

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

FREEDOM PATENTS LLC,

Plaintiff,

v.

LG ELECTRONICS, INC., LG
ELECTRONICS USA, INC.,

Defendants.

CIVIL ACTION NO. 4:24-cv-537

ORIGINAL COMPLAINT FOR
PATENT INFRINGEMENT

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Freedom Patents LLC (“Freedom Patents” or “Plaintiff”) files this original complaint against Defendants LG Electronics, Inc. and LG Electronics USA, Inc. (collectively, “LG” or “Defendants”), alleging, based on its own knowledge as to itself and its own actions and based on information and belief as to all other matters, as follows:

PARTIES

1. Freedom Patents is a limited liability company formed under the laws of the State of Texas, with its principal place of business at 2325 Oak Alley, Tyler, Texas, 75703.

2. Defendant LG Electronics, Inc. (“LGE”) is a corporation duly organized and existing under the laws of South Korea. It has a place of business at LG Twin Tower 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, South Korea. LGE may also be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but has not designated or maintained a resident agent for service of process or a regular place of business in Texas as required by statute. This action arises out of that business.

3. LGE—together with its subsidiaries—describes itself as “a global leader and technology innovator in consumer electronics, home appliances, and mobile communications.”¹

4. Defendant LG Electronics USA, Inc. (“LGEUS”) is a corporation duly organized and existing under the laws of the State of Delaware. LGEUS may be served with process through its registered agent, United States Corporation Co., 211 E 7th Street, Suite 620, Austin, Texas, 78701.

5. LGEUS is a wholly owned subsidiary of LG Electronics, Inc. LGEUS manufactures and distributes consumer electronics products. In collaboration with other LG affiliates, LGEUS is involved in the importation of the accused products, including, but not limited to, laptops and TVs.

6. Defendants LGE and LGEUS (collectively, “LG”) are part of an interrelated group of companies which together, with their affiliates, comprise one of the largest networking providers in the United States, including under the “Lg” brand.

7. The LG defendants named above and their affiliates are part of the same corporate structure and distribution chain for the making, importing, offering to sell, selling, and using of the accused devices in the United States, including in the State of Texas generally and this judicial district in particular.

8. The LG defendants named above and their affiliates share the same management, common ownership, advertising platforms, facilities, distribution chains and platforms, and accused product lines and products involving related technologies.

9. The LG defendants named above and their affiliates regularly contract with customers regarding products made for or on behalf of those customers.

¹ <https://www.lg.com/us/business/corporate-profile>

10. Thus, the LG defendants named above and their affiliates operate as a unitary business venture and are jointly and severally liable for the acts of patent infringement alleged herein.

11. The parties to this action are properly joined under 35 U.S.C. § 299 because the right to relief asserted against Defendants jointly and severally arises out of the same series of transactions or occurrences relating to the making and using of the same products or processes. Additionally, questions of fact common to all defendants will arise in this action.

JURISDICTION AND VENUE

12. This is an action for infringement of United States patents arising under 35 U.S.C. §§ 271, 281, and 284–85, among others. This Court has subject matter jurisdiction of the action under 28 U.S.C. § 1331 and § 1338(a).

13. This Court has personal jurisdiction over LGE pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) LGE has done and continues to do business in Texas; and (ii) LGE has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and/or sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein in Texas. In addition, or in the alternative, this Court has personal jurisdiction over Sharp pursuant to Fed. R. Civ. P. 4(k)(2) because: (1) it has substantial contacts with the United States and committed and/or induced acts of patent infringement in the United States; and (2) it is not subject to jurisdiction in any state’s courts of general jurisdiction.

14. This Court has personal jurisdiction over LGEUS pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) LG has done and continues to do business in

Texas; and (ii) LGEUS has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing a least a portion of any other infringements alleged herein; and (iii) LGEUS is registered to do business in Texas.

15. Venue is proper in this district as to LGE, which is organized under the laws of a foreign jurisdiction. 28 U.S.C. § 1391(c)(3) provides that “a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants.” *See also In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018).

16. Venue is proper in this district as to LGEUS pursuant to 28 U.S.C. § 1400(b). Venue is further proper because LGEUS has committed and continues to commit acts of patent infringement in this district, including making, using, offering to sell, and/or selling accused products in this district, and/or importing accused products into this district, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein in this district. LGEUS has regular and established places of business in this district, including at least at 2153 Eagle Parkway, Fort Worth, Texas 76177, 2155 Eagle Parkway, Fort Worth, Texas 76177, and 14901 Beach Street, Forth Worth, Texas 76177.

BACKGROUND

17. The patents-in-suit generally relate to improvements in wireless communication technology that allow users to communicate over a wireless network. In particular, the patents

are directed to methods and systems for selecting antennas in multiple-input, multiple-output (MIMO) wireless networks.

18. The technology of the patents-in-suit was developed by engineers at the Mitsubishi Electric Research Laboratories (MERL), which is the North American arm of Mitsubishi Electric. MERL was founded in 1991 in Cambridge, Massachusetts, and has been known for its focus on innovation and long-range research.² From its beginning, MERL was focused on pioneering new technologies in various industries, including computer graphics, digital communication, medical imaging, transportation etc.³ In the early 2000s, for example, “MERL focused on standardization and developments of new emerging technologies,” such as “antenna selection, channel equalization, efficient channel state estimation, and Orthogonal Frequency Division Multiplexing (OFDM).”⁴

19. The inventions disclosed in the patents-in-suit have been cited during patent prosecution multiple times by electronics companies, including Apple, Broadcom, Cisco, Ericsson, Fujitsu, Hewlett Packard, Hitachi, Huawei, Intel, Kyocera, LG Electronics, Marvell, MediaTek, Motorola Mobility, Nokia, NTT Docomo, Panasonic, Philips, Qualcomm, Siemens, Samsung, Sharp, Sony, Toshiba, and ZTE.

