

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

BISHOP DISPLAY TECH LLC,

Plaintiff,

v.

HEESUNG ELECTRONICS LTD.,

Defendant.

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C.A. No. 2:24-cv-00086-JRG

JURY TRIAL DEMANDED

PLAINTIFF’S FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Bishop Display Tech LLC (“Bishop” or “Plaintiff”) files this First Amended Complaint against Defendant Heesung Electronics Ltd. (“Heesung” or “Defendant”) for infringement of U.S. Patent No. 6,525,798 (the “798 patent”), U.S. Patent No. 6,787,829 (the “829 patent”), U.S. Patent No. 6,801,293 (the “293 patent”), U.S. Patent No. 6,816,208 (the “208 patent”), U.S. Patent No. 6,850,303 (the “303 patent”), and U.S. Patent No. 6,906,769 (the “769 patent”) (collectively, the “Asserted Patents”).

THE PARTIES

1. Plaintiff is a Texas limited liability company with its principal place of business in the Eastern District of Texas.

2. On information and belief, Heesung Electronics Ltd. is a corporation organized under the laws of Korea. Its principal place of business is at 63, Seongseogongdan-ro 11-gil, Daiseo-gu, Daegu, Korea (704-230).

3. On information and belief, Heesung Electronics Guangzhou Co., Ltd. (“Heesung China”) is a corporation organized under the laws of China. Its principal place of business is at

No. 66, Kaitai Road, Science City of Guangzhou High-Tech Industrial Development Zone, China, 510663. On information and belief, Heesung China provides (and has provided) sales, distribution, research, and/or development support in the United States for its parent Heesung, which wholly owns Heesung China. Heesung China is, and has been, an agent of Heesung. At the direction and control of Heesung, U.S.-based and foreign-based sales and/or distribution subsidiaries including, Heesung China, have imported and continue to import Accused Products into the United States and this District.

4. Defendant is engaged (including, as relevant, in the past) in making, using, selling, offering for sale, and/or importing, and/or inducing its respective subsidiaries, affiliates, distributors, suppliers, business partners (e.g., LG Electronics, subsidiaries and affiliates) retail partners, and customers in the making, using, selling, offering for sale, and/or importing throughout the United States, including within this District, the following products accused of infringement (the “Accused Products”):

- Heesung liquid crystal modules comprising thin-film transistor liquid crystal displays (“TFT-LCDs”) (collectively, “LCMs”);
- Heesung TFT-LCDs; and
- Products comprising Heesung TFT-LCDs or LCMs.
- Components of the foregoing.

5. On information and belief, Heesung, including its respective U.S. and foreign-based employees, agents, distributors, affiliates, business partners, retail partners, and customers (which act as part of a global network and supply chain of overseas sales and manufacturing subsidiaries), have operated as agents of one another and vicariously as parts of the same business group to work in concert together and enter into agreements that are nearer than arm’s length.

Heesung and its U.S. and foreign-based employees, agents, distributors, affiliates, business partners, retail partners, and/or customers, individually and/or in concert, conduct business (and have conducted business) in the United States, including importing, shipping, distributing, offering to sell, and selling the Accused Products that incorporate devices, systems, and processes that infringed the Asserted Patents in Texas and this District. *See Trois v. Apple Tree Auction Center, Inc.*, 882 F.3d 485, 490 (5th Cir. 2018) (“A defendant may be subject to personal jurisdiction because of the activities of its agent within the forum state....”); *see also Cephalon, Inc. v. Watson Pharmaceuticals, Inc.*, 629 F. Supp. 2d 338, 348 (D. Del. 2009) (“The agency theory may be applied not only to parents and subsidiaries, but also to companies that are ‘two arms of the same business group,’ operate in concert with each other, and enter into agreements with each other that are nearer than arm’s length.”). For example, Defendant acknowledges that “[i]n addition to its headquarters in Seoul and factory sites in Daegu, South Korea, Heesung has global manufacturing site offices in China, Egypt, Indonesia, Poland, and Vietnam.”¹

6. “Heesung Electronics LTD., founded in 1973, has specialized in the production of electronic parts. Based on the accumulation of knowledge and technological capabilities, the company has expanded its business field in accordance with the rapidly growing LCD market with the effort to continuously make technological developments since embarking in the BLU market in 1999. Currently, the company possesses the world's largest BLU production capacity, and is the source of stable parts supply of LG Display, its main client.” Heesung Electronics has specialized in the production of core display components BLU (Back Light Unit), TSP (Touch Screen Panel) and LED (Light Emitting Diode). Based on our growing expertise and technological skills, we are moving forward as the world’s leading display company. We are operating factories in Daegu and

¹ *See, e.g.*, Ex. A at ¶ 7 (Declaration of Chang Woo Han).

Paju in South Korea, Nanjing, Suzhou and Guangzhou in China and Wroclaw in Poland. We will expand to include Module and SET business aspects, which includes cell phone and secondary cells from existing BLU and key components, thereby solidifying our status as one of the world's best EMS (Electronics Manufacturing Service) by 2020.² The Defendant describes itself, on its website, as "LG Captive."³ Heesung is affiliated with LG-related companies.⁴

7. On information and belief, LG Electronics Inc. ("LGE") is a publicly traded corporation organized under the laws of Korea. Its principal place of business is at LG Twin Tower 128, Yeoui-daero, Yeongdeungpo-gu, 07336, Seoul, South Korea. LGE makes, uses, sells, imports, and offers to sell the Accused Products in the United States and in this District both directly and through various affiliates, agents, partners, distributors, and other methods of selling and distributing the Accused Products. LGE is a substantial shareholder of LGD.

8. On information and belief, LG Electronics U.S.A., Inc. ("LGEUS"), is a Delaware corporation with a principal place of business at 111 Sylvan Avenue, North Building, Englewood Cliffs, New Jersey 07632. LGEUS is a wholly-owned subsidiary of LGE, and has regular and established places of business within this District at 2153-2155 Eagle Pkwy, Fort Worth, TX 76177 and 14901 Beach St, Fort Worth, TX 76177. LGEUS makes, uses, sells, imports, and offers to sell the Accused Products in the United States and in this District both directly and through various affiliates, agents, partners, distributors, and other methods of selling and distributing the Accused Products.

9. On information and belief, LG Display Co., Ltd. ("LGD") is a corporation organized under the laws of Korea. Its principal place of business is at LG Twin Tower 128, Yeoui-

² Ex. B (http://www.hselec.co.kr/en/company/overview.asp?menu_img=company_new_2021)

³ Ex. C (http://www.hselec.co.kr/en/company/manage.asp?menu_img=company_new_2021)

⁴ See e.g., Ex. D (<https://koreajoongangdaily.joins.com/2020/11/26/business/industry/LG-Group-LG-Chem-LG-U/20201126191200565.html>)

daero, Yeongdeungpo-gu, 07336, Seoul, South Korea. LGD makes, uses, sells, imports, and offers to sell the Accused Products in the United States and in this District both directly and through various affiliates, agents, partners, distributors, and other methods of selling and distributing the Accused Products. LGD specifically calls out Heesung as one of its major suppliers.⁵

10. Through offers to sell, sales, imports, distributions, and other related agreements to transfer ownership of Defendant's Accused Products by and/or to affiliates, distributors, subsidiaries, suppliers, business partners, retail partners, customers, and/or agents, Defendant is operating in (and has operated in) and maintaining (and maintained) a significant business presence in the U.S. and/or through its U.S. subsidiaries or agents, Defendant has done (and does) business in the U.S., the state of Texas, and in the Eastern District of Texas.

JURISDICTION AND VENUE

11. Plaintiff incorporates paragraphs 1 through 10 herein by reference.

12. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.

13. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

14. Venue is proper for Heesung in this District pursuant to 28 U.S.C. §§ 1391(c). Heesung is a foreign entity and may be sued in any judicial district under 28 U.S.C. § 1391(c)(3).

15. This Court has general and specific personal jurisdiction over the Defendant pursuant to due process and/or the Texas Long Arm Statute because, inter alia, (i) the Defendant has done and continue to do business in Texas and/or (ii) the Defendant has, directly and through intermediaries, distributors, agents, and/or others committed and continues to commit acts of patent

⁵ Ex. E (November 2022 Form 6K, LG Display Co., Ltd.) at p. 11.

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 business partners, 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. Defendant has placed, and is continuing to place, infringing products into the stream of commerce, via established distribution channels, with the knowledge and/or understanding that such products are sold in Texas, including in this District. Defendant has derived substantial revenues from its infringing acts occurring within Texas and within this District. Defendant has substantial business in this State and District (including, as relevant, in the past), including: (A) conducting at least part of its infringing activities alleged herein; and (B) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and/or imported, and services provided to Texas residents vicariously through and/or in concert with its respective alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers.

16. For example, since at least 2019, Defendant and its agents, including Heesung China, have shipped the Accused Products (e.g., HC320DXN-ABSL3-2141, HC400DUN-VCKNB-214X, HC430DQG-ABHAA 320, HC490EQG-SLXA1-211X, HC490EQG-SLXA1-214X, HC490EQH-SLXA1-211X, HC490EQH-SLXA3-2111, HC490EQH-SLXA3-2141, HC500EQF-VKGA1-214X, HC500EQG-VKMA2-214X, HC550DQB-SLDA1-2141, HC550EQG-SLGD1-2141, HC550EQG-SLMA2-2141, HC550EQH-ABGA1-2144, HC550EQH-SLMA1-2141, HC650DAD-SLCAA-2142, HC650DAE-ABCA1-2142, HC650DQB-ABDA1-2141, HC650DQB-ABDA1-2141, HC650DQB-ABJH1, HC650DQB-SLUA5-2123, HC650MAD-SLDA1-2122, HC650MQB-ABDA1-2141, HC700DQN-VHXL7-

21SX, HC700EQN-VHSR3-211X, HC750MAD-SLDA2-212X, HC820DQF-VCXR1-211X, HC820DQF-VCXR1-214X, HC820DQF-VCXR2-211X, HC860DQF-SLUR2-2142, NC650DQB-ABJH1) and/or components of the Accused Products to the United States to various LG-related entities, such as LG Electronics Do Brasil LTDA, LX International America, Inc.,⁶ and LG International America, Inc.⁷

17. In addition, Defendant has employees in the United States.⁸

18. In addition, Defendant is aware that the Accused Products are shipped to, and used in, the United States given that they obtain UL Solutions certifications for the Accused Products so that they comply with the laws and regulations of the United States.⁹ For example, Accused Product LG TV model no. 49SM8600PUA includes Accused Product Heesung LCM model no. HC490EQH-SLXA1-211X, which includes a UL Solutions mark indicating compliance with the laws and regulations of the United States.¹⁰



⁶ Name change in 2021 from LG International Corp. *See e.g.*, Ex. F (<http://www.lgicorp.com/en/about>) And LG owns the trademarks for the new entity. *See e.g.*, Ex. G (<https://news.koreaherald.com/view.php?ud=20210305000489>)

⁷ *See e.g.*, Ex. H (Import Genius report from <https://www.importgenius.com/>)

⁸ *See e.g.*, Ex. I (LinkedIn Heesung employees)

⁹ Ex. J (<https://markshub.ul.com/north-america-geography>)

