states, the states being a good state and a bad state. *See, e.g.*, 3GPP Technical Specifications that describe the function of the RX radio subsystem and RX DTX handler, including 3GPP TS 45.003 V6.1.0 (2003-11); 3GPP TS 45.009 v6.1.0; 3GPP TS 26.091 v6.1.0; 3GPP TS 26.093 v6.1.0, Section A.6.

50. Each of the Defendants' GSM Products comprises a user information decoder operationally coupled to the receiving means for generating decoded user information, and replacing means for replacing a bad frame at least partly with a preceding good frame. For example, the Exemplary GSM Product comprises a user information decoder operationally coupled to the receiving means for generating decoded user information, and replacing means for replacing a bad frame at least partly with a preceding good frame. *See, e.g.*, 3GPP TS 26.091 v6.0.0 and 3GPP TS 26.071 v6.0.0, Section 11 (together describing the speech decoder in GSM

³¹ *Id.* The Qualcomm Snapdragon 435 MSM8940 is a system on a chip that comprises an integrated Qualcomm Snapdragon X9 LTE modem, according to <https://www.qualcomm.com/products/snapdragon-435-mobile-platform>.

devices that is operationally coupled to the receiving means described *supra* and that generates decoded speech information, and describing replacing means with respect to the Adaptive Multi-Rate speech codec error concealment of lost frames due to transmission errors or frame stealing, which represents functionality for replacement of a bad frame at least partly by a preceding good frame).

51. Each of the Defendants' GSM Products comprises a message decoder operationally coupled to the receiving means for decoding the messages, wherein for each different message, a corresponding unique bit pattern has been defined, wherein the receiver is adapted to detect a frame which contains a message and that the detecting is based only on identifying a bad frame which additionally contains a bit pattern which deviates from a bit pattern corresponding to a message at most by a predetermined threshold value. For example, the Exemplary GSM Product comprises a message decoder operationally coupled to the receiving means for decoding the messages, such as, e.g., RATSCCH messages, wherein for each different message, a corresponding unique bit pattern has been defined, wherein the receiver is adapted to detect a frame which contains a message (*e.g.*, a frame that contains a RATSCCH message) and that the detecting is based only on identifying a bad frame which additionally contains a bit pattern which deviates from a bit pattern corresponding to a message (*e.g.*, a RATSCCH message) at most by a predetermined threshold value (*e.g.*, after identifying a frame as a bad frame, a CRC check is performed which verifies whether the received bits deviate from a bit pattern corresponding to a RATSCCH message at most by a predetermined threshold value). *See, e.g.*, 3GPP Technical Specifications including 3GPP TS 45.009 v6.1.0, Section 3.2.2 (defining the RATSCCH mechanism, noting RATSCCH handling is "mandatory for MS," stating that "RATSCCH is based on frame stealing," and otherwise explaining RATSCCH message detection

functionality), Section 3.2.2.3 (defining a unique bit pattern for each type of RATSCCH message); 3GPP TS 45.003 v6.1.0, Sections 3.9.4.4 and 3.9.5.2 (defining convolutional encoding and decoding to be used with respect to RATSCCH messages).

52. Defendants also infringe other claims of the '536 Patent, for similar reasons as explained above with respect to Claim 19.

53. The '536 Patent is valid and enforceable.

54. Defendants' infringement of the '536 Patent has damaged Conversant Wireless, and Defendants are liable to Conversant Wireless in an amount to be determined at trial and that compensates Conversant Wireless for all actual and consequential damages resulting from infringement, which by law can be no less than a reasonable royalty.

55. By at least March 6, 2013, Conversant Wireless provided actual notice to the Defendants of the '536 Patent, and that their actions resulted in direct infringement of the '536 Patent, in compliance with 35 U.S.C. § 287.

56. As a result of Defendants' infringement of the '536 Patent, Conversant Wireless has suffered irreparable harm and will continue to suffer loss and injury.

