



3. On information and belief, LG Electronics U.S.A., Inc., 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.

4. On information and belief, LG Display Co., Ltd. is a 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.

5. On information and belief, New Optics, Ltd. is a corporation organized under the laws of Korea. Its principal place of business is at 11407 315, Hyuam-ro 392beon-gil, Nam-myeon, Yangju-si, Gyeonggi-do, Republic of Korea.

6. Defendants are engaged (including, as relevant, in the past) in making, using, selling, offering for sale, and/or importing, and/or inducing one another and their respective subsidiaries, affiliates, distributors, suppliers, 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”):

- LGD thin-film transistor liquid crystal displays (“TFT-LCDs”) or liquid crystal modules comprising TFT-LCDs (“LCMs”);
- New Optics TFT-LCDs or LCMs;
- LGE and LGEUS products (*e.g.*, TVs, monitors, laptops, tablets, mobile phones) comprising TFT-LCDs or LCMs; and
- Products comprising LGD or New Optics TFT-LCDs or LCMs.

7. On information and belief, LGD maintains (and has maintained) a corporate presence in the United States via at least its U.S.-based sales and/or distribution subsidiaries and/or agents including, LG Display America, Inc. (“LGDUS”), which is a corporation organized under the laws of the State of Delaware with places of business at least at 2540 North First Street, Suite 400, San Jose, CA 95131; 9600 Great Hills Trail, Suite 150W, Austin, Texas 78759; and 19500 State Highway 249, Suite 260, Houston, Texas 77070.

8. On information and belief, LGD controls (and has controlled) LGDUS, as well as many other subsidiaries. On information and belief, LGDUS provides (and has provided) sales, distribution, research, and/or development support in the United States for its parent LGD, which wholly owns LGDUS. LGDUS is, and has been, an agent of LGD. At the direction and control of LGD, U.S.-based sales and/or distribution subsidiaries including, LGDUS, have imported and continue to import Accused Products into the United States and this District.

9. On information and belief, LGE controls (and has controlled) LGEUS, as well as many other subsidiaries, including, but not limited to, LX International (America), Inc. (including past affiliates and corporate names, such as LG International Corp. and/or LG International (America), Inc. and/or others), which, on information and belief, is (and was) an LGE affiliate and/or subsidiary and/or agent that is (and was) within the supply chain of Accused Products that were shipped to the United States. On information and belief, LGEUS provides (and has provided) sales, distribution, research, and development support in the United States for its parent LGE, which wholly owns LGEUS. LGEUS is, and has been, an agent of LGE. At the direction and control of LGE, U.S.-based sales and/or distribution subsidiaries including, LGEUS, have imported and continue to import Accused Products into the United States and this District.

10. On information and belief, LGE controls LGD (and has controlled) as its largest shareholder, as well as many other subsidiaries and affiliates. On information and belief, LGD is, and has been, an agent of LGE. On information and belief, LGD and LGE share the same office, leadership, employees, and business. At the direction and control of LGE, LGD makes (and has made) and supplies (and has supplied) TFT-LCDs and LCMs that are (and have been) incorporated into end user products by LGE.

11. On information and belief LGE controls (and has controlled) each of LGEUS, LGD, and LGDUS. On information and belief, each of these related companies and other LG companies are, and have been, agents of LGE. For example, LGE, LGEUS, LGD, and LGDUS use the same logo, further emphasizing that these companies are alter egos and/or agents of one another.

12. On information and belief, LGE, LGEUS, and LGD, along with their respective foreign and U.S.-based subsidiaries (*e.g.*, LGDUS), affiliates, distributors, 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 to provide (and have provided) a distribution channel of infringing products within this District and the U.S. nationally.

13. LGE, LGEUS, and LGD operate (and have operated) in agency with their respective foreign and U.S.-based subsidiaries (*e.g.*, LGDUS), affiliates, distributors, retail partners, suppliers, and customers, to provide a distribution channel of infringing products within this District and the U.S. nationally. LGE, LGEUS, and LGD, individually and/or between one another and their respective agents and foreign and U.S.-based subsidiaries, affiliates, distributors,

retail partners, suppliers, and customers, purposefully direct (and have directed) the Accused Products into established distribution channels within this District and the U.S. nationally.

14. On information and belief, New Optics maintains (and has maintained) a corporate presence in the United States via at least its, U.S.-based sales and distribution subsidiaries including, New Optics USA, Inc. (“New Optics US”), which is a corporation organized under the laws of the State of Delaware with a place in at least South Fair Oaks Ave, Pasadena, California 91105.

15. On information and belief, New Optics controls (and has controlled) New Optics US. On information and belief, New Optics US provides (and has provided) sales, distribution, research, and/or development support in the United States for their parent New Optics. New Optics US is, and has been, an agent of New Optics. At the direction and control of New Optics, U.S.-based sales and distribution subsidiaries including, New Optics US, have imported Accused Products into the United States and this District.

16. On information and belief, New Optics, along with its respective foreign and U.S.-based subsidiaries (*e.g.*, New Optics US), affiliates, distributors, 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 to provide (and have provided) a distribution channel of infringing products within this District and the U.S. nationally.

17. New Optics operates (and has operated) in agency with its respective foreign and U.S.-based subsidiaries (*e.g.*, New Optics US), affiliates, distributors, retail partners, suppliers, and customers, to provide (and have provided) a distribution channel of infringing products within

this District and the U.S. nationally. New Optics, individually and/or with their respective agents and foreign and U.S.-based subsidiaries, affiliates, distributors, retail partners, suppliers, and customers, purposefully direct (and have purposefully directed) the Accused Products into established distribution channels within this District and the U.S. nationally.

18. On information and belief, LGE, LGEUS, and LGD, including their respective U.S.-based subsidiaries (*e.g.*, LGDUS), affiliates, distributors, 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. LGE, LGEUS, LGD, and their U.S.-based sales subsidiaries (*e.g.*, LGDUS), individually and/or in concert, conduct business (and have conducted business) in the United States, including importing, 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.”).

19. On information and belief, New Optics, including its respective U.S.-based sales subsidiaries (*e.g.*, New Optics US), affiliates, distributors, retail partners, and/or 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. New Optics and its U.S.-based sales subsidiaries (e.g., New Optics US), individually and/or in concert, conduct business (and have conducted business) in the United States, including importing, 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.”).