COUNT I

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,284,686

20. On October 9, 2012, United States Patent No. 8,284,686 (“the ‘686 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention

² See <https://www.merl.com/company/history>.

³ See <https://www.merl.com/public/MERL-30Years.pdf>.

⁴ *Id.* at 22.

entitled “Antenna/Beam Selection Training in MIMO Wireless LANS with Different Sounding Frames.”

21. Freedom Patents is the owner of the ’686 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ’686 Patent against infringers, and to collect damages for all relevant times.

22. LG made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, LG gram 14” Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B), and other products⁵ that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

⁵ See, e.g., Model Nos. 15Z90ST-G.AAB6U1, 15Z90ST-G.AAB5U1, 16Z90SP-K.ADB8U1, 16Z90SP-G.AAB6U1, 17Z90SP-E.AAB6U1, 17Z90SP-E.ADB9U1, 16Z90SP-A.ADB9U1, 17Z90SP-G.AAB6U1, 16Z90SP-K.AAB6U1, 17Z90SP-G.ADB9U1, 17Z90R-K.ADS9U1, 16Z90S-H.AAB6U1, 15Z90S-H.ADB8U1, 16Z90S-H.ADB7U1, 17Z90S-H.AAB4U1, 16Z90S-G.ADB9U1, 17Z90S-G.AAB6U1, 17Z90R-A.ADB9U1, 17Z90S-G.AAB4U1, 14Z90R-K.ADB9U1, 14Z90R-K.ARW5U1, 15Z90R-P.AAB7U1, 15Z90R-P.ADS9U1, 17Z90S-H.AAB6U1, 15Z90S-H.AAB5U1, 15Z90S-H.AAB6U1, 16Z90SP-A.ADB8U1, 17Z90S-H.ADB7U1, 17Z90S-G.AAB5U1, 16Z90S-H.ADB9U1, 17Z90S-H.ADB9U1, 16Z90R-G.AAM7U1, 16Z90R-A.ADB9U1, 17ZB90R-K.ADC8U1, 17Z90Q-K.AAC7U1, 17ZB90R-K.AAB6U1, 14Z90Q-K.ARW3U1, 15Z90Q-P.AAC8U1, 16Z90R-K.ADB9U1, 17Z90R-K.AAB8U1, 17Z90R-A.AAB7U1, 16Z90R-A.ADC8U1, 16Z90R-K.AAS6U1, 14ZB90Q-G.AAC6U1, 16Z90Q-K.AAC7U1, 15Z90Q-P.AAC6U1, 16Z90R-K.AAB7U1, 17Z90Q-K.ADC9U1, 16Z90R-H.AAS7U1, 17Z90R-H.ADC8U1, 17Z90R-H.AAC8U1, 17ZB90R-K.AAC7U1, 17ZB90R-G.ADY8U1, 14Z90R-K.AAB5U1, 14Z90S-G.ADB8U1, 16Z90S-G.AAB5U1, 14Z90S-G.ARW3U1, 15Z90ST-G.ADB9U1, 14T90R-K.ADB9U1, 14T90S-G.ADB9U1, 16T90SP-G.AAB5U1, 16T90SP-G.AAB4U1, 16T90SP-K.ADB9U1, 16T90SP-K.AAB6U1, 14T90R-K.AAB8U1, 16T90SP-G.ADB8U1, 14T90S-G.ADB8U1, 16T90R-K.ADS9U1, 14T90R-K.AAB6U1, 16T90Q-K.AAC8U1, 16T90R-K.ADB9U1, 16T90Q-K.AAC7U1, 16T90Q-K.ADG9U1, 16T90SP-G.AAB6U1, 14T90S-G.AAB4U1, 16T90R-K.AAC7U1, 14T90S-G.AAB6U1, 14Z90RS-K.AAW7U1, 16Z90RS-K.ADW8U1, 14Z90RS-K.ADW9U1, 16Z90RS-K.AAW7U1, 16Z90RS-K.ADC9U1, 16Z90RS-K.AAC7U1, 16U70R-K.AAS7U1, 15Z90RT-K.AAB7U1, 15Z90RT-K.ADB9U1, 15Z90RT-K.AAB8U1, 15Z90ST-G.AAW4U1, 15Z90RT-K.ADC8U1, OLED77G4WUA, OLED83M3PUA, OLED77C4AUA, OLED83C4AUA, OLED65C4AUA, OLED55C4AUA, OLED48C4AUA, OLED42C4AUA, OLED77Z3PUA, OLED97G4WUA, OLED83G4WUA, OLED65G4SUB, OLED55G4SUB,

23. By doing so, LG has directly infringed (literally and/or under the doctrine of equivalents) at least Claims 1 and 21 of the '686 Patent. *See* Exhibit A. LG's infringement in this regard is ongoing.