SECOND COUNT

(Infringement of the '850 patent)

57. Conversant Wireless incorporates by reference the allegations set forth in Paragraphs 1- 56 of this Complaint as though fully set forth herein.

58. In violation of 35 U.S.C. § 271(a), Defendants have directly infringed and continue to directly infringe numerous claims of the '850 Patent, including at least Claim 21, by manufacturing, using, selling, offering to sell, and/or importing into the United States certain products and devices supporting UMTS WCDMA High Speed Packet Access ("HSPA")

communications functionality, including without limitation Defendants' HSPA Products as defined above. Each of Defendants' HSPA Products comprises hardware and software components that together practice every element of one or more claims of the '850 Patent. These components include those hardware and software components that enable the set of wireless cellular communications functionalities known as HSPA and implement HSPA in compliance with the requirements of the technical standards applicable to mobile communications, including Release 7 of the UMTS WCDMA technical standard promulgated by 3GPP and various subsequent releases and versions thereof. These components enable the Defendants' HSPA Products to perform UMTS HSPA communications functionality, including the CPC UL DRX functionality of HSPA. For purposes of illustration only, Defendants' LG G8 ThinQ Unlocked LMG820QM7 shall be referenced as an "Exemplary HSPA Product" in the following paragraphs to illustrate the manner in which all of Defendants' HSPA Products contain and/or practice the elements that results in infringement of one or more claims of the '850 Patent.

59. Each of the Defendants' HSPA Products comprises hardware components programmed by software to enable wireless mobile communications on a cellular network. Among other such components, integrated in each of Defendants' HSPA Products named in this Complaint is a baseband processor that is manufactured for LG by Qualcomm.³² The baseband processor serves an important function with respect to controlling the cellular communications functionality in LG's devices.³³ Qualcomm developed specialized source code for LG's devices.³⁴ Conversant Wireless's expert witness Dr. Jackson testified in the -912 case to evidence

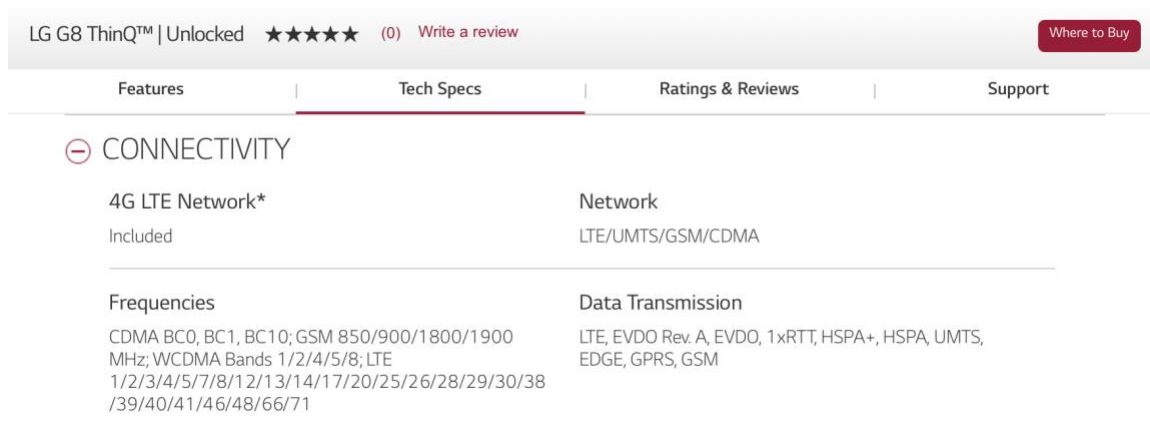
³² LG's website, LG.com, indicates that each of Defendants' HSPA Products named in this Complaint has a cellular chipset including a baseband processor manufactured for LG by Qualcomm. *See* -912 Trial Transcript, 9/13/16 Afternoon Session at 31:3-17 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

³³ -912 Trial Transcript, 9/12/16 Afternoon Session at 101:2-102:1 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Richard Wesel).