20. Through offers to sell, sales, imports, distributions, and other related agreements to transfer ownership of Defendants' Accused Products by and/or to affiliates, distributors, subsidiaries, suppliers, retail partners, customers, agents, and/or other Defendants, Defendants are operating in (and have operated in) and maintaining (and maintained) a significant business presence in the U.S. and/or through their U.S. subsidiaries or agents, Defendants do business in the U.S., the state of Texas, and in the Eastern District of Texas.

#### **JURISDICTION AND VENUE**

21. Plaintiff incorporates paragraphs 1 through 20 herein by reference.

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

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

24. With respect to LGE, LGD, and New Optics (the “foreign Defendants”), venue is proper in this District pursuant to 28 U.S.C. §§ 1391(c). The foreign Defendants are foreign entities and may be sued in any judicial district under 28 U.S.C. § 1391(c)(3).

25. With respect to LGEUS, venue is proper in this District under 28 U.S.C. § 1400(b). LGEUS has committed acts of infringement in the District and/or has induced acts of patent infringement by others in this District and has a regular and established place of business within the District. For example, LGEUS has regular and established places of businesses, including a distribution facility, within this District at 2153-2155 Eagle Pkwy, Fort Worth, TX 76177 and 14901 Beach St, Fort Worth, TX 76177. In addition, the LGE Defendants have also conceded that venue is proper in this district in other recent patent infringement actions. *See e.g., SpaceTime3D, Inc. v. LG Elecs, Inc.*, No. 2:22-CV-00049- RWS, Dkt. 19 (E.D. Tex. June 20, 2022) at ¶¶ 18-19 (In a recent patent infringement case regarding LGE’s accused smartphones, LGE stated that “LGE does not contest that the venue is proper in this District”); *WFR IP LLC v. LG Elecs.*, No. 2:22-CV-00245-RWS-RSP (E.D. Tex. Nov. 23, 2022), Dkt. 16 at ¶ 6; *Arigna Tech. Ltd., LG Elecs., Inc.*, No. 2:21-cv-00377, (E.D. Tex. Jan. 26, 2022) Dkt. 24 at ¶¶ 13-14; *Hardin v. LG Elecs., Inc.*, No. 2:21-cv-00289, (E.D. Tex. Nov. 22, 2021) Dkt. 14 at ¶ 6; *Seven Networks, LLC v. LG Elecs., Inc.*, No. 2:21-cv-88, (E.D. Tex. June 7, 2021) Dkt. 12 at ¶ 5.

26. This Court has general and specific personal jurisdiction over the Defendants pursuant to due process and/or the Texas Long Arm Statute because, inter alia, (i) the Defendants have done and continue to do business in Texas and/or (ii) the Defendants have, directly and through intermediaries, distributors, agents, and/or others committed and continue to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling Accused Products in Texas, and/or importing Accused Products into Texas, including by



Internet sales and/or sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing a least a portion of any other infringements alleged herein. Defendants have placed, and are 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. Defendants have derived substantial revenues from their infringing acts occurring within Texas and within this District. Defendants have substantial business in this State and District (including, as relevant, in the past), including: (A) conducting at least part of their 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 their respective alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers.

27. This Court has personal jurisdiction over Defendants, directly or through intermediaries, distributors, importers, customers, subsidiaries, and/or consumers including their U.S.-based sales subsidiaries, as applicable. Through direction and control (including, as relevant, in the past) of such subsidiaries, affiliates, distributors, retail partners, agents, and/or customers, Defendants have 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 Defendants would not offend traditional notions of fair play and substantial justice. Upon information and belief, Defendants compensate their U.S.-based subsidiaries and/or agents for their sales support services in the United States. As such, Defendants have a direct financial interest in their U.S.-based subsidiaries and/or agents, and vice versa.

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

29. Exercising personal jurisdiction over Defendants in this District would not be unreasonable given Defendants' 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.

30. In addition, Defendants, as applicable, have 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, and/or end users, and providing instructions, user manuals, advertising, and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

31. Personal jurisdiction also exists specifically over Defendants because Defendants, directly or through affiliates, subsidiaries, 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.

32. Personal jurisdiction also exists specifically because Defendants and/or their U.S.-based subsidiaries, as applicable, have overlapping executives, interlocking corporate structures, and close relationships as manufacturer, importer, distributor, and/or seller of the products accused of infringement.

33. To the extent the foreign Defendants are not subject to jurisdiction in any state's court of general jurisdiction, exercising jurisdiction over the foreign Defendants 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.

34. In addition, Defendants, directly or through other Defendants, 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.

35. Defendants have advertised their infringing products to customers in Texas and this District through their respective websites.

36. On information and belief, the foreign Defendants control (or have controlled) or otherwise direct (or directed) and authorize (or authorized) all activities of their U.S.-based agents and/or sales and/or distribution subsidiaries, as applicable. Such directed and authorized activities include the U.S.-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. The foreign Defendants' U.S.-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 the foreign Defendants. For example, the foreign Defendants researched, designed, developed, and manufactured the Accused Products, and then directed their U.S.-based sales subsidiaries, distributors, agents, and 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, Defendants conducted infringing activities, and the foreign Defendants' U.S.-based sales subsidiaries and/or distributors and/or agents conducted infringing activities on behalf of the foreign Defendants.

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

38. Via Defendants' alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers that maintained a business presence, operating in, and/or residing in the U.S., Defendants' 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)).

39. On information and belief, Defendants have placed infringing products and/or products that practiced infringing processes into the stream of commerce via established distribution channels comprising at least their subsidiaries, 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, Defendants have, vicariously through and/or in concert with other Defendants, 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.

40. In addition, by way of example, New Optics 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 LG Chem Hangzhou Advanced Materials). Such Accused Products are directed to this District and available for purchase in this District via retailers, such as Best Buy. Also by way of example, and on information and belief, New Optics has (and has had) U.S. based employees that work in connection with the Accused Products.

41. In the alternative, the Court has personal jurisdiction over the foreign Defendants under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law, foreign Defendants are not subject to the jurisdiction of the courts

of general jurisdiction of any state and exercising jurisdiction over the foreign Defendants is consistent with the U.S. Constitution.

### **JOINDER**

42. Plaintiff incorporates paragraphs 1 through 41 herein by reference.

43. Joinder is proper under at least Federal Rule of Civil Procedure 20 and 35 U.S.C. § 299 at least because Defendants' infringing conduct alleged herein arises out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process, or portions thereof, and questions of fact common to all Defendants will arise in this action.