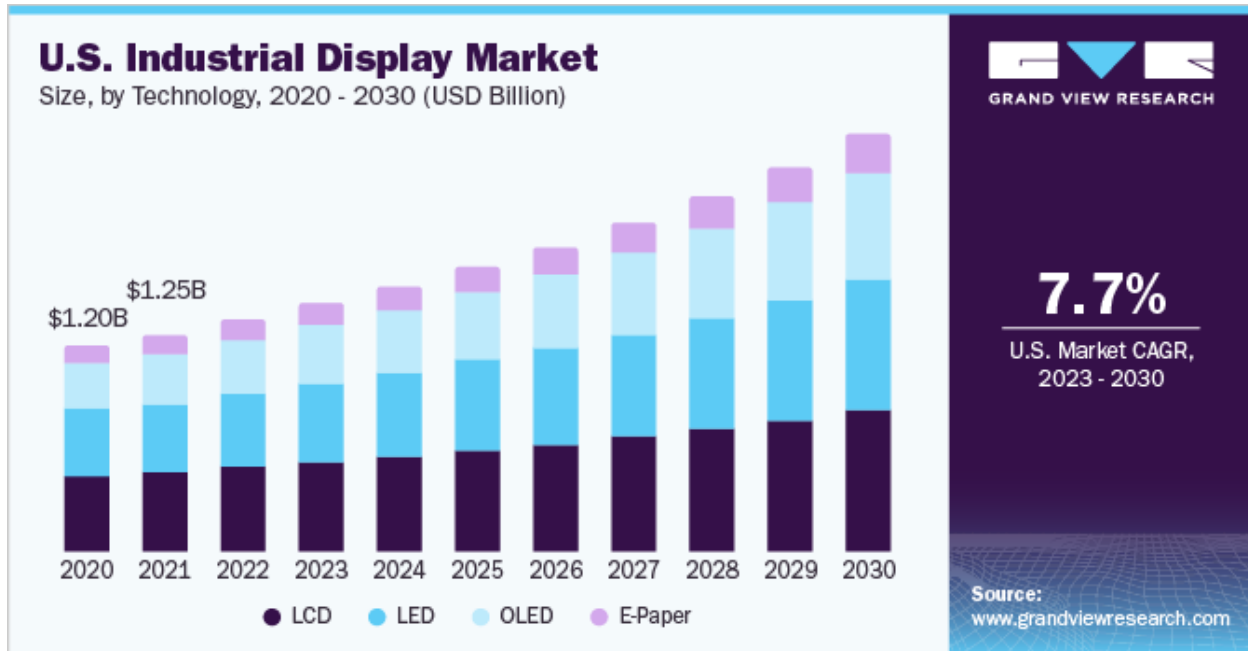
¹⁰ Ex. J (<https://markshub.ul.com/north-america-geography>)



The label on the TV indicates that the LG TV 49SM8600PUA was manufactured in Mexico.

Moreover, shipping records demonstrate that Defendant knowingly ships the Accused Products to Hidalgo, Texas.¹¹ Also, given the Defendant's long history as one of LG Display's and LG Electronics main suppliers of display components, Defendant has knowledge that both LG Display and LG Electronics have substantial operations in the United States, as well as substantial market share in the United States market for LCD displays; Defendant is well-aware that the Accused Products are destined for the United States and Texas (e.g., via the LG-related entities' supply chains, distributors, retailers, etc.). Indeed, the U.S. market for the Accused Products is substantial:

¹¹ See Ex. K (<https://panjiva.com/Heesung-Electronics-Guangzhou-Co-Ltd/29751190>)



19. Further, Defendant’s Chairman--Koo Bon-sik—according to Forbes Magazine¹² “runs LG affiliate Heesung Electronics with his brother Koo Bon-neung,” and “Heesung is LG’s largest supplier of backlights, which are used to illuminate LCD displays.”

20. This Court has personal jurisdiction over Defendant, directly or through agents, intermediaries, distributors, importers, business partners, customers, subsidiaries, and/or consumers. Through direction and control (including, as relevant, in the past) of such subsidiaries, affiliates, business partners, distributors, retail partners, agents, and/or customers, Defendant has committed acts of direct and/or indirect patent infringement within Texas, and elsewhere within the United States, giving rise to this action and/or have established minimum contacts with Texas such that personal jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Upon information and belief, Defendant compensate its U.S.-based subsidiaries and/or agents for their sales and/or technical support services in the United States. As such,

¹² See e.g., Ex. L (<https://www.forbes.com/profile/koo-bon-sik/>)

Defendant has a direct financial interest in its U.S.-based subsidiaries and/or agents, and/or partners, distributors, or customers, and vice versa.

21. Personal jurisdiction is proper because Defendant has committed acts of infringement in this District. This Court has personal jurisdiction over Defendant because, *inter alia*, this action arises from activities Defendant purposefully directed towards the State of Texas and this District.

22. Exercising personal jurisdiction over Defendant in this District would not be unreasonable given Defendant's contacts in this District, the interest in this District of resolving disputes related to products sold herein, and the harm that would occur to Plaintiff who resides in this District.

23. In addition, Defendant has knowingly induced infringement within this District by advertising, marketing, offering for sale and/or selling devices pre-loaded with infringing functionality within this District, to consumers, customers, manufacturers, distributors, resellers, partners, end users, and/or LGE, LGEUS, and/or LGD, and providing instructions, user manuals, advertising, and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

24. For example, Defendant's website advertises the type of components and Accused Products that are infringing in this case:¹³

¹³ See e.g., Ex. M (http://www.hselec.co.kr/en/product/blu.asp?menu_img=product_new) and Ex. N (http://www.hselec.co.kr/en/product/blu1.asp?menu_img=product_new&height=300)

About BLU

This introduces the product and describes the features of the luminous source of TFT-LCD.

01 LCD(Liquid Crystal Display)

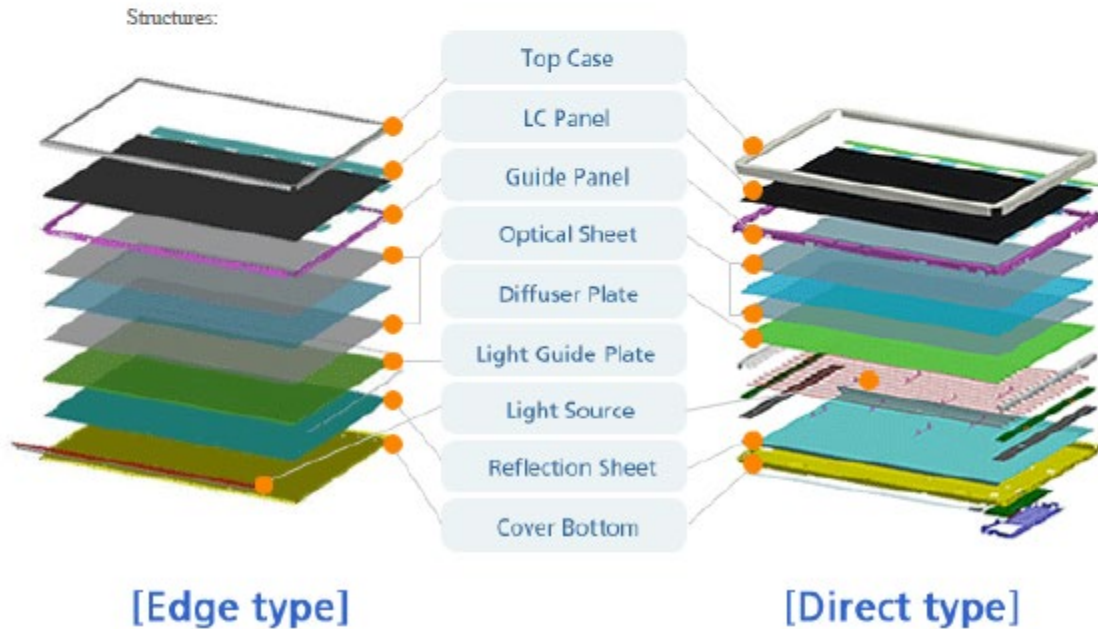
As a passive component, it is a DISPLAY that uses liquid that is in the intermediate phase between solid and liquid. It controls the brightness of the screen by adjusting how much the amount of light, emitted by the backlight, passes through by changes in the voltage

02 BLU (Back Light Unit)

Located in the back of the liquid crystal panel, which has no self-luminescent capabilities, BLU is luminous equipment that emits uniform planar light in the direction of the panel.

03 BLU Types and Structures

Types: categorized into Edge Type, where the light source is located on the side of the Light Guide Plate, and Direct Type, where the light source is located on the bottom of the Diffuser Plate.



25. Personal jurisdiction also exists specifically over Defendant because Defendant, directly or through affiliates, subsidiaries, business partners, agents, and/or intermediaries, transact business (or have transacted business) in this State or purposefully directed business at this State by making, importing, offering to sell, selling, and/or having sold infringing products within this State and District or purposefully directed at this State or District.

26. To the extent Defendant is not subject to jurisdiction in any state's court of general jurisdiction, exercising jurisdiction over Defendant in this State and this District would be consistent with due process and this State's long-arm statute and under national contacts in light of the facts alleged in this Complaint.

27. In addition, Defendant, directly or through affiliates, subsidiaries, agents, and/or intermediaries, have placed infringing products into the stream of commerce knowing they would be sold and used in Texas, and economically benefit from the retail sale of infringing products in this State, including in this District.

28. Defendant has advertised its infringing products to customers in Texas and this District through its website.

29. On information and belief, Defendant controls (or has controlled) or otherwise direct (or directed) and authorizes (or authorized) all activities of its U.S.-based (or foreign-based with the knowledge that the Accused Products are directed to the United States and this District) agents and/or sales and/or distribution subsidiaries. Such directed and authorized activities include the U.S.-based (and/or foreign-based) subsidiaries' and/or agents having used, offered for sale, sold, and/or imported the Accused Products, their components, processes, and/or products containing the same that incorporated the fundamental technologies and claims of the Asserted Patents. Defendant's U.S.-based (and/or foreign-based) sales and/or distribution subsidiaries and/or agents were authorized to import, distribute, sell, or offer for sale the Accused Products on behalf of Defendant. For example, Defendant researched, designed, developed, and manufactured the Accused Products, and then directed its U.S.-based (and/or foreign-based) sales subsidiaries, distributors, business partners agents, and/or others to import, distribute, offer for sale, and sell the Accused Products in the United States. *See, e.g., United States v. Hui Hsiung*, 778 F.3d 738, 743

(9th Cir. 2015) (finding that the sale of infringing products to third parties rather than for direct import into the U.S. did not “place [defendants’] conduct beyond the reach of United States law [or] escape culpability under the rubric of extraterritoriality”). Thus, Defendant conducted infringing activities, and Defendant’s U.S.-based (and foreign-based) sales subsidiaries and/or distributors and/or agents and/or business partners conducted infringing activities on behalf of Defendant.

30. On information and belief, Defendant’s’ U.S.-based (and/or foreign-based) sales and/or distribution subsidiaries’ and/or agents’ presence (including in the past) in the United States gave Defendant substantially the same business advantages that it would have enjoyed if Defendant conducted its business through its own offices or paid agents. Defendant’s U.S.-based (and/or foreign-based) sales subsidiaries and/or distributors and/or agents were authorized to import, distribute, sell, and offer for sale Defendant’s products, including the Accused Products, as well as their components and processes related to the same, on behalf of Defendant. For example, Defendant’s U.S.-based (and/or foreign-based) sales subsidiaries and/or agents operated within Defendant’s global network and supply chain of sales. In the U.S., including within the Eastern District of Texas, the Accused Products, as well as their components and processes related to the same, were imported, distributed, offered for sale, and/or sold.

31. Via Defendant’s alter egos, agents, business partners, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers that maintained a business presence, operating in, and/or residing in the U.S., Defendant’s products, including products and processes accused of infringing the Asserted Patents, are or have been widely distributed and sold in Texas including within this District. *See Litecubes, LLC v. Northern Light Products, Inc.*, 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) (“[T]he sale [for purposes of § 271] occurred at the location of the

buyer.”); *see also Semcon IP Inc. v. Kyocera Corp.*, No. 2:18-cv-00197-JRG, 2019 WL 1979930, at *3 (E.D. Tex. May 3, 2019) (denying accused infringer’s motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to customers in the U.S. may constitute an offer to sell under § 271(a)).