³⁴ -912 Trial Transcript, 9/12/16 Afternoon Session at 103:19-104:13 (No. 2:14-cv-912, Dkt. No. 40) (testimony by

that Qualcomm's specialized source code for LG's UMTS devices implements the CPC UL DRX functionality of UMTS HSPA in the same manner in all of Qualcomm's source code builds designed for LG.³⁵ This testimony was un rebutted by LG.³⁶ Accordingly, each of the Defendants' HSPA Products named in this Complaint implements the CPC UL DRX functionality in a manner that is functionally identical to the implementation of the same functionality in the Products Proven To Infringe The '850 Patent In The -912 Case.

60. Each of the Defendants' HSPA Products comprises an apparatus. For example, the Exemplary HSPA Product comprises an apparatus for use in a wireless mobile communication system:



61. Each of the Defendants' HSPA Products comprises a memory adapted to store computer program instructions and a virtual transmission time interval. For example, the Exemplary HSPA Product comprises a memory adapted to store computer program instructions and a virtual transmission time interval. This is evident because the Exemplary HSPA Product

Conversant Wireless expert Dr. Richard Wesel); Trial Transcript, 9/13/16 Afternoon Session at 31:6-7 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

³⁵ -912 Trial Transcript, 9/15/16 Afternoon Session at 53:10-55:25, 62:8-23 (No. 2:14-cv-912, Dkt. No. 40) (testimony by Conversant Wireless expert Dr. Charles Jackson).

³⁶ -912 Trial Transcript, 9/14/16 Afternoon Session at 138:25-139:4; 9/15/16 Morning Session at 29:2-21 (No. 2:14-cv-912, Dkt. No. 40) (testimony by LG expert Mr. Mark Lanning)

³⁷ LG.com, <https://www.lg.com/us/cell-phones/lg-LMG820QM7-unlocked-g8-thinq>

comprises an integrated baseband processor that is manufactured for LG by Qualcomm, and such a baseband processor necessarily requires a memory adapted to store computer program instructions. Furthermore, the memory is adapted to store a virtual transmission time interval, e.g., a MAC_DTX_CYCLE. *See, e.g.*, 3GPP Standard Technical Specifications, including 3GPP TR 25.309 v7.0.0, Section 5.1 (“The CPC solution is mandatory to be implemented in all FDD UEs of REL-7 and above supporting HSDPA/E-DCH...[with respect to UL DRX] [i]f no E-DCH transmission has been performed for the time MAC_Inactivity_Threshold (in TTIs) the E-TFC selection in the UE will be restricted to cycles given by MAC_DTX-Cycle. This restriction of starting points of UL EDCH transmission is time offset...”); 3GPP TS 25.331, v7.4.0 (2007-03), Section 8.6.6.38, 8.6.6.39, 10.3.6.34a.

62. Each of the Defendants’ HSPA Products comprises a transceiver. For example, the Exemplary HSPA Product can send and receive communications and must necessarily contain both a transmitter and a receiver in a transceiver subsystem that functions together with the antenna and the baseband processor.³⁸

63. Each of the Defendants’ HSPA Products comprises a processor. For example, the Exemplary HSPA Product comprises a processor manufactured for LG by Qualcomm:

³⁸ *See* Trial Transcript, 9/13/16 Afternoon Session at 9:2-11, 14:6-21 (No. 2:14-cv-912, Dkt. No. 40) (Conversant Wireless expert Dr. Charles Jackson testifying with respect to Products Proven To Infringe The ’850 Patent In The - 912 Case).