The screenshot shows the LG website product page for the LG gram 14" Lightweight Laptop. The page features the LG logo, navigation links for Shop, Support, and Business, and a shipping location of 77001. The product title is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB...". The price is \$649.99, with a \$450.00 discount from the original price of \$1,099.99. A red "ADD TO CART" button is visible. The product image shows the laptop in white, with a blue abstract graphic on the screen. The product code is 14Z90R-K.ARWSU1. The product description is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB RAM, 512GB SSD, White". The product has a 4.3 star rating from 62 reviews. The price is \$649.99, with a "Pay as low as \$115/mo." option available through Klarna. The key features are listed as follows:

- 14" WUXGA (1920 x 1200) Anti-Glare IPS Non Touch Display
- Windows 11 Home
- Intel Evo 13th Gen Intel® Core™ Processor i5-1340P
- Intel Iris Xe Graphics
- 8GB LPDDR5 RAM
- 512GB NVMe Gen 4 M.2 SSD

Source: <https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop>

OLED97M3PUA, OLED77M3PUA, OLED55G2PUA, OLED65G2PUA, OLED77G2PUA, OLED83G2PUA, OLED97G2PUA, OLED65G3PUA, OLED83G3PUA, OLED55G3PUA, OLED77G3PUA, OLED55B4AUA, 42LX3QPUA, OLED65B3AUA, OLED77B3AUA, OLED55B3AUA, OLED65B4AUA, OLED77B4AUA, OLED65C2AUA, OLED42C3AUA, OLED48C3AUA, OLED55C3AUA, OLED77C3AUA, OLED83C3AUA, OLED77Z2PUA, OLED88Z2PUA, OLED65C3AUA, OLED55C2AUA, OLED48C2AUA, OLED42C2AUA, 48LX1QPUA, 86QNED90TAA, 75QNED90TAA, 65QNED90TAA, OPSJ-5LDJA, OPS-C001, 65TR3DK-B, 55TR3DK-B, 86TR3DK-B, and 75TR3DK-B, etc.

CONNECTIVITY

Bluetooth

5.1

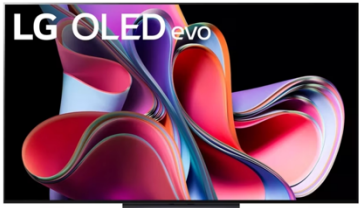
Wireless

Intel® Wireless-AX211 (802.11ax, 2x2, Dual Band, BT Combo)

Source: https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop#pdp_specs

65 inch Class LG OLED evo G3 4K Smart TV 2023 - OLED65G3PUA \$2,299.99
~~\$1,000.00 OFF~~ \$3,299.99 [NOTIFY ME](#)

TOP DEAL **FREE WALL MOUNTING**



OLED65G3PUA
LG OLED evo G3 65 inch Class 4K OLED TV 2023
★★★★★ 4.6 (603) [Write a review](#)

\$2,299.99 Pay as low as \$406/mo.
~~\$1,000.00 OFF~~ was \$3,299.99 **Klarna**

Out of Stock Free In-Home Delivery

Key Features [All Specs](#)

- Brightest OLED ever powered by Brightness Booster Max
- Smooth, swift movement thanks to 120Hz refresh rate
- Hangs like a picture with One Wall design
- Display artwork or your own content while your TV's off
- Cinematic picture and sound thanks to Dolby Atmos® & Dolby Vision®
- Updated smart TV interface with Hands-Free Voice Recognition

Source: <https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv>

Wi-Fi® Standard

Wi-Fi Certified (Wi-Fi 6E)

Source: https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv#pdp_specs

55” IPS UHD Multi Touch CreateBoard™ with Android 11 OS, Wireless & Bluetooth, Built-in whiteboarding software

\$2,000.00



KEY FEATURES

- Built-in Collaboration Software
- 40 Point IR Multi Touch Display

- Add to Wishlist
- Add to Compare

EXTENDED CARE PLANS

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard>

CONNECTIVITY

Input	HDMI (x3), VGA (x1), Audioin (x1), RS232X (x1), RJ45 (x1), USB 3.0 (x4), USB 2.0 (x1), USB Type-C with PD (x1)	Output	HDMI-out (x1), Audio-out (x1), SPDIF (x1), Touch USB (x2), RJ45 (x1)
Wireless	<u>802.11a/b/g/n/ac/ax (WiFi 6)</u>	Bluetooth	5.0
Ethernet	Gigabit LAN		

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard#>

24. The LG gram 14” Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B) are exemplary accused products.

25. LG directly infringes the ’686 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. LG also directly infringes the ’686 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding

packets. LG also directly infringes the '686 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-users. LG contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. LG conditions these benefits on, for example, such persons performing certain activities involving the accused products during specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

26. LG has had knowledge of the '686 Patent at least as of the date when it was notified of the filing of this action.

27. In addition, LG has had knowledge of the '686 Patent at least as of March 13, 2019, when it was cited in a published European patent application for European Patent No. EU2656657. LG employees Dae Won Le, Byeong Woo Kang, Yong Ho Seok, and Dong Wook Roh—who are named inventors of EP2656657—and others involved in the prosecution of the patent, have had knowledge of the '686 Patent well before this lawsuit was filed.

28. Freedom Patents has been damaged as a result of the infringing conduct by LG alleged above. Thus, LG is liable to Freedom Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

29. Freedom Patents has neither made nor sold unmarked articles that practice the '686 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '686 Patent.

COUNT II

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,374,096

30. On February 12, 2013, United States Patent No. 8,374,096 (“the ’096 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Method for Selecting Antennas and Beams in MIMO Wireless LANs.”

31. Freedom Patents is the owner of the ’096 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ’096 Patent against infringers, and to collect damages for all relevant times.