44. The Accused Products fall into four categories, comprising components and/or end products: 1) LGD TFT-LCDs or LCMs; 2) New Optics TFT-LCDs or LCMs; 3) LGE and LGEUS products containing TFT-LCDs or LCMs; and 4) products containing LGD or New Optics TFT-LCDs or LCMs. LGE and LGEUS have made, used, imported, offered for sale, and/or sold infringing products containing New Optics LCMs which contain LGD TFT-LCDs. Thus, at least the LGD TFT-LCDs are common to all Defendants' infringement of the Asserted Patents. Thus, on information and belief, each of the Defendants infringe the same Asserted Patents for having made, used, imported, offered for sale, and/or sold, and/or induced others to make, use, import, offer for sale, and sell LGD TFT-LCDs or products containing LGD TFT-LCDs. Thus, on information and belief, LGD TFT-LCD technology is a common issue for each Defendants' infringement of products containing LGD TFT LCDs, and the factual question of infringement related to LGD TFT-LCDs will thus substantially overlap for all Defendants regarding such products.

45. Further, on information and belief, there are common facts as to sales, importation, distribution, and marketing materials associated with the LGD TFT-LCDs and the LGE, LGEUS, and New Optics products containing the LGD TFT-LCDs.

46. Additionally, on information and belief, there are common facts as to the distribution, supply chain, knowledge, and inducement related to LGD TFT-LCDs and the LGE, LGEUS, and New Optics products containing LGD TFT-LCDs destined to be sold, used, imported, offered for sale, and/or sold in the United States.

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

47. Plaintiff incorporates paragraphs 1 through 46 herein by reference.

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

49. 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.

50. 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))**

51. Defendants have 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.

52. Defendants 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, Defendants, either by themselves (individually and/or in concert) 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

53. Furthermore, LGE directly infringed the '798 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constituted direct infringement of the '798 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.



54. Additionally, LGD directly infringed the '798 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '798 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

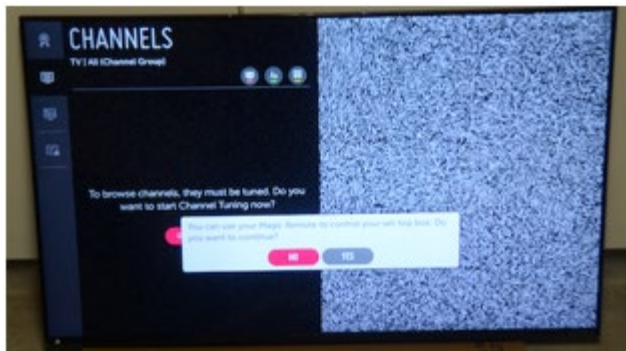
55. Further, New Optics directly infringed the '798 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '798 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant timeframe. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has (and has had) the

right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

56. For example, Defendants infringed claim 1 of the '798 patent. The products accused of infringing the '798 patent comprise a liquid crystal display unit. For example, LGD's TFT-LCD model no. LM270QQ1(SD)(D1), which is used in products such as the Apple iMac Pro, comprises a liquid crystal display unit:



In another example, LG's TV model no. 49SM8600PUA includes Heesung LCM model no. HC49EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display unit:

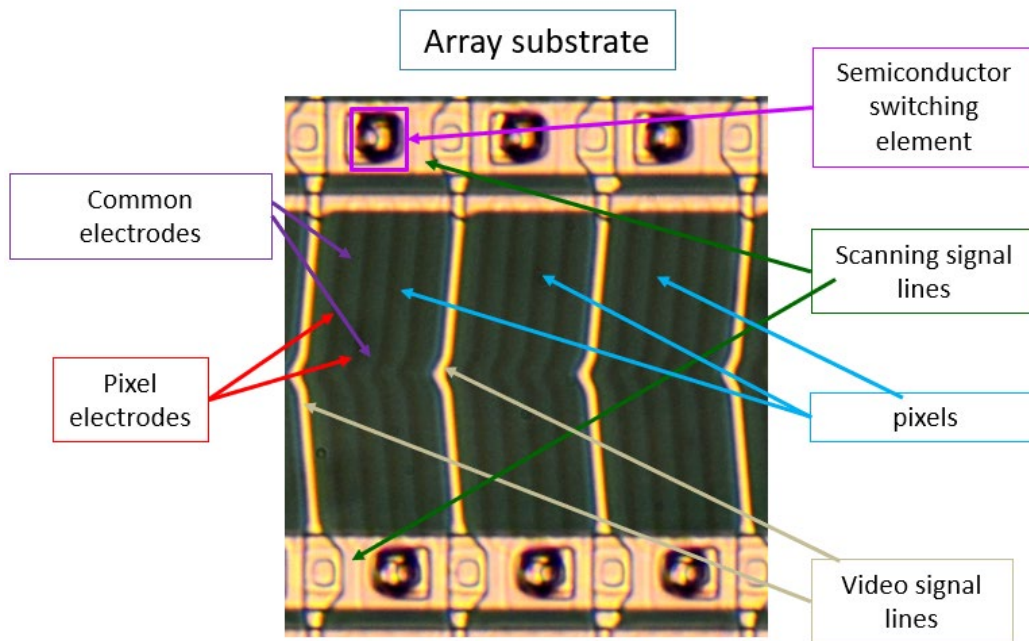


In a further example, LG's TV model no. 55UM7300PUA includes New Optics LCM model no. NC550DQG-AAHZ1, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display unit:

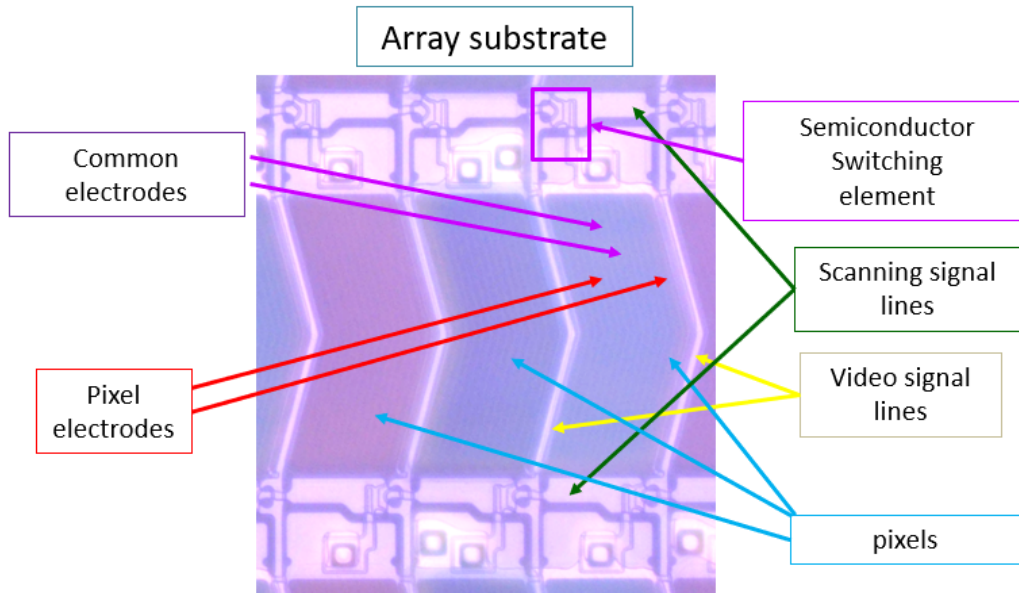




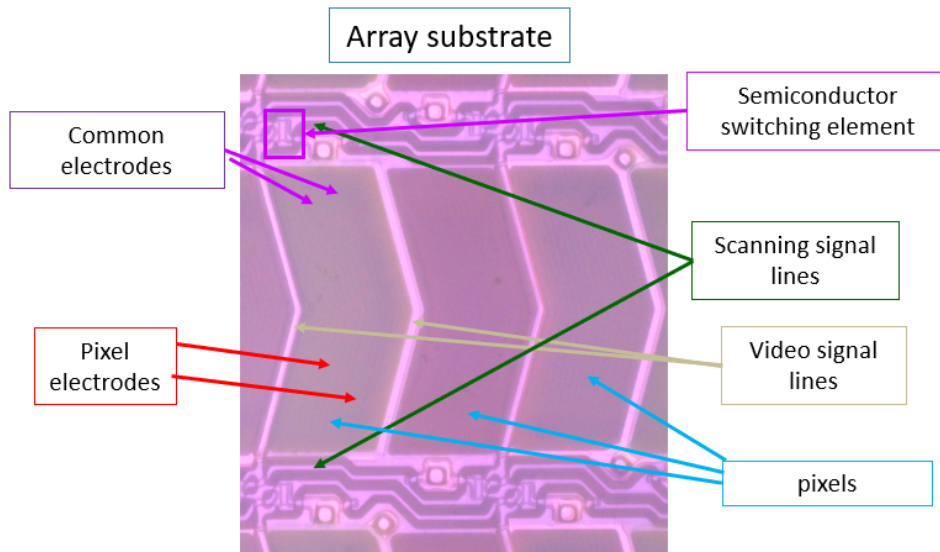
57. The products accused of infringing the '798 patent comprise a plurality of pixels each including a plurality of common electrodes, a plurality of pixel electrodes, and a semiconductor switching element. The products accused of infringing the '798 patent also comprise an array substrate having the 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 model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

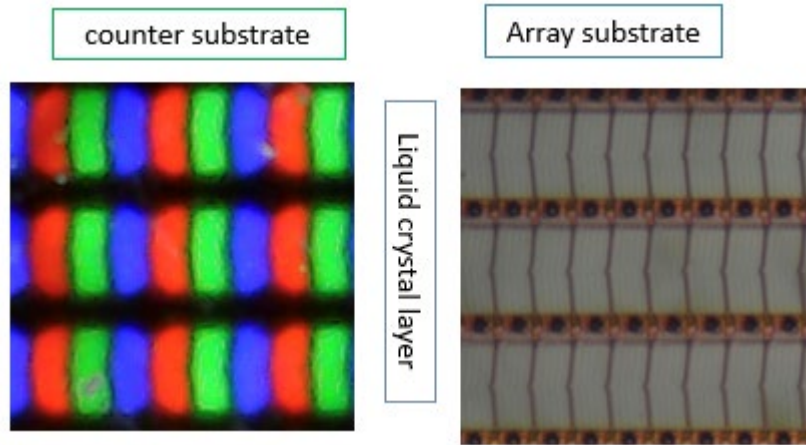


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

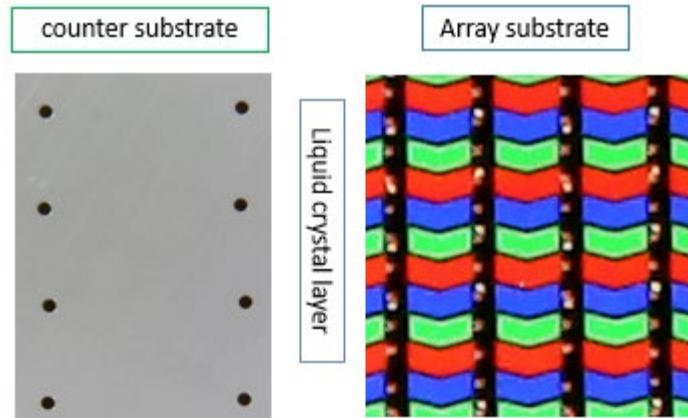


58. The products accused of infringing the '798 patent comprise a counter substrate arranged opposite the array substrate, and a liquid crystal layer sandwiched between the array

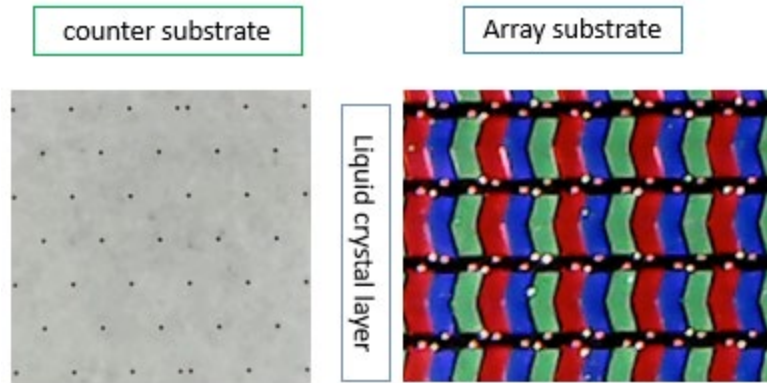
substrate and the counter substrate. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