LG G8 ThinQ™ | Unlocked ★★★★★ (0) Write a review Where to Buy

Features | Tech Specs | Ratings & Reviews | Support

⊖ POWER & PERFORMANCE

Platform Android™ 9 (Pie)	User Interface LG UX 8.0
Processor Qualcomm Snapdragon™ 855 Octa-core (up to 2.84 GHz x 1 + 2.42 GHz x 3 + 1.79 GHz x 4)	Battery Capacity 3,500 mAh Non-Removable

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64. Each of the Defendants’ HSPA Products comprises a processor adapted to check to determine whether the apparatus is transmitting data packets in a current air interface transmission time interval. For example, the Exemplary HSPA Product comprises a baseband processor manufactured for LG by Qualcomm that is adapted to check to determine whether the Exemplary HSPA Product is transmitting data packets in a current air interface transmission time interval. *See, e.g.*, 3GPP Technical Specifications indicating that the Exemplary HSPA Product determines whether it is transmitting in the current air interface transmission time interval, including 3GPP TS 25.301 v12.0.0 at Section 5.1; 3GPP TS 25.322, Section 4.2.1; 3GPP TS 25.321 v7.8.0 (2008-03) Section 6.1 (MAC function includes control of E-DCH transmission and generation of uplink scheduling information to assist with e-DCH resource allocation), Section 8.4; 3GPP TS 25.331 v7.4.0 (2007-03) (describing that the phone configures “the MAC layer to start restricting E-DCH transmission and monitor absolute and relative grant channels at the CFN corresponding to the frame boundary that is offset by the value of IE ‘Enabling Delay’ from the frame boundary where the uplink transmission starts with the new configuration taking into account the IEs ‘UE DTX DRX Offset’, ‘MAC DTX Cycle,’ ‘MAC Inactivity Threshold’, and ‘Inactivity Threshold for UE Grant Monitoring’”).

³⁹ LG.com, <https://www.lg.com/us/cell-phones/lg-LMG820QM7-unlocked-g8-thinq>. The Qualcomm Snapdragon 855 is a system on a chip that comprises an integrated Qualcomm Snapdragon X24 LTE cellular modem, according to <https://www.qualcomm.com/products/snapdragon-855-mobile-platform>.

65. Each of the Defendants' HSPA Products comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed. For example, the Defendants' Exemplary HSPA Product comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed, *e.g.*, a predetermined period defined by MAC_DTX_CYCLE. *See, e.g.*, 3GPP Technical Specifications including 3GPP TS 25.321 v7.8.0 (2008-03), Section 3.1.3, Section 6.1 (MAC function includes control of E-DCH transmission and generation of uplink scheduling information to assist with e-DCH resource allocation), Section 8.4; 3GPP TS 25.331 v8.25.0 Release 8 (describing that the phone configures "the MAC layer to start restricting E-DCH transmission and monitor absolute and relative grant channels at the CFN corresponding to the frame boundary that is offset by the value of IE 'Enabling Delay' from the frame boundary where the uplink transmission starts with the new configuration taking into account the IEs 'UE DTX DRX Offset', 'MAC DTX Cycle,' 'MAC Inactivity Threshold', and 'Inactivity Threshold for UE Grant Monitoring'"); 3GPP TS 34.123 v9.7.0 Release 9, Section 7.1.6.3.4.

66. Each of the Defendants' HSPA Products comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed, wherein the next data packet comprises at least one protocol data unit. For example, the Defendants'

Exemplary HSPA Product comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed, wherein the next data packet comprises at least one protocol data unit, such as the protocol data units in a MAC-e PDU. *See, e.g.*, 3GPP Technical Specifications including 3GPP TS 25.231, v7.8.0 (2008-03) Section 9.1.5; 3GPP TS 25.319 v8.6.0 Release 8, Section 7.2.1; 3GPP TS 25.301 v11.0.0, Figure 9b.