32. LG used products and/or systems including, for example, LG gram 14” Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B), and other products⁶ that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

⁶ See, e.g., Model Nos. 15Z90ST-G.AAB6U1, 15Z90ST-G.AAB5U1, 16Z90SP-K.ADB8U1, 16Z90SP-G.AAB6U1, 17Z90SP-E.AAB6U1, 17Z90SP-E.ADB9U1, 16Z90SP-A.ADB9U1, 17Z90SP-G.AAB6U1, 16Z90SP-K.AAB6U1, 17Z90SP-G.ADB9U1, 17Z90R-K.ADS9U1, 16Z90S-H.AAB6U1, 15Z90S-H.ADB8U1, 16Z90S-H.ADB7U1, 17Z90S-H.AAB4U1, 16Z90S-G.ADB9U1, 17Z90S-G.AAB6U1, 17Z90R-A.ADB9U1, 17Z90S-G.AAB4U1, 14Z90R-K.ADB9U1, 14Z90R-K.ARW5U1, 15Z90R-P.AAB7U1, 15Z90R-P.ADS9U1, 17Z90S-H.AAB6U1, 15Z90S-H.AAB5U1, 15Z90S-H.AAB6U1, 16Z90SP-A.ADB8U1, 17Z90S-H.ADB7U1, 17Z90S-G.AAB5U1, 16Z90S-H.ADB9U1, 17Z90S-H.ADB9U1, 16Z90R-G.AAM7U1, 16Z90R-A.ADB9U1, 17ZB90R-K.ADC8U1, 17Z90Q-K.AAC7U1, 17ZB90R-K.AAB6U1, 14Z90Q-K.ARW3U1, 15Z90Q-P.AAC8U1, 16Z90R-K.ADB9U1, 17Z90R-K.AAB8U1, 17Z90R-A.AAB7U1, 16Z90R-A.ADC8U1, 16Z90R-K.AAS6U1, 14ZB90Q-G.AAC6U1, 16Z90Q-K.AAC7U1, 15Z90Q-P.AAC6U1, 16Z90R-K.AAB7U1, 17Z90Q-K.ADC9U1, 16Z90R-H.AAS7U1, 17Z90R-H.ADC8U1, 17Z90R-H.AAC8U1, 17ZB90R-K.AAC7U1, 17ZB90R-G.ADY8U1, 14Z90R-K.AAB5U1, 14Z90S-G.ADB8U1, 16Z90S-G.AAB5U1, 14Z90S-G.ARW3U1, 15Z90ST-G.ADB9U1, 14T90R-K.ADB9U1, 14T90S-G.ADB9U1, 16T90SP-G.AAB5U1, 16T90SP-G.AAB4U1, 16T90SP-K.ADB9U1, 16T90SP-K.AAB6U1, 14T90R-K.AAB8U1, 16T90SP-G.ADB8U1, 14T90S-G.ADB8U1, 16T90R-K.ADS9U1, 14T90R-K.AAB6U1, 16T90Q-K.AAC8U1, 16T90R-K.ADB9U1, 16T90Q-K.AAC7U1, 16T90Q-K.ADG9U1, 16T90SP-G.AAB6U1, 14T90S-G.AAB4U1, 16T90R-K.AAC7U1, 14T90S-G.AAB6U1, 14Z90RS-K.AAW7U1, 16Z90RS-K.ADW8U1, 14Z90RS-K.ADW9U1, 16Z90RS-K.AAW7U1, 16Z90RS-K.ADC9U1, 16Z90RS-K.AAC7U1, 16U70R-

The screenshot shows the LG website product page for the LG gram 14" Lightweight Laptop. The page includes the LG logo, navigation links (Shop, Support, Business), and a shipping location of 77001. The product title is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB...". The price is \$649.99, with a \$450.00 discount from the original price of \$1,099.99. There is an "ADD TO CART" button. The product is marked as a "TOP DEAL" and "FREE EARBUDS". The product image shows the laptop in white, with a blue Windows logo on the screen. The product ID is 14Z90R-K.ARW5U1. The product description is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB RAM, 512GB SSD, White". The product has a 4.3 star rating from 62 reviews. The price is \$649.99, with a \$450.00 discount from the original price of \$1,099.99. The product is available for financing with Klarna, with a payment option of "Pay as low as \$115/mo.". The product features are listed under "Key Features":

- 14" WUXGA (1920 x 1200) Anti-Glare IPS Non Touch Display
- Windows 11 Home
- Intel Evo 13th Gen Intel® Core™ Processor i5-1340P
- Intel Iris Xe Graphics
- 8GB LPDDR5 RAM
- 512GB NVMe Gen 4 M.2 SSD

Source: <https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop>


The screenshot shows the connectivity specifications page for the LG gram 14" laptop. The page is titled "CONNECTIVITY" and has a sub-section for "Bluetooth". The Bluetooth specification is "5.1". The "Wireless" specification is "Intel® Wireless-AX211 (802.11ax, 2x2, Dual Band, BT Combo)".

Source: https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop#pdp_specs

K.AAS7U1, 15Z90RT-K.AAB7U1, 15Z90RT-K.ADB9U1, 15Z90RT-K.AAB8U1, 15Z90ST-G.AAW4U1, 15Z90RT-K.ADC8U1, OLED77G4WUA, OLED83M3PUA, OLED77C4AUA, OLED83C4AUA, OLED65C4AUA, OLED55C4AUA, OLED48C4AUA, OLED42C4AUA, OLED77Z3PUA, OLED97G4WUA, OLED83G4WUA, OLED65G4SUB, OLED55G4SUB, OLED97M3PUA, OLED77M3PUA, OLED55G2PUA, OLED65G2PUA, OLED77G2PUA, OLED83G2PUA, OLED97G2PUA, OLED65G3PUA, OLED83G3PUA, OLED55G3PUA, OLED77G3PUA, OLED55B4AUA, 42LX3QPUA, OLED65B3AUA, OLED77B3AUA, OLED55B3AUA, OLED65B4AUA, OLED77B4AUA, OLED65C2AUA, OLED42C3AUA, OLED48C3AUA, OLED55C3AUA, OLED77C3AUA, OLED83C3AUA, OLED77Z2PUA, OLED88Z2PUA, OLED65C3AUA, OLED55C2AUA, OLED48C2AUA, OLED42C2AUA, 48LX1QPUA, 86QNED90TAA, 75QNED90TAA, 65QNED90TAA, OPSJ-5LDJA, OPS-C001, 65TR3DK-B, 55TR3DK-B, 86TR3DK-B, and 75TR3DK-B, etc.