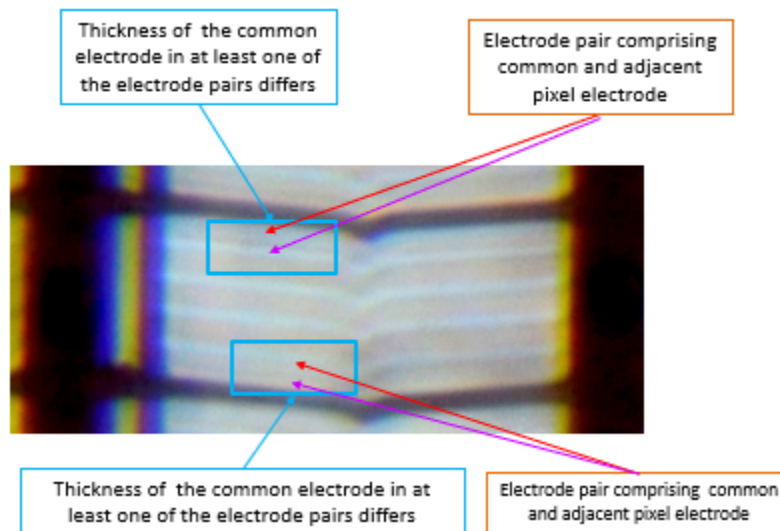
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



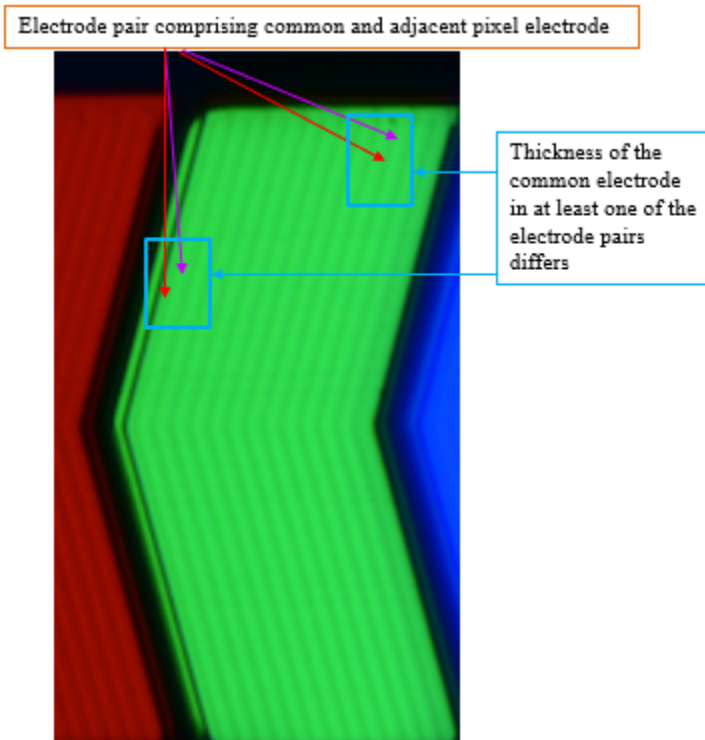
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



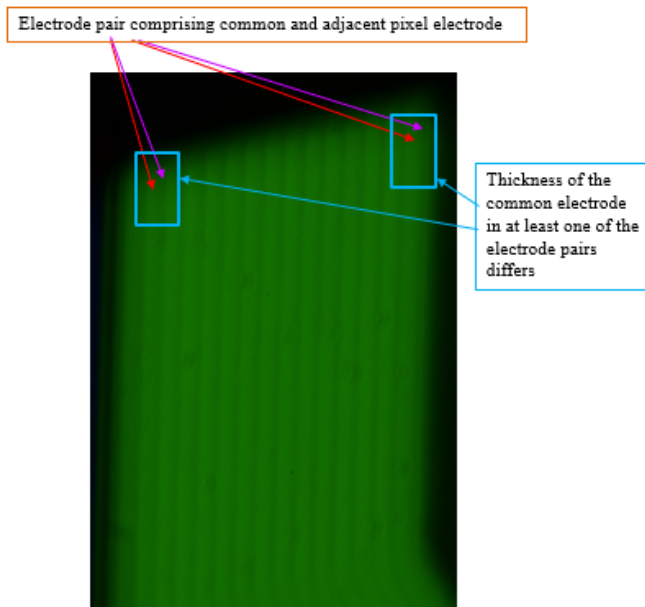
59. Each of the pixels in the products accused of infringing the '798 patent includes a plurality of electrode pairs, each electrode pair comprising one of the common electrodes and an adjacent one of the pixel electrodes, and at least one of the electrode pairs differs from other electrode pairs in a thickness of its common electrode or a thickness of its pixel electrode. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:





60. 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. Further, on information and belief, LGD's conduct before the United States Patent and Trademark Office ("USPTO") and foreign offices, suggest that it was aware of the '798 patent prior to receiving any letters. For example, in prosecuting U.S. Patent No. 6,680,772, LGD has known of the '798 patent. In another example, in prosecuting U.S. Patent Publication No. 20110018790A1, LGD has known of the '798 patent. In a further example, in prosecuting U.S. Patent No. 6,297,866, LGD has known of the '798 patent. Based on information and belief, LGE was on notice of the '798 patent from at least the foregoing dates that LGD was on notice of the '798 patent as a result of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>1</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '798 patent from at least the foregoing dates that LGD was on notice of the '798 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company to LGEUS.<sup>2</sup> On

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<sup>1</sup> 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.").

<sup>2</sup> See FN 1, *supra*.

information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '798 patent from at least the foregoing dates that LGE was on notice of the '798 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>3</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>4</sup>

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

61. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '798 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended to cause, and took affirmative steps to induce infringement by their 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

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<sup>3</sup> See FN 1, *supra*.

<sup>4</sup> See FN 1, *supra*.

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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD and New Optics 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 LGD and New Optics 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/>.

62. On information and belief, despite having knowledge of the '798 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '798 patent. For example, LGE, LGEUS, LGD, and New

Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '798 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

63. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and New Optics' 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.

64. Plaintiff has been damaged as a result of Defendants' infringing conduct described in this Count. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendants' 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.

65. 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 Defendants' infringements of the '798 patent.