32. On information and belief, Defendant has placed infringing products and/or products that practiced infringing processes into the stream of commerce via established distribution channels comprising at least its subsidiaries, business partners, affiliates, distributors, and/or agents or customers, with the knowledge and/or intent that those products were imported, used, offered for sale, and sold in the United States and Texas, including in this District. As a result, Defendant has, vicariously through and/or in concert with alter egos, agents, intermediaries, distributors, affiliates, importers, customers, subsidiaries, and/or consumers, placed the Accused Products into the stream of commerce via established distribution channels with the knowledge and/or intent that those products were sold and continue to be sold in the United States and Texas, including in this District.

33. The minimum contacts test is satisfied because Defendant delivers its products (*e.g.*, TFT-LCDs and/or LCMs) into the stream of commerce with the expectation that they will be purchased by consumers in Texas. *Beverly Hills Fan Co. v. Royal Sovereign Corp.*, 21 F.3d 1558, 1566 (Fed. Cir. 1994) (quoting *World-Wide Volkswagen Corp. v. Woodson*, 100 S. Ct. 559 (1980)). For example, and on information and belief (and as provided for herein), Defendant imports, and/or has imported and/or shipped infringing Accused Products into the United States through and with its supply chain partner and/or customer LGE (including, but not limited to, LGE subsidiaries and/or affiliates and/or agents, such as LX International (America), Inc, LG International, LG Display, etc.). Defendant supplies its Accused Products (*e.g.*, TFT-LCDs and/or

LCMs) to LG (*e.g.*, LG Electronics in Brazil and Mexico and LG Display in China) knowing that its accused products will be incorporated into accused LG downstream display products (*e.g.*, LG TVs, laptops, monitors) that are offered for sale, sold, imported, and/or used by LG (*e.g.*, LGEUS), Best Buy Walmart, and/or Amazon in the United States and this District.¹⁴ Indeed, LG TV model no. 49SM8600PUA, which incorporates Heesung LCM model no. HC490EQH-SLXA1-211X, was manufactured in Mexico where Defendant admits to shipping its Accused products to LGE. The Accused Products were (and are) directed to this District and were (and are) available for purchase in this District via retailers, such as LG, Best Buy, Walmart, and Amazon.¹⁵ The lengthy and complex distribution chain does not insulate Defendant from suit in Texas.

34. Defendant intentionally placed its TFT-LCDs and/or LCMs in a distribution chain flowing from Asia to the United States, Texas, and this District. For example, Defendant intentionally places its TFT-LCDs and/or LCMs in a distribution or supply chain knowing that such TFT-LCDs and or LCMs (*e.g.*, Heesung LCM model no. HC490EQH-SLXA1-211X) ultimately arrive in the United States market and this District through, at least, LG monitors, laptops, and/or TVs (*e.g.*, LG TV model no. 49SM8600PUA). Defendant, through its sales of TFT-LCDs and/or LCMs for application in LG downstream display devices, such as LG TVs, monitors, and/or laptops knew (or should have reasonably known) the likely destination of the products, where Defendant's conduct and connections with Texas and this District were such that Defendant should have reasonably anticipated being brought to court in this District. Indeed, Defendants'

¹⁴ See, *e.g.*, Ex. A at ¶ 12 (Declaration of Chang Woo Han).

¹⁵ See, *e.g.*, Ex. O (<https://www.lg.com/us/tvs/lg-49SM8600PUA-4k-uhd-tv>); Ex. P (<https://www.bestbuy.com/site/lg-49-class-nano-8-series-led-4k-uhd-smart-webos-tv/6334081.p?skuId=6334081>); Ex. Q (<https://web.archive.org/web/20190920074736/https://www.walmart.com/ip/LG-49-Class-8-Series-4K-2160P-Ultra-HD-Smart-LED-HDR-NanoCell-TV-49SM8600PUA-2019-Model/865008594>); Ex. R (<https://www.amazon.com/LG-49SM8600PUA-Ultra-Smart-NanoCell/dp/B07PQ96G5J>) (evidencing that LG, Best Buy, Walmart, and Amazon sold Accused Product LG TV model no. 49SM8600PUA, which includes Accused Product Heesung LCM model no. HC490EQH-SLXA1-211X, to customers in the United States, including customers in this District.).

TFT-LCDs and or LCMs include a UL Solutions mark indicating compliance with the laws and regulations of the United States further evidencing that Defendant knew or should have known that its products were destined for the United States and this District.

35. Moreover, Defendant is the assignee of a substantial number of United States patents and patent applications, including use of U.S. patent counsel to procure such patents in their name.¹⁶ Thus, Defendant sought out the United States market, evidenced by seeking patent protection in the United States.

36. Also by way of example, and on information and belief, Defendant has (and have had) U.S. based (and/or foreign-based) employees that work in connection with the Accused Products, including, but not limited to, engineers who have identified Defendant as an “LG Partner.”

37. Defendant has and had a commercial relationship with LG affiliated entities, and Defendant access the Texas consumer-electronics market vis-à-vis that relationship. Given Defendant’s relationship with LG, which is a behemoth for display products (e.g., TVs, laptops, and monitors) in the United States market, jurisdiction in this Court is fair and reasonable.

38. In the alternative, the Court has personal jurisdiction over Defendant under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law, Defendant is not subject to the jurisdiction of the courts of general jurisdiction of any state and exercising jurisdiction over Defendant is consistent with the U.S. Constitution. Exercising jurisdiction comports with due process given Defendant’s purposeful availment from the sales of LG’s display products (e.g., LG TVs, laptops, and monitors) incorporating Defendant’s TFT-LCDs and/or LCMs sold in the United States and this District.

¹⁶ See e.g., Ex. S (United States Patent No. 10,429,033), prosecuted by the law firm Hauptman Ham LLP with offices in the United States.

COUNT I
(Infringement of U.S. Patent No. 6,525,798)

39. Plaintiff incorporates paragraphs 1 through 38 herein by reference.

40. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

41. Plaintiff is the owner of the '798 patent with all substantial rights to the '798 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

42. The '798 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

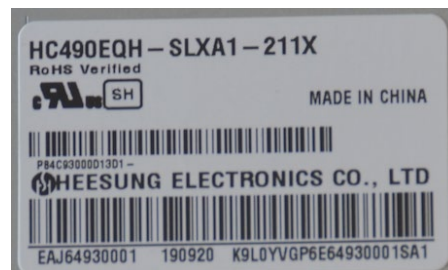
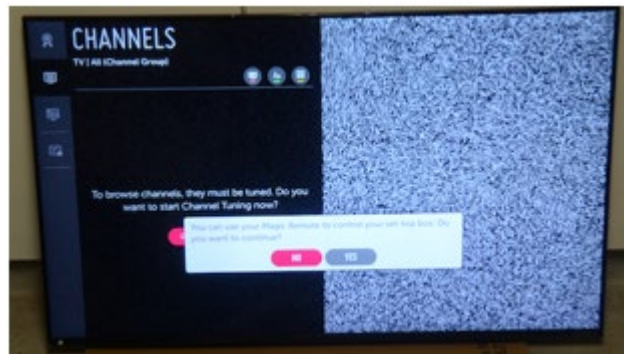
DIRECT INFRINGEMENT (35 U.S.C. §271(a))

43. Heesung has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '798 patent in this District and elsewhere in Texas and the United States.

44. Heesung directly infringed the '798 patent via 35 U.S.C. § 271(a) by having made, offered for sale, sold, used, tested, and/or imported those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '798 patent. For example, Heesung, either by itself and/or via an agent, directly infringed the '798 patent by offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '798 patent, to and/or via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Heesung sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or

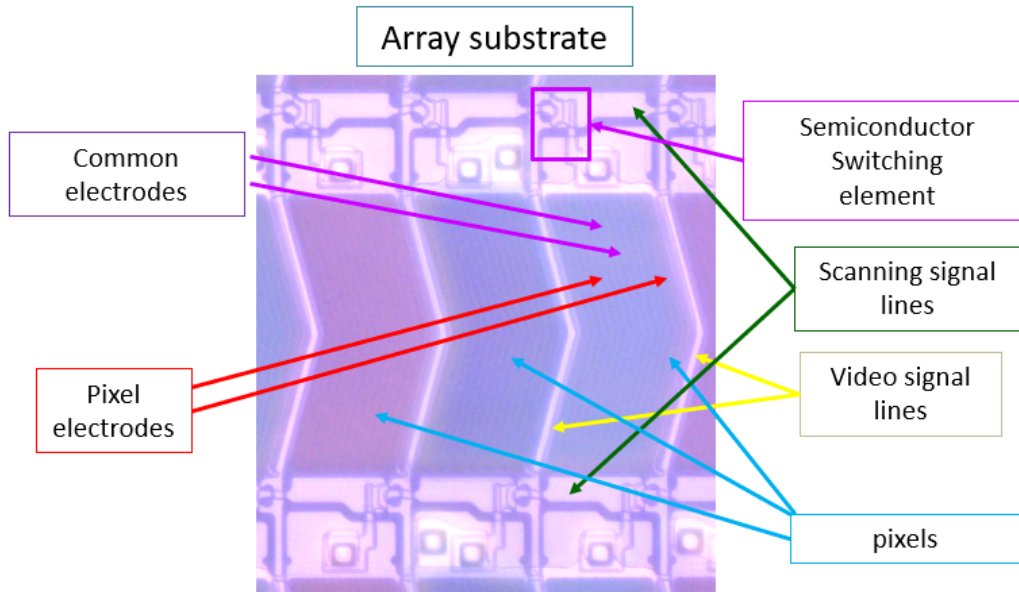
designed those products for sale in the United States, thereby directly infringing the '798 patent. See, e.g., *Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

45. For example, Heesung infringed claim 1 of the '798 patent. The products accused of infringing the '798 patent comprise a liquid crystal display unit. For example, LG's TV model no. 49SM8600PUA includes Heesung LCM model no. HC490EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display unit:

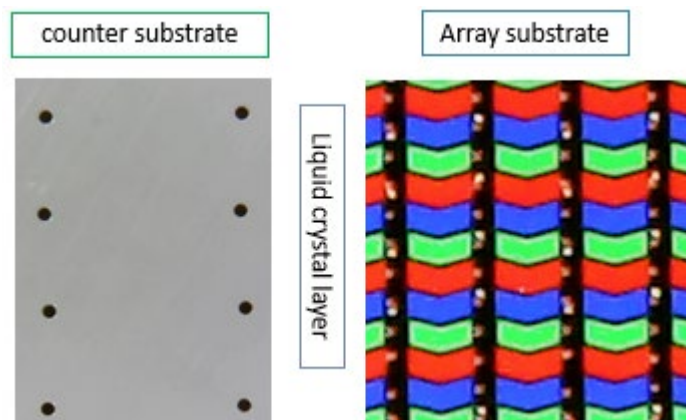


46. The products accused of infringing the '798 patent comprise a plurality of pixels each including a plurality of common electrodes, a plurality of pixel electrodes, and a semiconductor switching element. The products accused of infringing the '798 patent also comprise an array substrate having the pixels, a plurality of scanning signal lines, and a plurality of video signal lines for outputting signals to the pixel electrodes arranged on the surface thereof.