65 inch Class LG OLED evo G3 4K Smart TV 2023 - OLED65G3PUA \$2,299.99
~~\$1,000.00 OFF~~ \$3,299.99 [NOTIFY ME](#)

TOP DEAL **FREE WALL MOUNTING**



OLED65G3PUA
LG OLED evo G3 65 inch Class 4K OLED TV 2023
★★★★★ 4.6 (603) [Write a review](#)

\$2,299.99 Pay as low as \$406/mo.
~~\$1,000.00 OFF~~ was \$3,299.99 **Klarna**

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Key Features

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- Brightest OLED ever powered by Brightness Booster Max
- Smooth, swift movement thanks to 120Hz refresh rate
- Hangs like a picture with One Wall design
- Display artwork or your own content while your TV's off
- Cinematic picture and sound thanks to Dolby Atmos® & Dolby Vision®
- Updated smart TV interface with Hands-Free Voice Recognition

Source: <https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv>


Wi-Fi® Standard

Wi-Fi Certified (Wi-Fi 6E)

Source: https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv#pdp_specs

55" IPS UHD Multi Touch CreateBoard™ with Android 11 OS, Wireless & Bluetooth, Built-in whiteboarding software

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KEY FEATURES

- Built-in Collaboration Software
- 40 Point IR Multi Touch Display

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EXTENDED CARE PLANS

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard>

CONNECTIVITY

Input	HDMI (x3), VGA (x1), Audioin (x1), RS232X (x1), RJ45 (x1), USB 3.0 (x4), USB 2.0 (x1), USB Type-C with PD (x1)	Output	HDMI-out (x1), Audio-out (x1), SPDIF (x1), Touch USB (x2), RJ45 (x1)
Wireless	<u>802.11a/b/g/n/ac/ax (WiFi 6)</u>	Bluetooth	5.0
Ethernet	Gigabit LAN		

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard#>

33. By doing so, LG has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '096 Patent. *See* Exhibit B. LG's infringement in this regard is ongoing.

34. The LG gram 14" Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B) are exemplary accused products.

35. LG directly infringes the '096 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. LG also directly infringes the '096 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding packets. LG also directly infringes the '096 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-users. LG contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. LG conditions these benefits on, for example, such persons performing certain activities involving the accused products during

specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

36. LG has had knowledge of the '096 Patent at least as of the date when it was notified of the filing of this action.

37. In addition, LG has had knowledge of the '096 Patent at least as of December 17, 2013, when it was cited by the Examiner during the prosecution of U.S. Patent No. 9,019,862, which is assigned to LG Electronics Inc. LG employee Yong Ho Seok—who is a named inventor of U.S. Patent No. 9,019,862—and others involved in the prosecution of the patent, have had knowledge of the '096 Patent well before this lawsuit was filed.

38. Freedom Patents has been damaged as a result of the infringing conduct by LG alleged above. Thus, LG is liable to Freedom Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

39. Freedom Patents has neither made nor sold unmarked articles that practice the '096 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '096 Patent.

COUNT III

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,514,815

40. On August 20, 2013, United States Patent No. 8,514,815 (“the '815 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Training Signals for Selecting Antennas and Beams in MIMO Wireless LANs.”

41. Freedom Patents is the owner of the '815 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '815 Patent against infringers, and to collect damages for all relevant times.

42. LG used products and/or systems including, for example, LG gram 14”

Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B), and other products⁷ that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