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

66. Plaintiff incorporates paragraphs 1 through 65 herein by reference.

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

68. 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.

69. 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))**

70. Defendants have 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.

71. Defendants 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, Defendants, either by themselves (individually and/or in concert) 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

72. Furthermore, LGE directly infringed the '829 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constituted direct infringement of the '829 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.

73. Additionally, LGD directly infringed the '829 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '829 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or

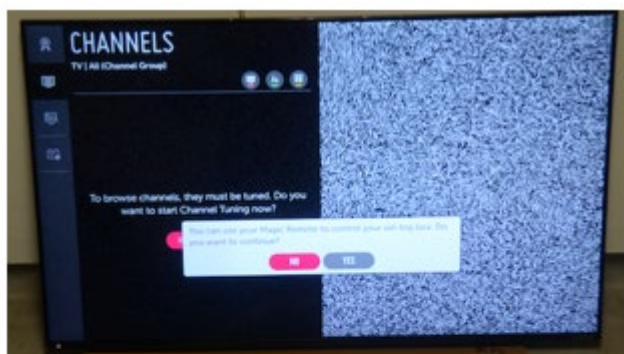
affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

74. Further, New Optics directly infringed the '829 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '829 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant timeframe. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has (and has had) the right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

75. For example, Defendants infringed claim 1 of the '829 patent. The products accused of infringing the '829 patent comprise a liquid crystal display panel. For example, LGD's TFT-LCD model no. LM270QQ1(SD)(D1), which is used in products such as the Apple iMac Pro, comprises a liquid crystal display panel:



In another example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC49EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display panel:

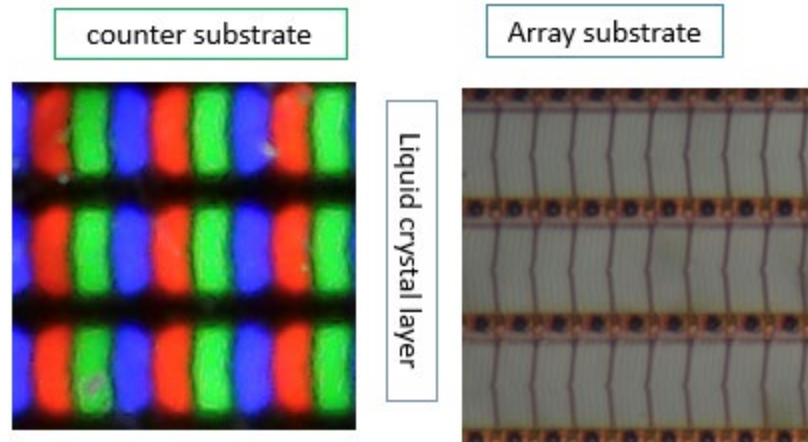




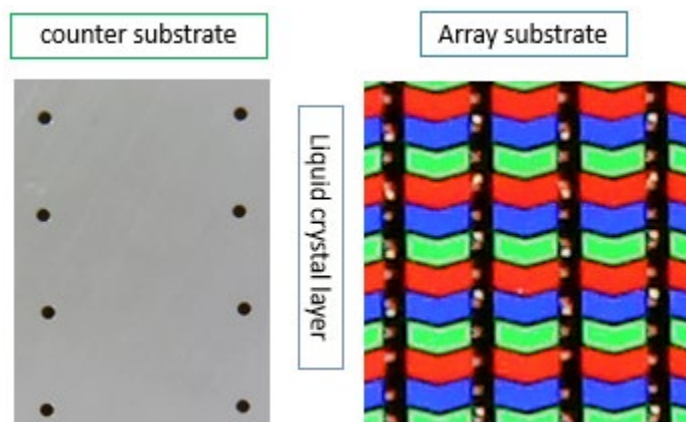
In a further example, LGE's TV model no. 55UM7300PUA includes New Optics LCM model no. NC550DQG-AAHZ1, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display panel:



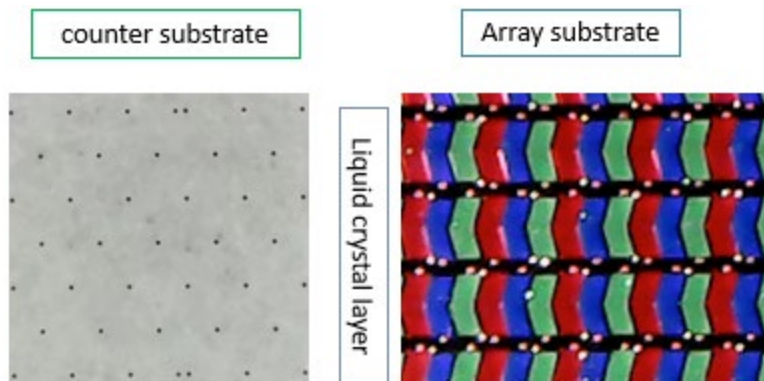
76. The products accused of infringing the '829 patent comprise an array substrate, a counter substrate opposing the array substrate, and a liquid crystal layer sandwiched between a surface of the array substrate and a surface of the counter substrate. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



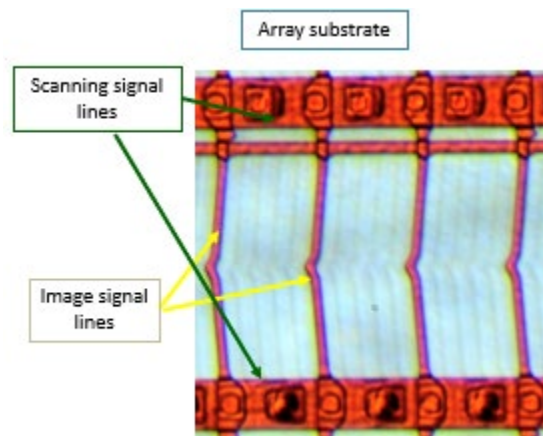
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



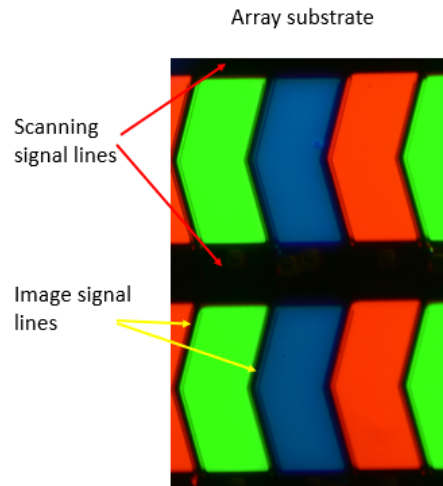
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