67. Each of the Defendants' HSPA Products comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed, wherein the next data packet comprises at least one protocol data unit, and wherein the virtual transmission time interval is an integer multiple of the current air interface transmission time interval. For example, the Defendants' Exemplary HSPA Product comprises a processor that is, for the case where it is determined that the apparatus is not transmitting in the current air interface transmission time interval, adapted to cause the transmitter to transmit a next data packet after a predetermined period associated with the virtual transmission time interval has elapsed, wherein the next data packet comprises at least one protocol data unit, and wherein the virtual transmission time interval is an integer multiple of the current air interface transmission time interval, *e.g.*, if the current air interface transmission time interval were 2 ms, the virtual transmission time interval (*i.e.*, MAC_DTX_CYCLE) of 4 subframes is an integer multiple of the current air interface transmission time interval. *See, e.g.*, 3GPP Technical Specifications including 3GPP TS 25.309 v6.6.0 at Section 6.2 (defining the air interface transmission time interval to be either 2

ms or 10 ms); 3GPP TS 25.331 v8.25.0 Release 8 at page 1286.

68. Defendants also infringe other claims of the '850 Patent for similar reasons as explained above with respect to Claim 21.

69. The '850 Patent is valid and enforceable.

70. Defendants' infringement of the '850 Patent has damaged Conversant Wireless, and Defendants are liable to Conversant Wireless in an amount to be determined at trial and that compensates Conversant Wireless for all actual and consequential damages resulting from infringement, which by law can be no less than a reasonable royalty.

71. By at least May 23, 2012, Conversant Wireless notified the Defendants of the '850 Patent, and that their actions resulted in direct infringement of the '850 Patent, in compliance with 35 U.S.C. § 287.

72. As a result of Defendants' infringement of the '850 Patent, Conversant Wireless has suffered irreparable harm and will continue to suffer loss and injury.

DAMAGES

73. As a result of Defendants' acts of infringement, Conversant Wireless has suffered actual and consequential damages. To the fullest extent permitted by law, Conversant Wireless seeks recovery of damages at least for reasonable royalties, consistent with Conversant Wireless's undertakings to grant licenses to the Patents-in-Suit with respect to FRAND principles. Conversant Wireless further seeks any other damages to which Conversant Wireless would be entitled to in law or in equity.

ATTORNEYS' FEES

74. Conversant Wireless is entitled to recover reasonable and necessary attorneys' fees under applicable law.

PRAYER FOR RELIEF

Conversant Wireless respectfully requests that this Honorable Court enter preliminary and final orders, declarations, and judgments against Defendants as are necessary to provide Conversant Wireless with the following relief:

(a) A judgment that Defendants have infringed and/or are infringing one or more claims of the '536 patent;

(b) A judgment that Defendants have infringed and/or are infringing one or more claims of the '850 patent;

(c) An award for all damages arising out of Defendants' infringement of the Patents-in-Suit, together with prejudgment and post-judgment interest, jointly and severally, in an amount according to proof, including without limitation attorneys' fees and litigation costs and expenses;

(d) A mandatory future royalty payable on each future product sold by Defendants that is found to infringe one or more of the Patents-in-Suit and on all future products which are not colorably different from products found to infringe;

(e) An award of reasonable attorneys' fees as provided by 35 U.S.C. § 285 and enhanced damages as provided by 35 U.S.C. § 284;

(f) All further relief in law or in equity as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure and Local Rule CV-38, Conversant Wireless demands a trial by jury of this action.

Dated: April 29, 2019

Respectfully Submitted,

/s/ Reza Mirzaie

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ATTORNEYS FOR PLAINTIFF
CONVERSANT WIRELESS LICENSING S.À R.L.

CERTIFICATE OF SERVICE

I hereby certify that counsel of record who are deemed to have consented to electronic service are being served this 29th day of April, 2019 with a copy of this document via the Court's CM/ECF System per Local Rule CV-5(a)(3). Any other counsel of record will be served by electronic mail, facsimile transmission and/or first class mail on this same date.

/s/ Reza Mirzaie
Reza Mirzaie