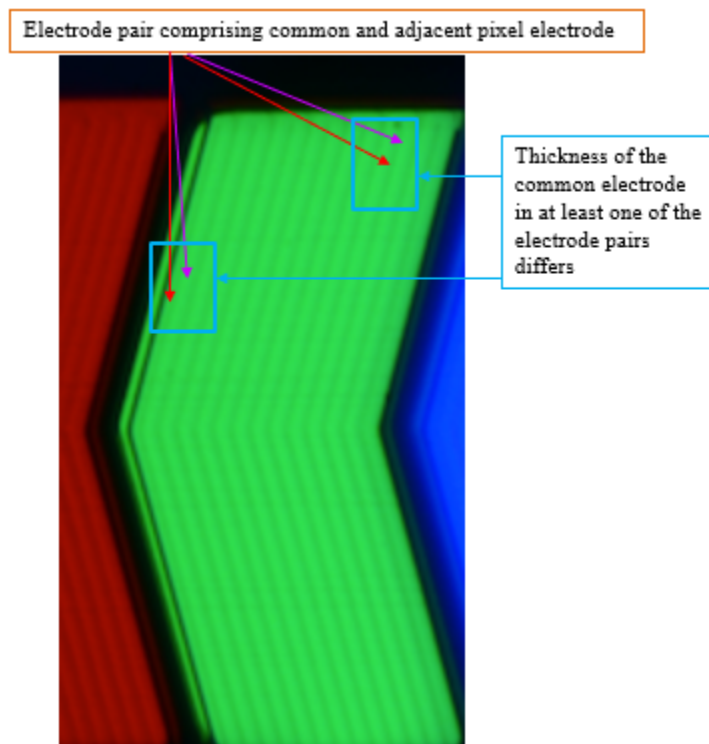
For example, an examination of LGD’s TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



47. The products accused of infringing the '798 patent comprise a counter substrate arranged opposite the array substrate, and a liquid crystal layer sandwiched between the array substrate and the counter substrate. For example, an examination of LGD’s TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



48. Each of the pixels in the products accused of infringing the '798 patent includes a plurality of electrode pairs, each electrode pair comprising one of the common electrodes and an adjacent one of the pixel electrodes, and at least one of the electrode pairs differs from other electrode pairs in a thickness of its common electrode or a thickness of its pixel electrode. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



49. At a minimum, LGE, LGEUS, and LGD have known about the '798 patent since at least February 8, 2017, when LGD received notice of their infringement from a former patent owner Godo Kaisha IP Bridge 1, and at least by March 7, 2017 when LGD replied to the notice letter. In addition, LGE, LGEUS, and LGD have known about the '798 patent since at least July 29, 2020, when LGD again received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '798 patent since at least July 29, 2020, when LGE received notice of

their infringement. Moreover, Heesung, based on information and belief, was on notice of the '798 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '798 patent. On information and belief, display manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.¹⁷

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

50. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '798 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '798 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in

¹⁷ See e.g., *Nat'l Inst. for Strategic Tech. Acquisition & Commercialization v. Nissan of N. Am.*, No. 11-11039, 2012 U.S. Dist. LEXIS 117941, at *14 (E.D. Mich. Aug. 21, 2012) (“Defendants argue the sheer implausibility of an automotive supplier informing its customers that it is supplying infringing products to them. Without a fully developed factual record however, the court cannot conclude that it is unreasonable to infer that defendants Toyota and Nissan received pre-suit knowledge of the patents-in-suit from their suppliers. A reasonable inference can be made that a supplier of an accused infringing instrumentality, with direct notice of the patents-in-suit, discussed said patents and the likelihood of infringement of these patents with its customers. It is also a reasonable inference that a Japanese parent company, Honda Motor Company, which received NISTAC's letter concerning the patents-in-suit, would communicate with its United States subsidiary, American Honda, about these patents and potential infringement thereof.”).

conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>.

51. On information and belief, despite having knowledge of the '798 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '798 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '798 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import

and/or sell products accused of infringing the '798 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries, affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '798 patent in the United States.

52. Upon information and belief, despite having knowledge of the '798 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '798 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '798 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

53. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

54. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '798 patent.

COUNT II
(Infringement of U.S. Patent No. 6,787,829)

55. Plaintiff incorporates paragraphs 1 through 54 herein by reference.

56. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

57. Plaintiff is the owner of the '829 patent with all substantial rights to the '829 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

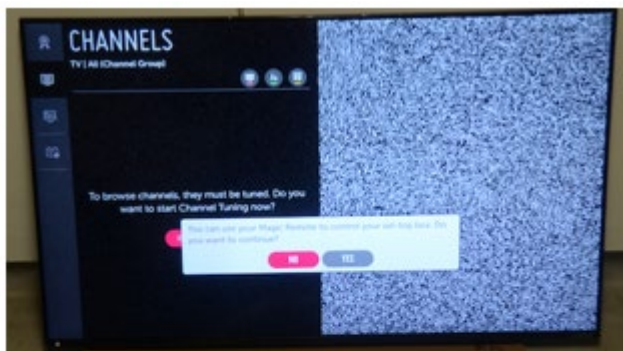
58. The '829 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

DIRECT INFRINGEMENT (35 U.S.C. §271(a))

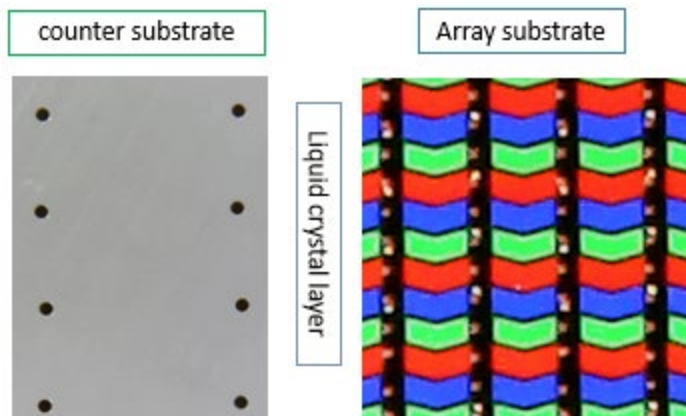
59. Heesung has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '829 patent in this District and elsewhere in Texas and the United States.

60. Heesung directly infringed the '829 patent via 35 U.S.C. § 271(a) by having made, offered for sale, sold, used, tested, and/or imported those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '829 patent. For example, Heesung, either by itself and/or via an agent, directly infringed the '829 patent by offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '829 patent, to and/or via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Heesung sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or designed those products for sale in the United States, thereby directly infringing the '829 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

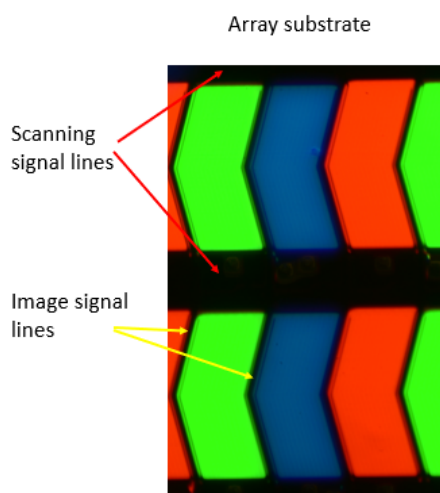
61. For example, Heesung infringed claim 1 of the '829 patent. The products accused of infringing the '829 patent comprise a liquid crystal display panel. For example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC490EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display panel:



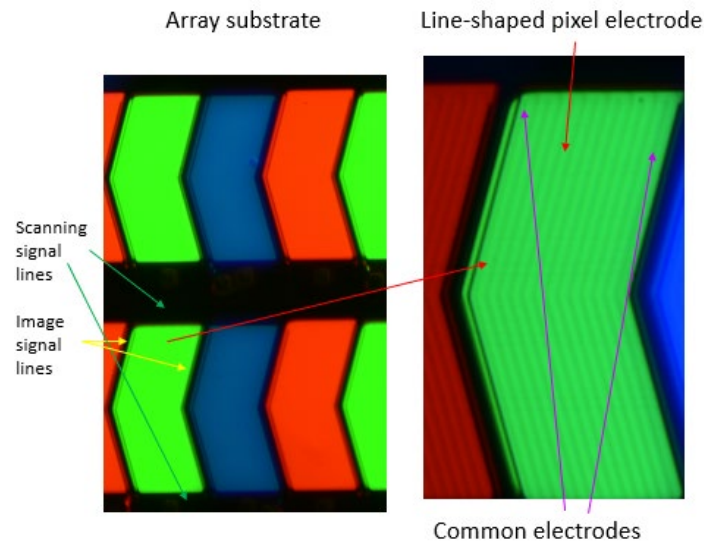
62. The products accused of infringing the '829 patent comprise an array substrate, a counter substrate opposing the array substrate, and a liquid crystal layer sandwiched between a surface of the array substrate and a surface of the counter substrate. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



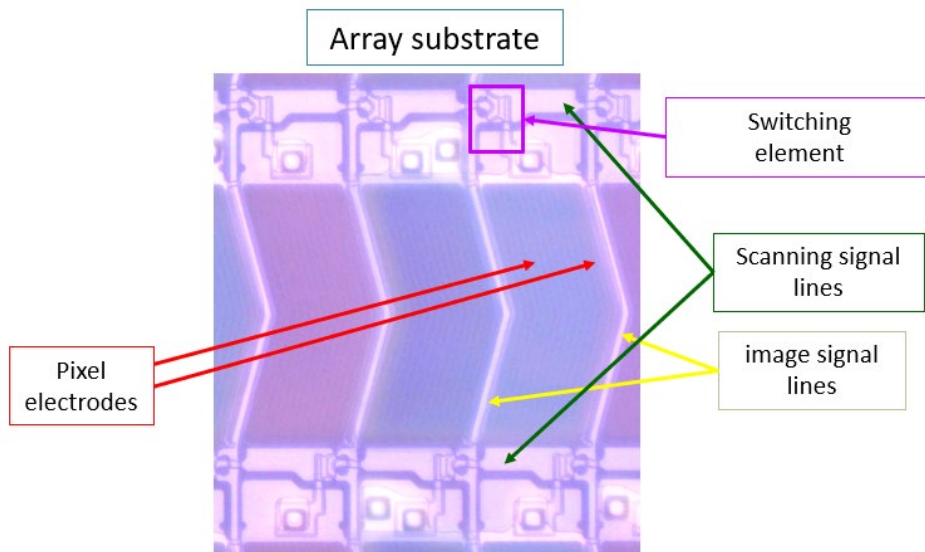
63. The products accused of infringing the '829 patent comprise a plurality of image signal lines located over the surface of the array substrate that is in contact with the liquid crystal layer, the image signal lines being aligned in a same direction. The products accused of infringing the '829 patent comprise a plurality of scanning signal lines located over the surface of the array substrate over which the image signal lines are located, the scanning signal lines being located perpendicular to the image signal lines. As shown above, the array substrate is in contact with the liquid crystal layer. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



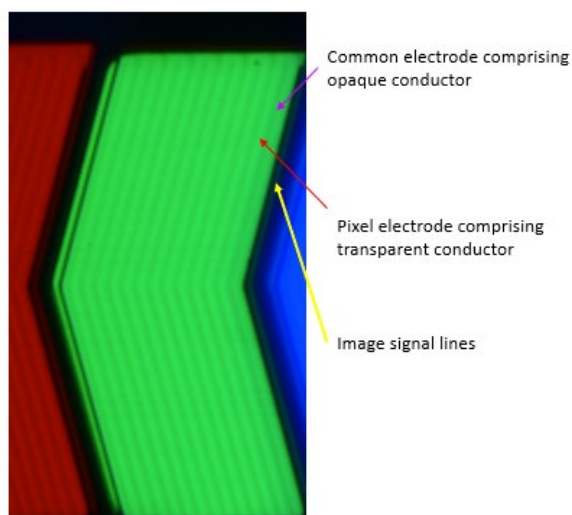
64. The products accused of infringing the '829 patent comprise a line-shaped pixel electrode located in each of pixel regions of the array substrate that is surrounded by the image signal lines and the scanning signal lines, the pixel electrode located parallel to the image signal lines. The products accused of infringing the '829 patent also comprise a common electrode located in each of the pixel regions and located parallel to the pixel electrode. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



65. The products accused of infringing the '829 patent comprise a switching element for electrically connecting the pixel electrode and one of the image signal lines in response to a signal received from the scanning signal lines. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



66. The products accused of infringing the '829 patent are configured such that of the pixel electrode and the common electrode, the electrode that is located adjacent to and parallel to one of the image signal lines or one of the scanning signal lines comprises an opaque conductor, and at least one of the other electrodes comprises a transparent conductor. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



67. At a minimum, LGE, LGEUS, and LGD have known about the '829 patent since at least February 8, 2017, when LGD received notice of their infringement from a former patent owner Godo Kaisha IP Bridge 1, and at least by March 7, 2017 when LGD replied to the notice letter. In addition, LGE, LGEUS, and LGD have known about the '829 patent since at least July 29, 2020, when LGD again received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '829 patent since at least July 29, 2020, when LGE received notice of their infringement. Moreover, Heesung, based on information and belief, was on notice of the '829 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '829 patent. On information and belief, display manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.¹⁸

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

68. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '829 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '829 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, inter alia, creating advertisements that promote the infringing

¹⁸ See FN 1, *supra*.

use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. Defendant specifically designs, develops, manufactures, sells, supplies its accused TFT-LCDs and/or LCMs for application in LG's display products (e.g., LG TVs, laptops, monitors, tables, and/or mobile phones), including by obtaining UL Solutions certificates for compliance with U.S. laws and regulations, where Defendant induces LG (e.g.,

LGE and/or LGEUS) to offer for sale, sell, import, and/or use the accused LG display products incorporating Defendants' infringing TFT-LCDs/LCMs in the United States and this District. Defendant undertakes these activities with knowledge or at least willful blindness to LG's significant sales of the products including Defendant's TFT-LCDs/LCMs in the United States and in this District.