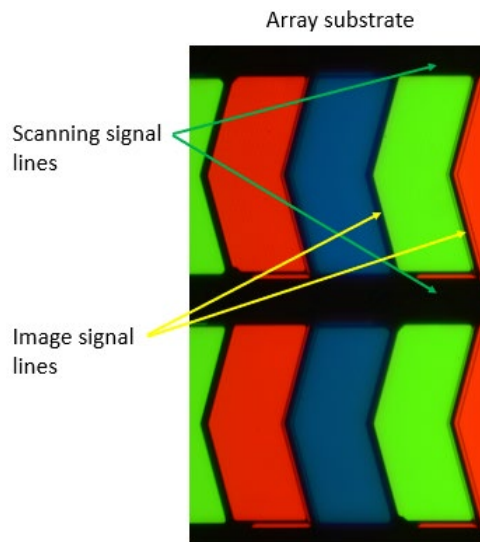
77. The products accused of infringing the '829 patent comprise a plurality of image signal lines located over the surface of the array substrate that is in contact with the liquid crystal layer, the image signal lines being aligned in a same direction. The products accused of infringing the '829 patent 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 model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

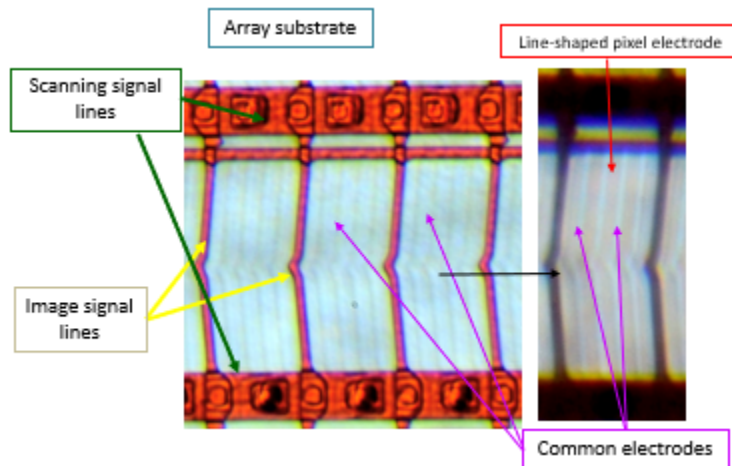


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

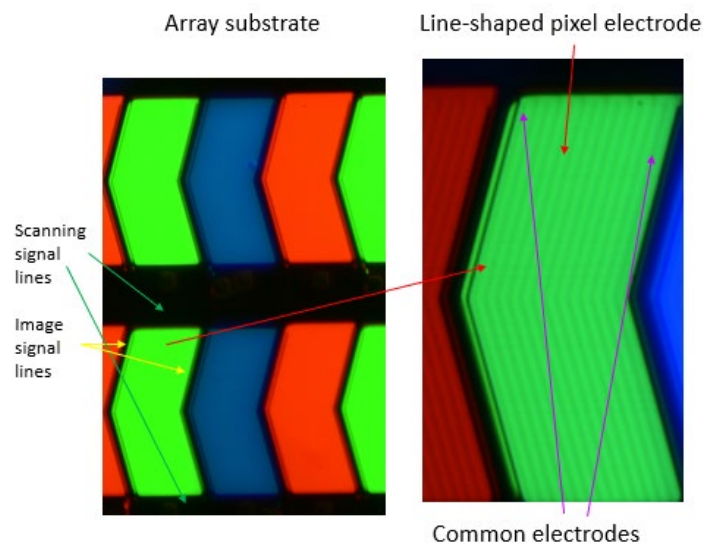


78. The products accused of infringing the '829 patent comprise a line-shaped pixel electrode located in each of pixel regions of the array substrate that is surrounded by the image signal lines and the scanning signal lines, the pixel electrode located parallel to the image signal lines. The products accused of infringing the '829 patent also comprise a common electrode

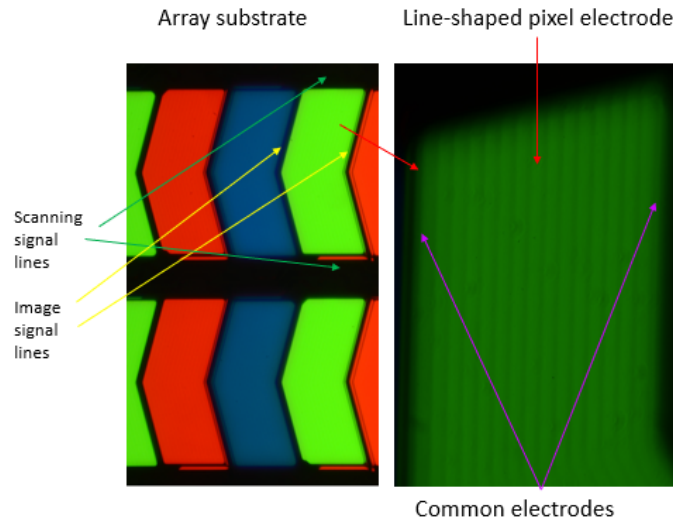
located in each of the pixel regions and located parallel to the pixel electrode. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



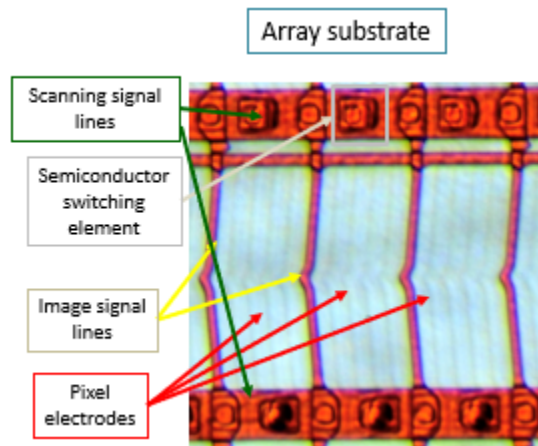
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