⁷ See, e.g., Model Nos. 15Z90ST-G.AAB6U1, 15Z90ST-G.AAB5U1, 16Z90SP-K.ADB8U1, 16Z90SP-G.AAB6U1, 17Z90SP-E.AAB6U1, 17Z90SP-E.ADB9U1, 16Z90SP-A.ADB9U1, 17Z90SP-G.AAB6U1, 16Z90SP-K.AAB6U1, 17Z90SP-G.ADB9U1, 17Z90R-K.ADS9U1, 16Z90S-H.AAB6U1, 15Z90S-H.ADB8U1, 16Z90S-H.ADB7U1, 17Z90S-H.AAB4U1, 16Z90S-G.ADB9U1, 17Z90S-G.AAB6U1, 17Z90R-A.ADB9U1, 17Z90S-G.AAB4U1, 14Z90R-K.ADB9U1, 14Z90R-K.ARW5U1, 15Z90R-P.AAB7U1, 15Z90R-P.ADS9U1, 17Z90S-H.AAB6U1, 15Z90S-H.AAB5U1, 15Z90S-H.AAB6U1, 16Z90SP-A.ADB8U1, 17Z90S-H.ADB7U1, 17Z90S-G.AAB5U1, 16Z90S-H.ADB9U1, 17Z90S-H.ADB9U1, 16Z90R-G.AAM7U1, 16Z90R-A.ADB9U1, 17Z90R-K.ADC8U1, 17Z90Q-K.AAC7U1, 17Z90R-K.AAB6U1, 14Z90Q-K.ARW3U1, 15Z90Q-P.AAC8U1, 16Z90R-K.ADB9U1, 17Z90R-K.AAB8U1, 17Z90R-A.AAB7U1, 16Z90R-A.ADC8U1, 16Z90R-K.AAS6U1, 14Z90Q-G.AAC6U1, 16Z90Q-K.AAC7U1, 15Z90Q-P.AAC6U1, 16Z90R-K.AAB7U1, 17Z90Q-K.ADC9U1, 16Z90R-H.AAS7U1, 17Z90R-H.ADC8U1, 17Z90R-H.AAC8U1, 17Z90R-K.AAC7U1, 17Z90R-G.ADY8U1, 14Z90R-K.AAB5U1, 14Z90S-G.ADB8U1, 16Z90S-G.AAB5U1, 14Z90S-G.ARW3U1, 15Z90ST-G.ADB9U1, 14T90R-K.ADB9U1, 14T90S-G.ADB9U1, 16T90SP-G.AAB5U1, 16T90SP-G.AAB4U1, 16T90SP-K.ADB9U1, 16T90SP-K.AAB6U1, 14T90R-K.AAB8U1, 16T90SP-G.ADB8U1, 14T90S-G.ADB8U1, 16T90R-K.ADS9U1, 14T90R-K.AAB6U1, 16T90Q-K.AAC8U1, 16T90R-K.ADB9U1, 16T90Q-K.AAC7U1, 16T90Q-K.ADG9U1, 16T90SP-G.AAB6U1, 14T90S-G.AAB4U1, 16T90R-K.AAC7U1, 14T90S-G.AAB6U1, 14Z90RS-K.AAW7U1, 16Z90RS-K.ADW8U1, 14Z90RS-K.ADW9U1, 16Z90RS-K.AAW7U1, 16Z90RS-K.ADC9U1, 16Z90RS-K.AAC7U1, 16U70R-K.AAS7U1, 15Z90RT-K.AAB7U1, 15Z90RT-K.ADB9U1, 15Z90RT-K.AAB8U1, 15Z90ST-G.AAW4U1, 15Z90RT-K.ADC8U1, OLED77G4WUA, OLED83M3PUA, OLED77C4AUA, OLED83C4AUA, OLED65C4AUA, OLED55C4AUA, OLED48C4AUA, OLED42C4AUA, OLED77Z3PUA, OLED97G4WUA, OLED83G4WUA, OLED65G4SUB, OLED55G4SUB, OLED97M3PUA, OLED77M3PUA, OLED55G2PUA, OLED65G2PUA, OLED77G2PUA, OLED83G2PUA, OLED97G2PUA, OLED65G3PUA, OLED83G3PUA, OLED55G3PUA, OLED77G3PUA, OLED55B4AUA, 42LX3QPUA, OLED65B3AUA, OLED77B3AUA, OLED55B3AUA, OLED65B4AUA, OLED77B4AUA, OLED65C2AUA, OLED42C3AUA, OLED48C3AUA, OLED55C3AUA, OLED77C3AUA, OLED83C3AUA, OLED77Z2PUA, OLED88Z2PUA, OLED65C3AUA, OLED55C2AUA, OLED48C2AUA, OLED42C2AUA, 48LX1QPUA, 86QNED90TAA, 75QNED90TAA, 65QNED90TAA, OPSJ-5LDJA, OPS-C001, 65TR3DK-B, 55TR3DK-B, 86TR3DK-B, and 75TR3DK-B, etc.

The screenshot shows the LG website product page for the LG gram 14" Lightweight Laptop. The page features the LG logo, navigation links for Shop, Support, and Business, and a shipping location of 77001. The product title is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB...". The price is \$649.99, with a \$450.00 discount from the original price of \$1,099.99. There is an "ADD TO CART" button. The product is marked as a "TOP DEAL" and includes "FREE EARBUDS". The product image shows the laptop in white, with a large blue abstract graphic on the screen. The product ID is 14Z90R-K.ARW5U1. The product name is "LG gram 14\" Lightweight Laptop, Intel® 13th Gen Core® i5 Evo™ Platform, Windows 11 Home, 8GB RAM, 512GB SSD, White". The product has a 4.3 star rating from 62 reviews. The price is \$649.99, with a \$450.00 discount from the original price of \$1,099.99. The product is available for financing with Klarna, with a payment plan of \$115/mo. The product features include a 14\" WUXGA (1920 x 1200) Anti-Glare IPS Non Touch Display, Windows 11 Home, Intel Evo 13th Gen Intel® Core™ Processor i5-1340P, Intel Iris Xe Graphics, 8GB LPDDR5 RAM, and 512GB NVMe Gen 4 M.2 SSD.


Source: <https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop>

The screenshot shows the connectivity specifications for the LG gram 14" laptop. The section is titled "CONNECTIVITY" and is divided into "Bluetooth" and "Wireless" categories. The Bluetooth specification is "5.1". The Wireless specification is "Intel® Wireless-AX211 (802.11ax, 2x2, Dual Band, BT Combo)".