69. On information and belief, despite having knowledge of the '829 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '829 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '829 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import and/or sell products accused of infringing the '829 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries, affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '829 patent in the United States.

70. Upon information and belief, despite having knowledge of the '829 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '829 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '829 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

71. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

72. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '829 patent.

COUNT III
(Infringement of U.S. Patent No. 6,801,293)

73. Plaintiff incorporates paragraphs 1 through 72 herein by reference.

74. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

75. Plaintiff is the owner of the '293 patent with all substantial rights to the '293 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

76. The '293 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

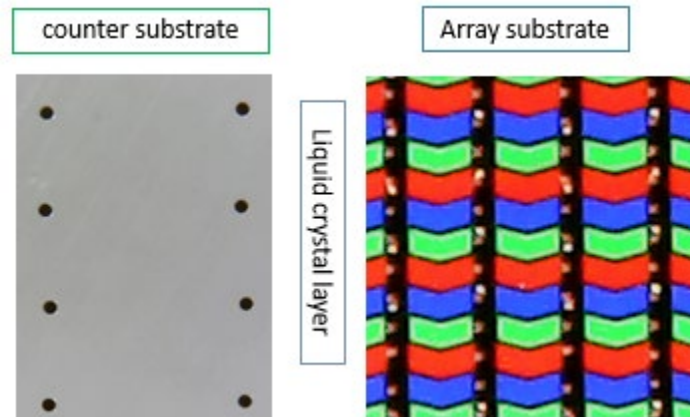
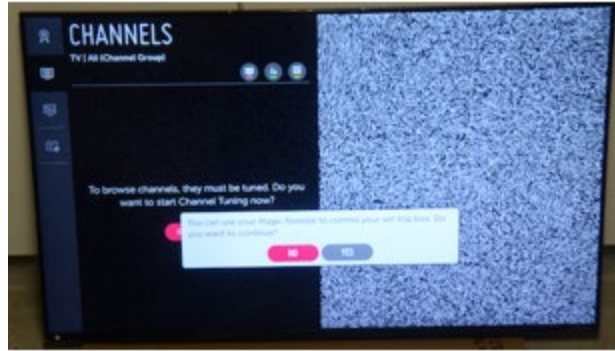
DIRECT INFRINGEMENT (35 U.S.C. §271(a) and §271(g))

77. Defendant has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '293 patent in this District and elsewhere in Texas and the United States.

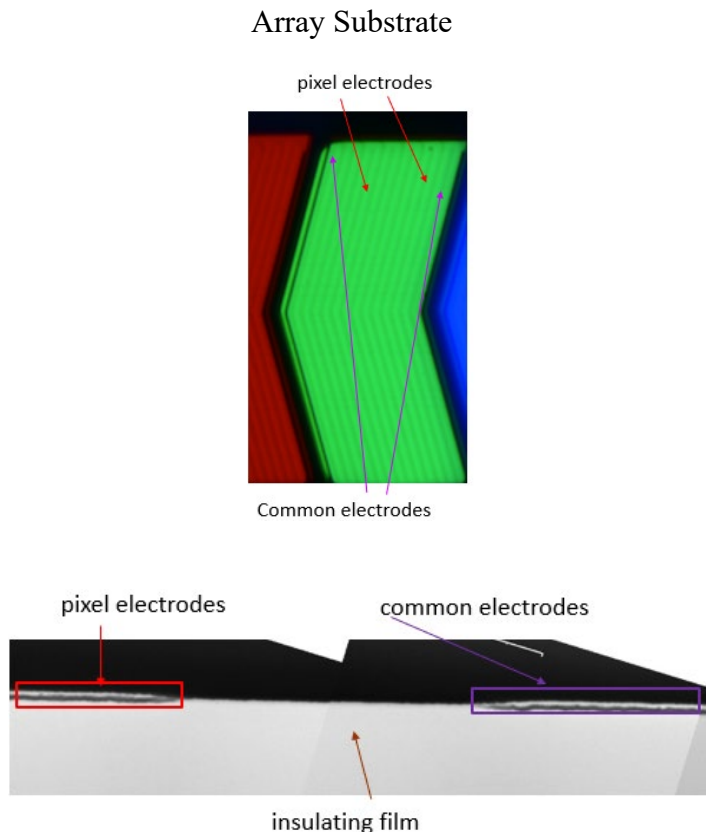
78. On information and belief, and pursuant to 35 U.S.C. §271(a) and §271(g), Defendant, either by itself and/or via an agent, directly infringed literally, and/or under the Doctrine of Equivalents the '293 patent by having made, offered for sale, sold, used, tested, and/or imported Accused Products that were made in a manner that satisfied the limitations of at least claim 1. For example, Defendant directly infringed the '293 patent by offering for sale, selling,

and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '293 patent, to and via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendant sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or designed those products for sale in the United States, thereby directly infringing the '293 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

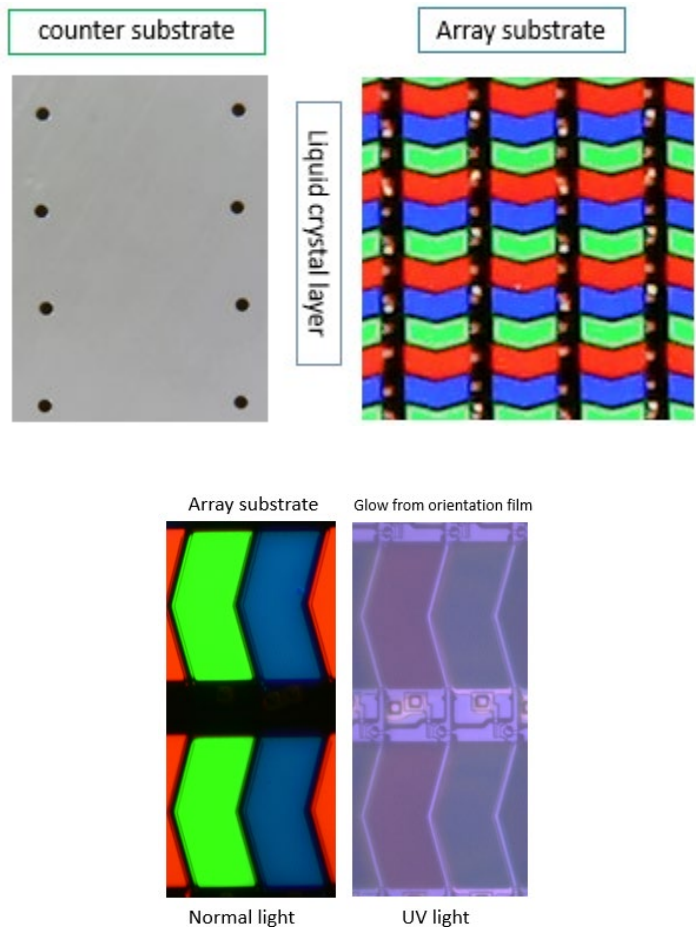
79. The products made using the method of manufacturing accused of infringing at least claim 1 of the '293 patent comprise an in-plane electric field mode liquid crystal element having a pair of substrates. For example, LGD's TFT-LCD (model no. not identified on device) included in products such as the Heesung LCM model no. HC490EQH-SLXA1-211X (included in products such as LGE's TV model no. 49SM8600PUA) was made by a method for manufacturing an in-plane electric field mode liquid crystal element having a pair of substrates:



80. At least one of the substrates on the products made using the method of manufacturing accused of infringing the '293 patent includes pixel electrodes for generating an in-plane electric field, common electrodes, and an insulating film for insulating these electrodes from one another. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



81. The products made using the method of manufacturing accused of infringing the '293 patent include orientation films provided on the inner side of one or both of the substrates and a liquid crystal layer sandwiched between the substrates. For example, the orientation film is evidenced by the ability of the liquid crystal molecules to align. Further, applying a UV light to a polymer-based orientation film will cause the film to glow. An examination of the array substrate of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates the presence of an orientation film that glows under UV light:



82. The products made using the method of manufacturing accused of infringing the '293 patent were made via a stripping step of stripping, by rubbing, a predetermined portion of the orientation film on the electrodes or lines once formed on the inner side of one or both of the substrates. The particular details are within Heesung and/or LGD's possession, custody, and control.

83. In addition, Heesung has imported into the United States, offered to sell, sold or used within the United States infringing products, including those identified herein, that are manufactured by patented methods claimed in the '293 patent, including at least claim 1, as articulated herein. Such infringing manufacturing process has been performed during the term of the '293 patent, without a license to the Defendant for such infringement, and such accused and

infringing products have not been materially changed by any subsequent process, nor have such accused and infringing products become a trivial and/or non-essential component of another product.

84. At a minimum, LGE, LGEUS, and LGD have known about the '293 patent since at least July 29, 2020, when LGD received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '293 patent since at least July 29, 2020, when LGE received notice of their infringement. Moreover, Heesung, based on information and belief, was on notice of the '293 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '293 patent. On information and belief, display manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.¹⁹

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

85. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '293 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '293 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, inter alia, creating advertisements that promote the infringing

¹⁹ See FN 1, *supra*.

use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. Defendant specifically designs, develops, manufactures, sells, supplies its accused TFT-LCDs and/or LCMs for application in LG's display products (e.g., LG TVs, laptops, monitors, tables, and/or mobile phones), including by obtaining UL Solutions certificates for compliance with U.S. laws and regulations, where Defendant induces LG (e.g.,

LGE and/or LGEUS) to offer for sale, sell, import, and/or use the accused LG display products incorporating Defendants' infringing TFT-LCDs/LCMs in the United States and this District. Defendant undertakes these activities with knowledge or at least willful blindness to LG's significant sales of the products including Defendant's TFT-LCDs/LCMs in the United States and in this District.

86. On information and belief, despite having knowledge of the '293 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '293 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '293 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import and/or sell products accused of infringing the '293 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries, affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '293 patent in the United States.

87. Upon information and belief, despite having knowledge of the '293 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '293 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '293 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

88. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

89. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '293 patent.

COUNT IV
(Infringement of U.S. Patent No. 6,816,208)

90. Plaintiff incorporates paragraphs 1 through 89 herein by reference.

91. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

92. Plaintiff is the owner of the '208 patent with all substantial rights to the '208 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

93. The '208 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

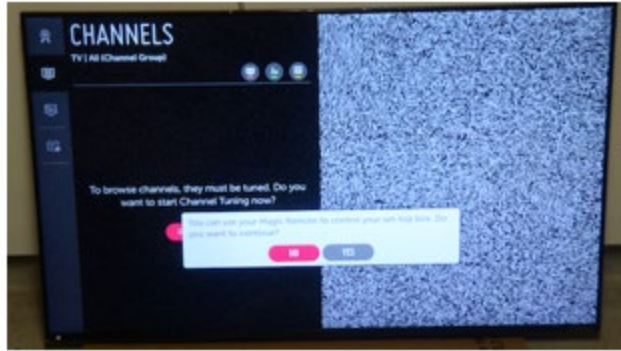
DIRECT INFRINGEMENT (35 U.S.C. §271(a))

94. Heesung has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '208 patent in this District and elsewhere in Texas and the United States.

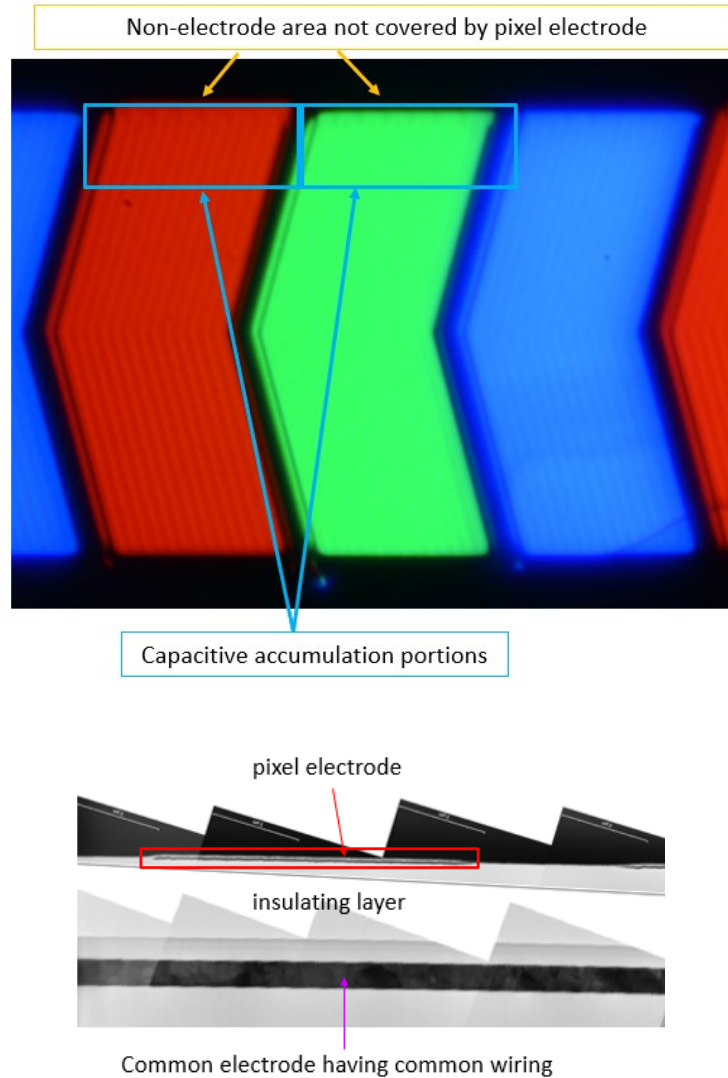
95. Heesung directly infringed the '208 patent via 35 U.S.C. § 271(a) by having made, offered for sale, sold, used, tested, and/or imported those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '208 patent. For example, Heesung, either by itself and/or via an agent, directly infringed the '208 patent by offering for sale, selling, and/or importing those Accused Products,

their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '208 patent, to and/or via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Heesung sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or designed those products for sale in the United States, thereby directly infringing the '208 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

96. For example, Heesung infringed claim 1 of the '208 patent. The products accused of infringing the '208 patent comprise a liquid crystal display device. For example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC490EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises an active matrix liquid crystal display device:

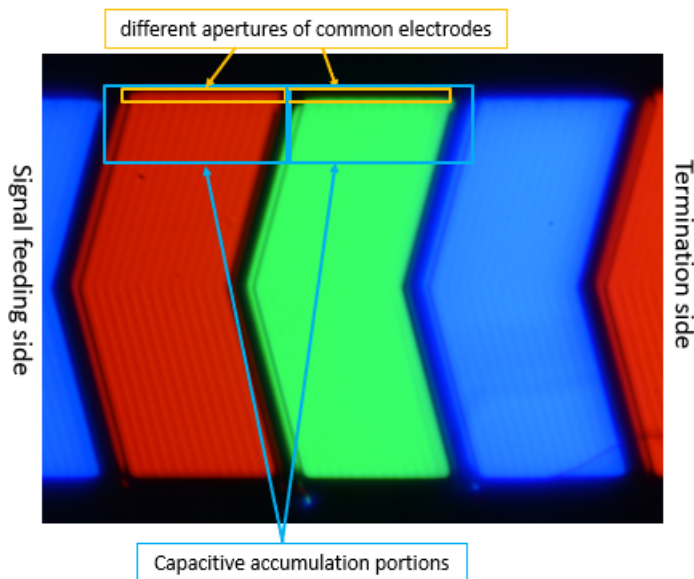


97. The products accused of infringing the '208 patent comprise a capacitive accumulation portion formed by overlapping a pixel electrode, an insulating layer and a common electrode for each pixel area, and a non-electrode area in a part of the pixel area, which is not covered with a pixel electrode. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



98. The products accused of infringing the '208 patent are configured such that a peripheral shape of said capacitive accumulation portion on a side contacting said non-electrode area is substantially the same between respective pixels, and a value of a storage capacity in said capacitive accumulation portion of one pixel at a signal feeding side is larger than that of an adjacent pixel at a termination side, wherein the value of the storage capacity in said capacitive accumulation portion of the one pixel is different from that of the adjacent pixel by varying an aperture in the common electrode of the adjacent pixel with respect to the aperture of the one pixel.

For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



99. At a minimum, LGE, LGEUS, and LGD have known about the '208 patent since at least July 29, 2020, when LGD received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '208 patent since at least July 29, 2020, when LGE received notice of their infringement. Moreover, Heesung, based on information and belief, was on notice of the '208 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '208 patent. On information and belief, display manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.²⁰

²⁰ See FN 1, *supra*.

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

100. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '208 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '208 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or

consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. Defendant specifically designs, develops, manufactures, sells, supplies its accused TFT-LCDs and/or LCMs for application in LG's display products (e.g., LG TVs, laptops, monitors, tables, and/or mobile phones), including by obtaining UL Solutions certificates for compliance with U.S. laws and regulations, where Defendant induces LG (e.g., LGE and/or LGEUS) to offer for sale, sell, import, and/or use the accused LG display products incorporating Defendants' infringing TFT-LCDs/LCMs in the United States and this District. Defendant undertakes these activities with knowledge or at least willful blindness to LG's significant sales of the products including Defendant's TFT-LCDs/LCMs in the United States and in this District.

101. On information and belief, despite having knowledge of the '208 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '208 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '208 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import and/or sell products accused of infringing the '208 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries,

affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '208 patent in the United States.

102. Upon information and belief, despite having knowledge of the '208 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '208 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '208 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

103. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

104. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '208 patent.

COUNT V
(Infringement of U.S. Patent No. 6,850,303)

105. Plaintiff incorporates paragraphs 1 through 104 herein by reference.

106. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

107. Plaintiff is the owner of the '303 patent with all substantial rights to the '303 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

108. The '303 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

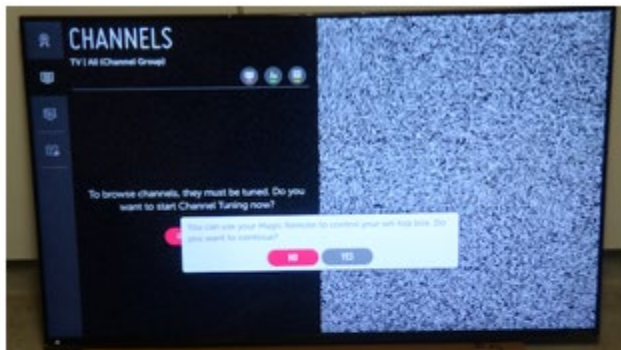
DIRECT INFRINGEMENT (35 U.S.C. §271(a))

109. Heesung has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '303 patent in this District and elsewhere in Texas and the United States.

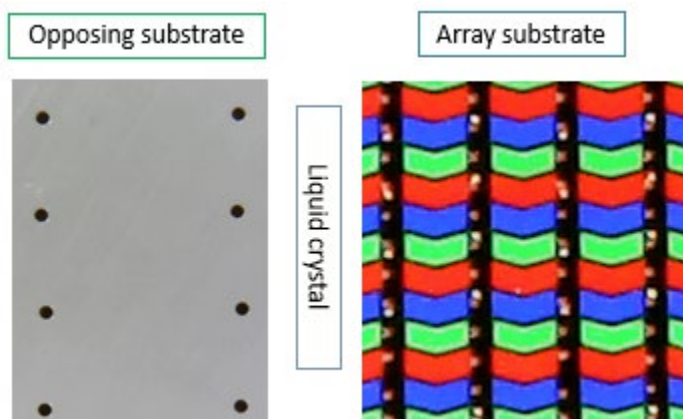
110. Heesung directly infringed the '303 patent via 35 U.S.C. § 271(a) by having made, offered for sale, sold, used, tested, and/or imported those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '303 patent. For example, Heesung, either by itself and/or via an agent, directly infringed the '303 patent by offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '303 patent, to and/or via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Heesung sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or designed those products for sale in the United States, thereby directly infringing the '303 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

111. For example, Heesung infringed claim 1 of the '303 patent. The products accused of infringing the '303 patent comprise a liquid crystal display device. For example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC490EQH-SLXA1-211X, which

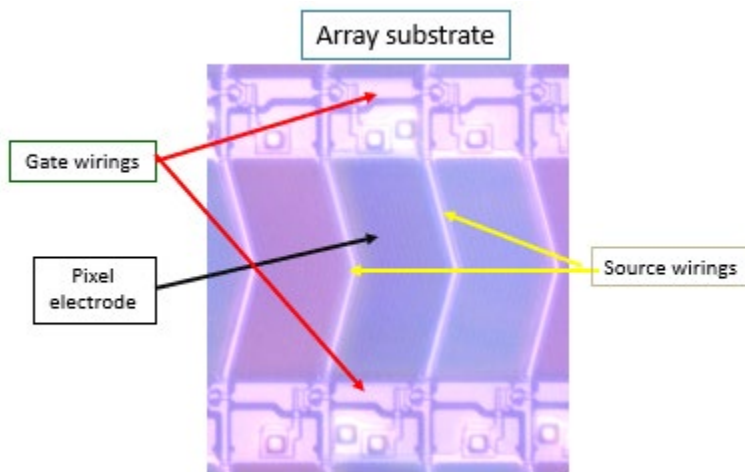
includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display device:



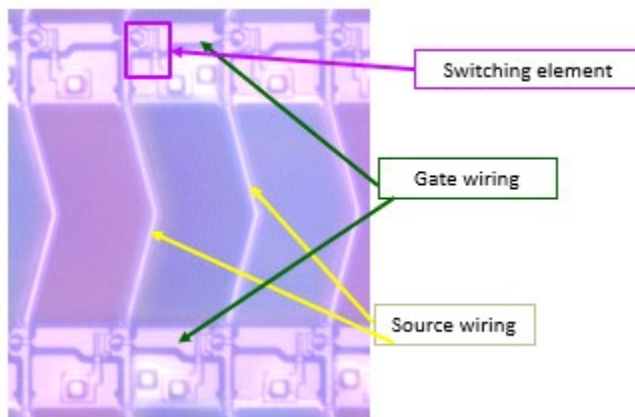
112. The products accused of infringing the '303 patent comprise an array substrate, an opposing substrate facing the array substrate, and liquid crystal held between the array substrate and the opposing substrate. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