Source: https://www.lg.com/us/laptops/lg-14z90r-k.arw5u1-gram-laptop#pdp_specs

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Key Features

[All Specs](#)

- Brightest OLED ever powered by Brightness Booster Max
- Smooth, swift movement thanks to 120Hz refresh rate
- Hangs like a picture with One Wall design
- Display artwork or your own content while your TV's off
- Cinematic picture and sound thanks to Dolby Atmos® & Dolby Vision®
- Updated smart TV interface with Hands-Free Voice Recognition

Source: <https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv>


Wi-Fi® Standard

Wi-Fi Certified (Wi-Fi 6E)

Source: https://www.lg.com/us/tvs/lg-oled65g3pua-oled-4k-tv#pdp_specs

55" IPS UHD Multi Touch CreateBoard™ with Android 11 OS, Wireless & Bluetooth, Built-in whiteboarding software

\$2,000.00



KEY FEATURES

- Built-in Collaboration Software
- 40 Point IR Multi Touch Display

Add to Wishlist
 Add to Compare

EXTENDED CARE PLANS

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard>

CONNECTIVITY

Input	HDMI (x3), VGA (x1), Audioin (x1), RS232X (x1), RJ45 (x1), USB 3.0 (x4), USB 2.0 (x1), USB Type-C with PD (x1)	Output	HDMI-out (x1), Audio-out (x1), SPDIF (x1), Touch USB (x2), RJ45 (x1)
Wireless	<u>802.11a/b/g/n/ac/ax (WiFi 6)</u>	Bluetooth	5.0
Ethernet	Gigabit LAN		

Source: <https://www.lg.com/us/business/collaboration-displays/lg-55tr3dk-b-createboard#>

43. By doing so, LG has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '815 Patent. *See* Exhibit C. LG's infringement in this regard is ongoing.

44. The LG gram 14" Lightweight Laptop (14Z90R-K.ARW5U1), LG OLED evo Smart TV (OLED65G3PUA), and LG CreateBoard Commercial Monitor (55TR3DK-B) are exemplary accused products.

45. LG directly infringes the '815 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. LG also directly infringes the '815 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding packets. LG also directly infringes the '815 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-users. LG contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. LG conditions these benefits on, for example, such persons performing certain activities involving the accused products during

specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

46. LG has had knowledge of the '815 Patent at least as of the date when it was notified of the filing of this action.

47. In addition, LG has had knowledge of the '815 Patent at least as of September 16, 2013, when it was cited by the Examiner in a rejection under 35. USC § 103 (as U.S. Patent App. No. 2008/0247370) during the prosecution of U.S. Patent No. 9,755,780, which is assigned to LG Electronics Inc. LG employees Dong Wook Roh, Ill Soo Sohn, Kyoung Young Song, Dae Won Lee, and Yong Ho Seok—who are named inventors of U.S. Patent No. 9,755,780—and others involved in the prosecution of the patent, have had knowledge of the '815 Patent well before this lawsuit was filed.

48. Freedom Patents has been damaged as a result of the infringing conduct by LG alleged above. Thus, LG is liable to Freedom Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

49. Freedom Patents has neither made nor sold unmarked articles that practice the '815 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '815 Patent.

**ADDITIONAL ALLEGATIONS REGARDING INFRINGEMENT
AND PERSONAL JURISDICTION**

50. LG has also indirectly infringed the '686 Patent, the '096 Patent, and the '815 Patent by inducing others to directly infringe the '686 Patent, the '096 Patent, and the '815 Patent.

51. LG has induced the end users and/or LG's customers to directly infringe (literally and/or under the doctrine of equivalents) the '686 Patent, the '096 Patent, and the '815 Patent by using the accused products.

52. LG took active steps, directly and/or through contractual relationships with others, with the specific intent to cause them to use the accused products in a manner that infringes one or more claims of the '686 Patent, the '096 Patent, and the '815 Patent, including, for example, claims 1 and 21 of the '686 Patent, claim 1 of the '096 Patent, and claim 1 of the '815 Patent.

53. Such steps by LG included, among other things, advising or directing customers, end users, and others (including distributors and equipment services entities) to use the accused products in an infringing manner; advertising and promoting the use of the accused products in an infringing manner; and/or distributing instructions that guide users to use the accused products in an infringing manner.

54. LG performed these steps, which constitute joint and/or induced infringement, with the knowledge of the '686 Patent, the '096 Patent, and the '815 Patent and with the knowledge that the induced acts constitute infringement.

55. LG was and is aware that the normal and customary use of the accused products by LG's customers would infringe the '686 Patent, the '096 Patent, and the '815 Patent. LG's inducement is ongoing.

56. LG has also induced its affiliates, or third-party manufacturers, shippers, distributors, retailers, or other persons acting on its or its affiliates' behalf, to directly infringe (literally and/or under the doctrine of equivalents) at least claim 21 of the '686 Patent by importing, selling or offering to sell the accused products.

57. LG has a significant role in placing the accused products in the stream of commerce with the expectation and knowledge that they will be purchased by consumers in Texas and elsewhere in the United States.

58. LG purposefully directs or controls the making of accused products and their shipment to the United States, using established distribution channels, for sale in Texas and elsewhere within the United States.

59. LG purposefully directs or controls the sale of the accused products into established United States distribution channels, including sales to nationwide retailers and wholesalers, including, for example, Amazon, Best Buy, Walmart, and Staples. LG's established United States distribution channels include one or more United States based affiliates (e.g., LG Electronics USA, Inc.) and third-parties working on behalf of LG.

60. LG's United States based affiliates (e.g., LG Electronics USA, Inc.) operate entirely in support of LG and are not free to sell products of LG's competitors.

61. LG's United States based affiliates (e.g., LG Electronics USA, Inc.) were formed by LG to further its domestic sales of the accused infringing products and are controlled by LG to ensure that result.

62. LG purposefully directs or controls the sale of the accused products online and in nationwide retailers and wholesalers, including for sale in Texas and elsewhere in the United States, and expects and intends that the accused products will be so sold.

63. LG purposefully places the accused products—whether by itself or through subsidiaries, affiliates, or third parties—into an international supply chain, knowing that the accused products will be sold in the United States, including Texas. Therefore, LG also facilitates the sale of the accused products in Texas.

64. LG took active steps, directly and/or through contractual relationships with others, with the specific intent to cause such persons to import, sell, or offer to sell the accused products in a manner that infringes claim 21 of the '686 Patent.

65. Such steps by LG included, among other things, making or selling the accused products outside of the United States for importation into or sale in the United States, or knowing that such importation or sale would occur; and directing, facilitating, or influencing its affiliates, or third-party manufacturers, shippers, distributors, retailers, or other persons acting on its or its affiliates' behalf, to import, sell, or offer to sell the accused products in an infringing manner.

66. LG performed these steps, which constitute induced infringement, with the knowledge of the '686 Patent, the '096 Patent, and the '815 Patent, and with the knowledge that the induced acts would constitute infringement.

67. LG performed such steps in order to profit from the eventual sale of the accused products in the United States.

68. LG's inducement is ongoing.

69. LG has also indirectly infringed by contributing to the infringement of the '686 Patent, the '096 Patent, and the '815 Patent. LG has contributed to the direct infringement of the '686 Patent, the '096 Patent, and the '815 Patent by the end user of the accused products.

70. The accused products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe the '686 Patent, the '096 Patent, and the '815 Patent, including, for example, claims 1 and 21 of the '686 Patent, claim 1 of the '096 Patent, and claim 1 of the '815 Patent.

71. The special features include, for example, hardware and/or software components especially adapted for transmitting/receiving sounding packets and estimating channel matrices

for the selection of antennas in a multiple-input, multiple-output wireless network, used in a manner that infringes the '686 Patent, the '096 Patent, and the '815 Patent.

72. These special features constitute a material part of the invention of one or more of the claims of the '686 Patent, the '096 Patent, and the '815 Patent, and are not staple articles of commerce suitable for substantial non-infringing use.

73. LG's contributory infringement is ongoing.

74. LG has had actual knowledge of the '686 Patent at least as early as March 13, 2019, when it was cited in a published European patent application and/or as of the date when it was notified of the filing of this action. Since at least that time, LG has known the scope of the claims of the '686 Patent and the products that practice the '686 Patent.

75. LG has had actual knowledge of the '096 Patent at least as early as December 17, 2013, when it was cited by the Examiner during the prosecution of U.S. Patent No. 9,019,862 and/or as of the date when it was notified of the filing of this action. Since at least that time, LG has known the scope of the claims of the '096 Patent and the products that practice the '096 Patent.

76. LG has had actual knowledge of the '815 Patent at least as early as September 16, 2013, when it was cited by the Examiner during the prosecution of U.S. Patent No. 9,755,780 and/or as of the date when it was notified of the filing of this action. Since at least that time, LG has known the scope of the claims of the '815 Patent and the products that practice the '815 Patent.

77. LG has had knowledge that Freedom Patents is the owner of the '686 Patent, the '096 Patent, and the '815 Patent since at least the date when it was notified of the filing of this action.

78. By the time of trial, LG will have known and intended (since receiving such notice) that its continued actions would infringe and actively induce and contribute to the infringement of one or more claims of the '686 Patent, the '096 Patent, and the '815 Patent.

79. Furthermore, LG has a policy or practice of not reviewing the patents of others (including instructing its employees to not review the patents of others), and thus has been willfully blind of Freedom Patents' patent rights. *See, e.g.*, M. Lemley, "Ignoring Patents," 2008 Mich. St. L. Rev. 19 (2008).

80. LG's customers have infringed the '686 Patent, the '096 Patent, and the '815 Patent. LG encouraged its customers' infringement.

81. LG's direct and indirect infringement of the '686 Patent, the '096 Patent, and the '815 Patent has been, and/or continues to be willful, intentional, deliberate, and/or in conscious disregard of Freedom Patents' rights under the patents-in-suit.

82. Freedom Patents has been damaged as a result of LG's infringing conduct alleged above. Thus, LG is liable to Freedom Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMAND

Freedom Patents hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

Freedom Patents requests that the Court find in its favor and against LG, and that the Court grant Freedom Patents the following relief:

a. Judgment that one or more claims of the '686 Patent, the '096 Patent, and the '815 Patent have been infringed, either literally and/or under the doctrine of equivalents, by LG and/or all others acting in concert therewith;

b. A permanent injunction enjoining LG and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert therewith from infringement of the '686 Patent, the '096 Patent, and the '815 Patent; or, in the alternative, an award of a reasonable ongoing royalty for future infringement of the '686 Patent, the '096 Patent, and the '815 Patent by such entities;

c. Judgment that LG account for and pay to Freedom Patents all damages to and costs incurred by Freedom Patents because of LG's infringing activities and other conduct complained of herein, including an award of all increased damages to which Freedom Patents is entitled under 35 U.S.C. § 284;

d. That Freedom Patents be granted pre-judgment and post-judgment interest on the damages caused by LG's infringing activities and other conduct complained of herein;

e. That this Court declare this an exceptional case and award Freedom Patents its reasonable attorney's fees and costs in accordance with 35 U.S.C. § 285; and

f. That Freedom Patents be granted such other and further relief as the Court may deem just and proper under the circumstances.

Dated: June 14, 2024

Respectfully submitted,

/s/ Zachariah S. Harrington

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