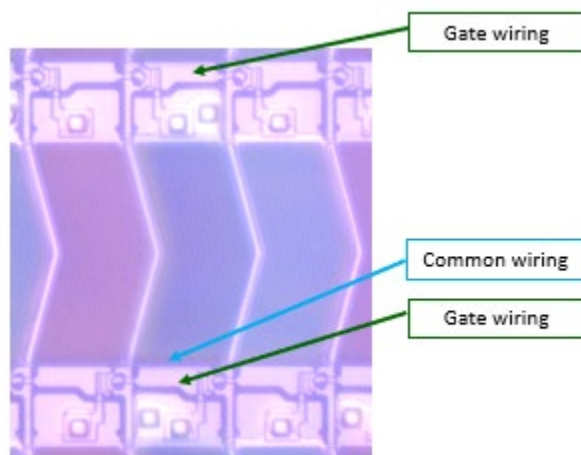
113. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a plurality of gate wirings and a plurality of source wirings intersecting each other and a pixel electrode disposed in a region defined by two adjacent gate wirings and two adjacent source wirings. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



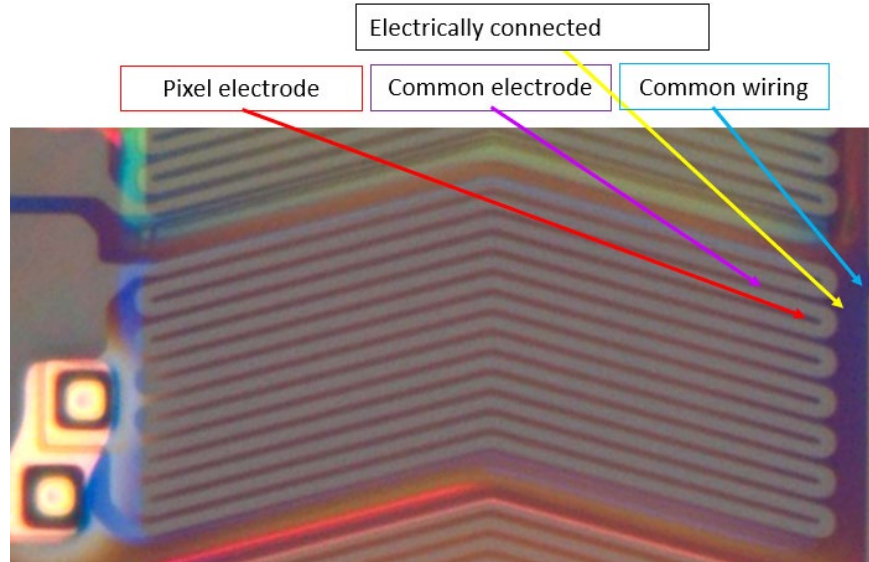
114. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a switching element for switching a voltage applied to the pixel electrode from the source wiring based on a signal voltage fed from the gate wiring. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



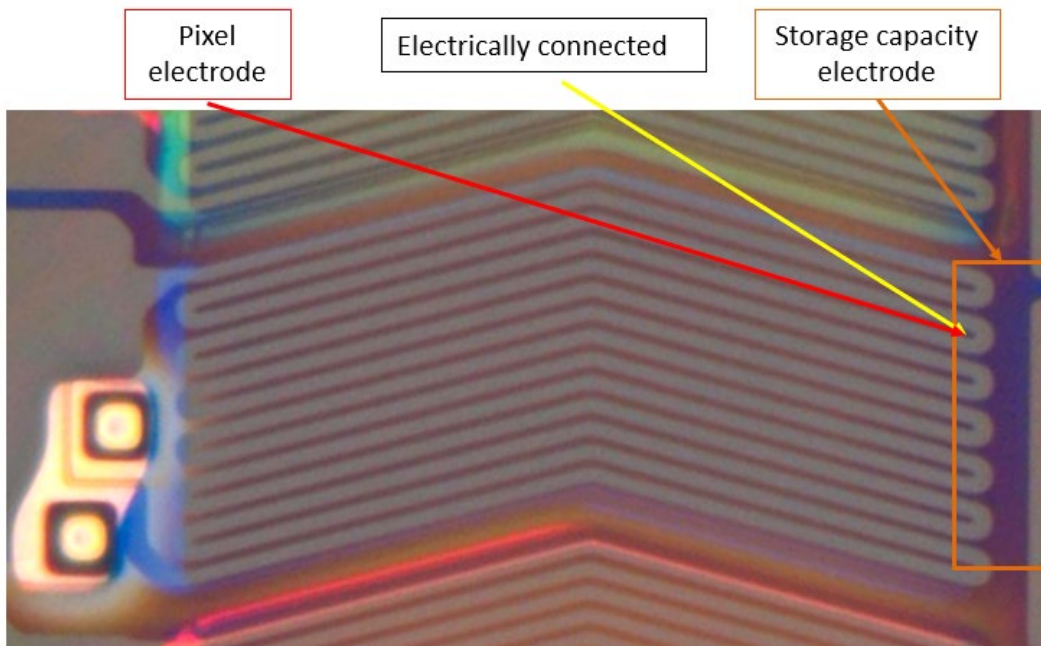
115. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a common wiring formed between the two adjacent gate wirings. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



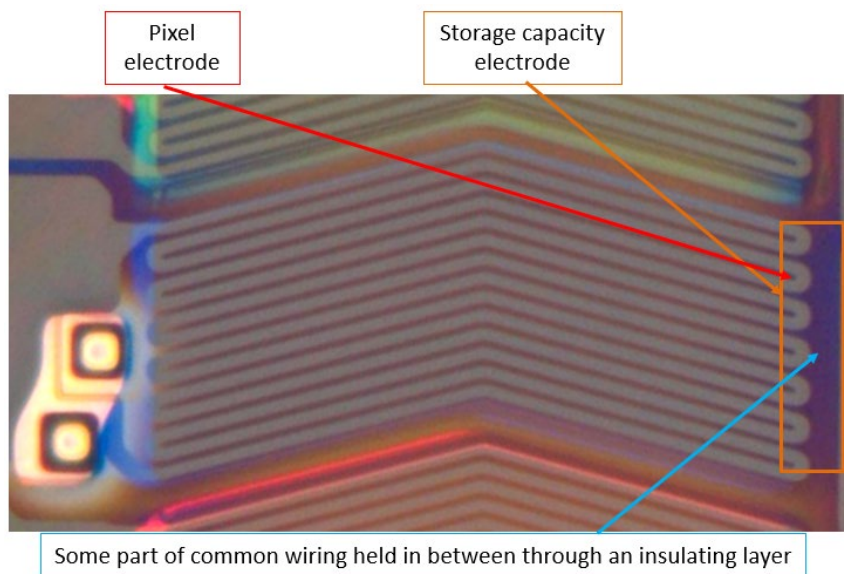
116. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a common electrode being electrically connected to the common wiring and generating an electric field between the common electrode and the pixel electrode creating a voltage for driving the liquid crystal. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



117. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a storage capacity electrode electrically connected to the pixel electrode. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



118. The products accused of infringing the '303 patent are configured such that the pixel electrode and the storage capacity electrode are layered so as to hold at least some part of the common wiring in between through an insulating layer. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



119. At a minimum, LGE, LGEUS, and LGD have known about the '303 patent since at least July 29, 2020, when LGD received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '303 patent since at least July 29, 2020, when LGE received notice of their infringement. Moreover, Heesung, based on information and belief, was on notice of the '303 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '303 patent. On information and belief, display manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.²¹

²¹ See FN 1, *supra*.

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

120. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '303 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '303 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or

consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. Defendant specifically designs, develops, manufactures, sells, supplies its accused TFT-LCDs and/or LCMs for application in LG's display products (e.g., LG TVs, laptops, monitors, tables, and/or mobile phones), including by obtaining UL Solutions certificates for compliance with U.S. laws and regulations, where Defendant induces LG (e.g., LGE and/or LGEUS) to offer for sale, sell, import, and/or use the accused LG display products incorporating Defendants' infringing TFT-LCDs/LCMs in the United States and this District. Defendant undertakes these activities with knowledge or at least willful blindness to LG's significant sales of the products including Defendant's TFT-LCDs/LCMs in the United States and in this District.

121. On information and belief, despite having knowledge of the '303 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '303 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '303 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import and/or sell products accused of infringing the '303 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries,

affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '303 patent in the United States.

122. Upon information and belief, despite having knowledge of the '303 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '303 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '303 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

123. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Count. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

124. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '303 patent.

COUNT VI
(Infringement of U.S. Patent No. 6,906,769)

125. Plaintiff incorporates paragraphs 1 through 124 herein by reference.

126. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

127. Plaintiff is the owner of the '769 patent with all substantial rights to the '769 patent including the exclusive right to enforce, sue, and recover damages for past infringement.

128. The '769 patent is valid, enforceable and was duly issued in full compliance with Title 35 of the United States Code.

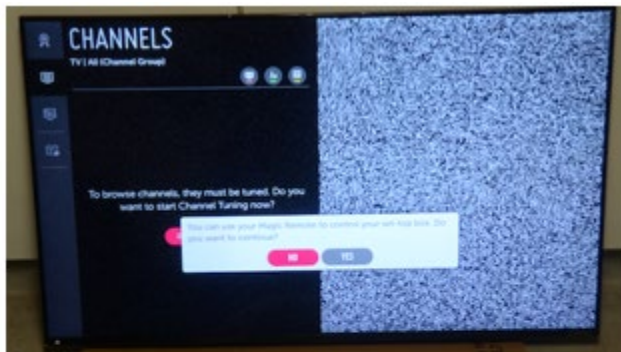
DIRECT INFRINGEMENT (35 U.S.C. §271(a))

129. Heesung has infringed literally, and/or under the Doctrine of Equivalents, one or more claims of the '769 patent in this District and elsewhere in Texas and the United States.

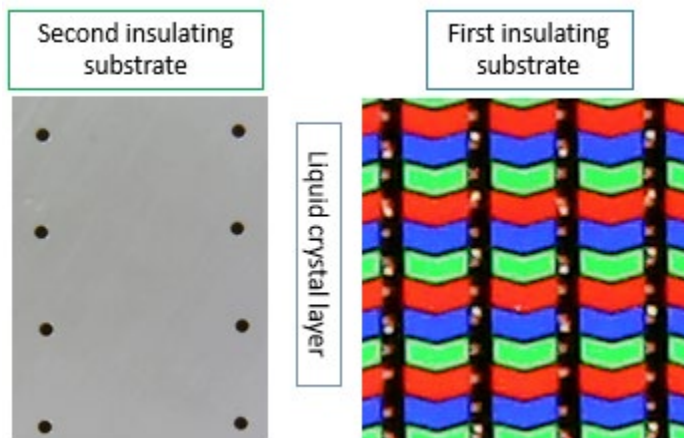
130. Heesung directly infringed the '769 patent via 35 U.S.C. § 271(a) by having made, offered for sale, sold, used, tested, and/or imported those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '769 patent. For example, Heesung, either by itself and/or via an agent, directly infringed the '769 patent by offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies and claims of the '769 patent, to and/or via its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Heesung sold and made some Accused Products outside of the United States, delivered those products to its customers, agents, distributors, and/or subsidiaries in the United States, or in the case that it delivered the Accused Products outside of the United States it did so intending and/or knowing that those products were destined for the United States and/or designed those products for sale in the United States, thereby directly infringing the '769 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013).

131. Heesung infringed claim 1 of the '769 patent. The products accused of infringing the '769 patent comprise a liquid crystal screen display. For example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC490EQH-SLXA1-211X, which includes an

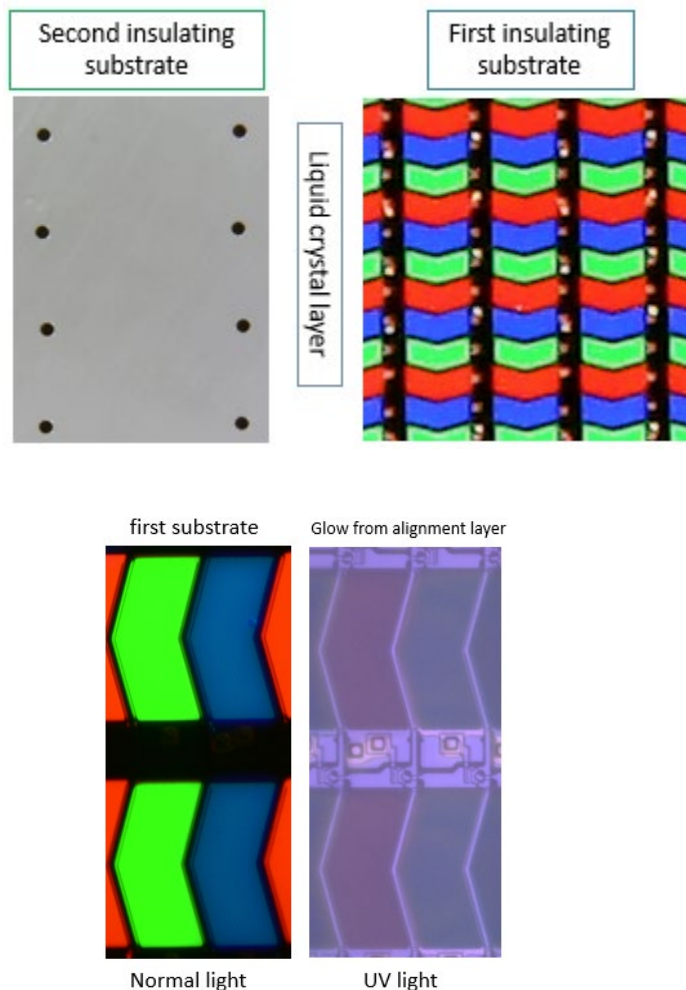
LGD LCD (model no. not identified on device), such that each comprises a liquid crystal screen display:



132. The products accused of infringing the '769 patent comprise a first insulating substrate, a second insulating substrate facing the first insulating substrate, and a liquid crystal layer formed between the first and second insulating substrates. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:

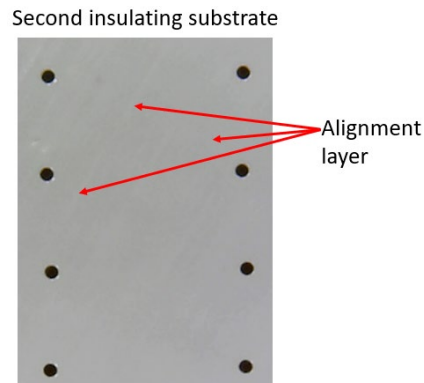


133. The products accused of infringing the '769 patent comprise alignment layers formed between the first insulating substrate and the liquid crystal layer and between the second insulating substrate and the liquid crystal layer, respectively, for aligning the liquid crystal layer. For example, an alignment layer, such as a polymer-based orientation film, between the first insulating substrate and the liquid crystal layer is evidenced by applying a UV light to the substrate. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:

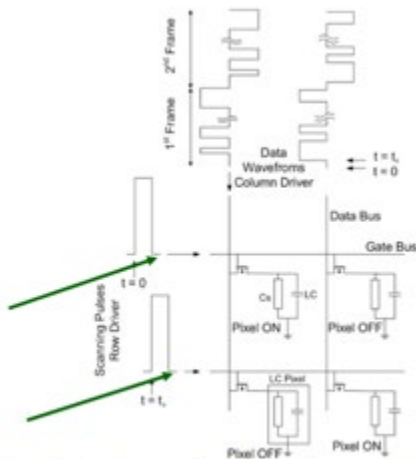
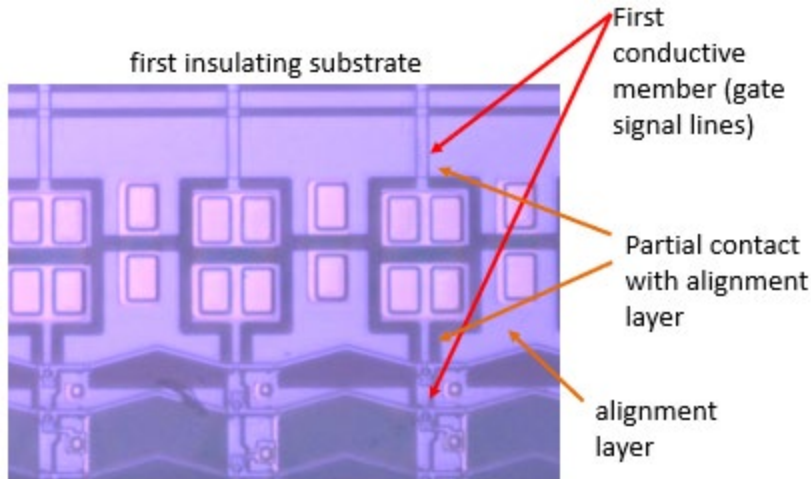


134. The products accused of infringing the '769 patent comprise alignment layers formed between the first insulating substrate and the liquid crystal layer and between the second

insulating substrate and the liquid crystal layer, respectively, for aligning the liquid crystal layer. For example, an alignment layer, such as a polymer-based orientation film, between the second insulating substrate and the liquid crystal layer is necessary for the liquid crystal molecules in the Accused Products to align. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



135. The products accused of infringing the '769 patent comprise a first conductive member which is formed on the first insulating substrate and interposed between the first insulating substrate and its corresponding alignment layer, being in partial contact with the alignment layer and to which a negative voltage is applied, the first conductive member being gate signal lines. For example, in the products accused of infringing the '769 patent gate lines are between the first insulating substrate and the corresponding alignment layer. Negative voltages are applied to the gate lines to operate the thin film transistors, as can be seen below in an exemplary LCD schematic. For example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC490EQH-SLXA1-211X demonstrates this:



The driving principle _ / voltage control signal (18.5)

Voltage signal:

VDD: plus supply voltage (5V)

DVDD: digital voltage. (3.3V)

AVDD: analog voltage. (12V)

Von, TFT, Gate gate ON voltage. (27V)

Voff, TFT, Gate gate OFF voltage. (- 7V)

VCOM: CF (color filter) internal reference voltage (5.5V)

Gamma voltage: V1=11.48V, V2=11.36V, ----V10=3.59V, V11=3.21V, V12=2.53V, V13=0.43V, V14=0.16V

<https://www.intechopen.com/books/new-developments-in-liquid-crystals/active-matrix-liquid-crystal-displays-operation-electronics-and-analog-circuits-design>

<https://www.pasatiboy.com/info/tft-od-driving-principle-and-related-circuit-21112877.html>

136. At a minimum, LGE, LGEUS, and LGD have known about the '769 patent since at least July 29, 2020, when LGD received notice of their infringement. Furthermore, LGE, LGEUS, and LGD have known about the '769 patent since at least July 29, 2020, when LGE received notice of their infringement. Moreover, Heesung, based on information and belief, was on notice of the '769 patent from at least the foregoing dates as a result of indemnity, contractual, and/or its business relationship with LGE, LGEUS, and/or LGD and did, as a result, receive actual or constructive notice and/or knowledge of the '769 patent. On information and belief, display

manufacturers, such as LGE and LGD, once placed on notice of infringement, would, as prudent businesses, provide that same notice to suppliers and component suppliers.²²

INDIRECT INFRINGEMENT (35 U.S.C. §271(b))

137. On information and belief, since at least the above-mentioned dates when Heesung was on notice of its infringement, Heesung actively induced, under U.S.C. § 271(b), distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers to directly infringe one or more claims of the '769 patent by making, using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned dates, Heesung did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '769 patent. Heesung has caused and/or intended to cause, and took affirmative steps to induce infringement by distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to infringing features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. As just one example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold Accused Products in the U.S. by marking the Accused Products with UL Solutions labels indicating compliance with U.S. laws and regulations for the Accused Products destined and

²² See FN 1, *supra*.

intended to be sold in the U.S. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. In another example, Heesung actively induced distributors, retailers, customers, subsidiaries, importers, testing outfits, and/or consumers that have purchased, imported, used, offered for sale, and/or sold to include the accused Heesung TFT-LCDs and/or LCMs that already comply with U.S. laws and regulations via UL Solutions in accused end products (e.g., TVs, monitors, laptops, tablets, mobile phones) because it allows for such entities to streamline the UL Solutions certification process for such end products if the Heesung TFT-LCD and/or LCMs have already been certified by UL Solutions. <https://marks.ul.com/about/ul-listing-and-classification-marks/appearance-and-significance/marks-for-north-america/>. Defendant specifically designs, develops, manufactures, sells, supplies its accused TFT-LCDs and/or LCMs for application in LG's display products (e.g., LG TVs, laptops, monitors, tables, and/or mobile phones), including by obtaining UL Solutions certificates for compliance with U.S. laws and regulations, where Defendant induces LG (e.g., LGE and/or LGEUS) to offer for sale, sell, import, and/or use the accused LG display products incorporating Defendants' infringing TFT-LCDs/LCMs in the United States and this District. Defendant undertakes these activities with knowledge or at least willful blindness to LG's significant sales of the products including Defendant's TFT-LCDs/LCMs in the United States and in this District.

138. On information and belief, despite having knowledge of the '769 patent and its infringement, Heesung specifically intended for others to import and sell products accused of infringing the '769 patent. For example, Heesung specifically intended for its U.S.-based subsidiaries or customers to import and sell products accused of infringing the '769 patent. On information and belief, Heesung instructed and encouraged the importers or customers to import

and/or sell products accused of infringing the '769 patent. On information and belief, the purchase and sale agreements between Heesung and the importers or customers provide such instruction and/or encouragement. Further, on information and belief, Heesung's U.S.-based subsidiaries, affiliates, employees, agents, and/or related companies existed for inter alia, the purpose of importing and selling products accused of infringing the '769 patent in the United States.

139. Upon information and belief, despite having knowledge of the '769 patent and knowledge that each was directly and/or indirectly infringing one or more claims of the '769 patent, Heesung nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Heesung's infringing activities relative to the '769 patent have been willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

140. Plaintiff has been damaged as a result of Defendant's infringing conduct described in this Court. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendant's 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.

141. Plaintiff has complied with the requirements of 35 U.S.C. § 287, to the extent necessary and/or applicable, and is entitled to collect pre- and post-filing damages for Defendant's infringements of the '769 patent.

CONCLUSION

142. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of the Defendant's wrongful acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

143. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

Plaintiff requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

Plaintiff asks that the Court find in its favor and against Defendant and that the Court grant Plaintiff the following relief:

1. A judgment that Defendant has infringed the Asserted Patents as alleged herein, directly and/or indirectly by way of inducing infringement of such patents;
2. A judgment for an accounting of all damages sustained by Plaintiff as a result of the acts of infringement by Defendant;
3. A judgment and order requiring Defendant to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
4. A judgment and order requiring Defendant to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
5. A judgment and order finding this to be an exceptional case and requiring Defendant to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
6. Such other and further relief as the Court deems just and equitable.

Dated: October 8, 2024

Respectfully submitted,

/s/ Patrick J. Conroy

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