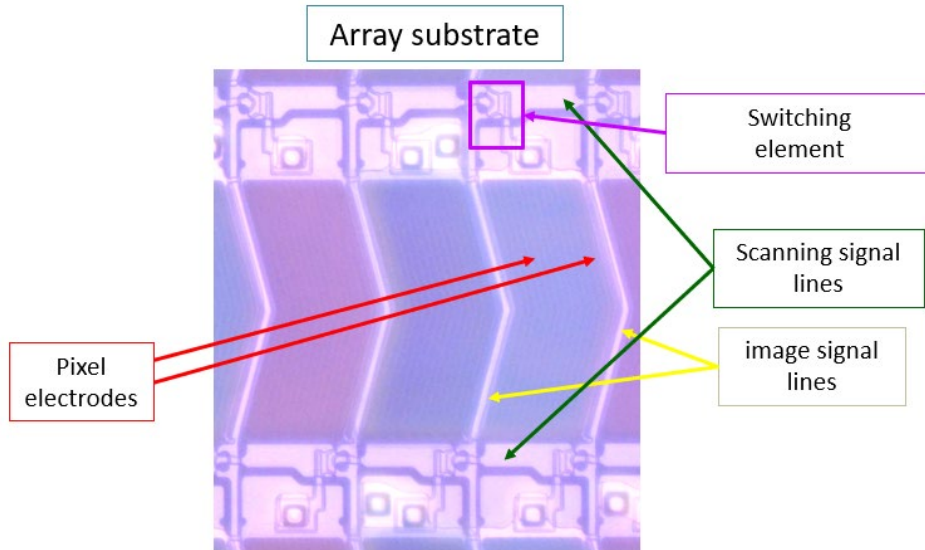
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



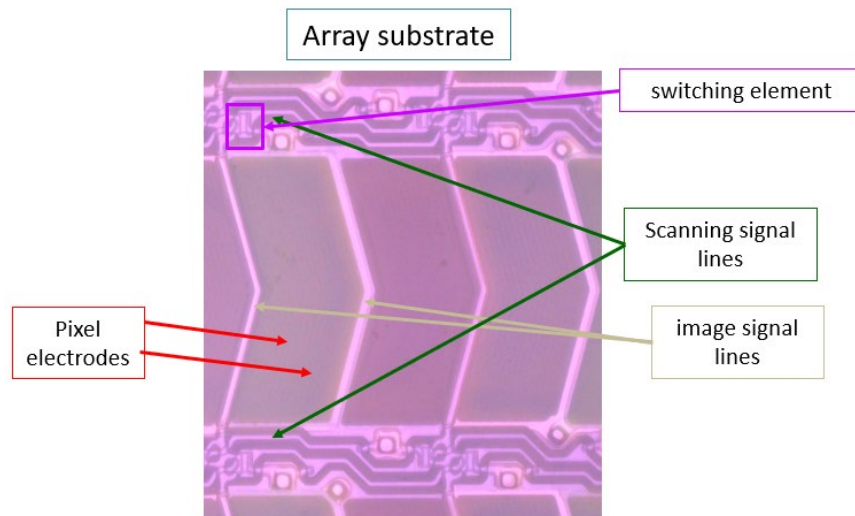
79. The products accused of infringing the '829 patent comprise a switching element for electrically connecting the pixel electrode and one of the image signal lines in response to a signal received from the scanning signal lines. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

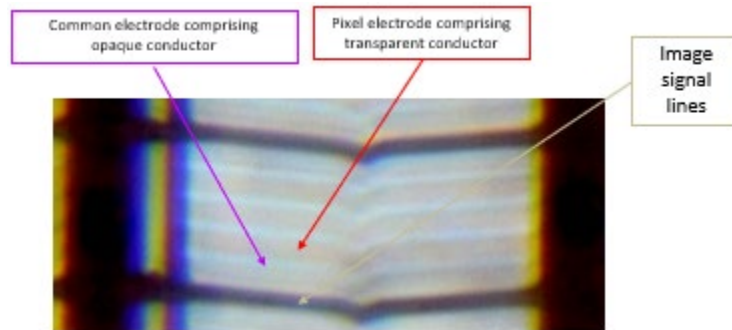


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

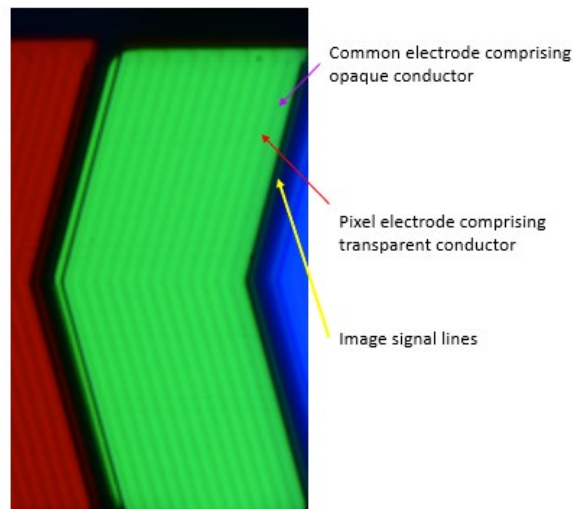


80. The products accused of infringing the '829 patent are configured such that of the pixel electrode and the common electrode, the electrode that is located adjacent to and parallel to one of the image signal lines or one of the scanning signal lines comprises an opaque conductor,

and at least one of the other electrodes comprises a transparent conductor. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:

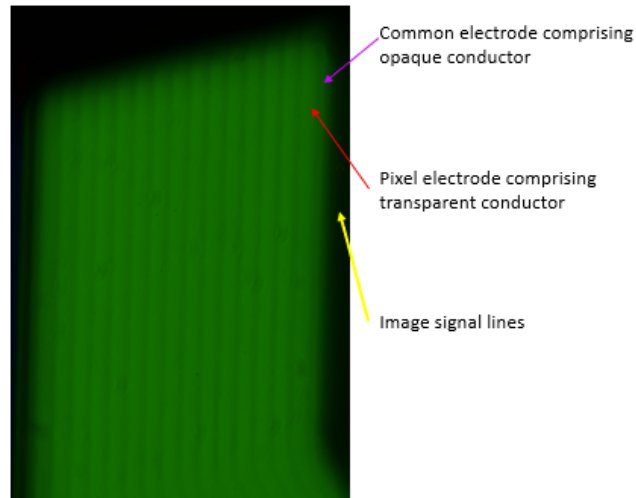


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:





81. 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. Based on information and belief, LGE was on notice of the '829 patent from at least the foregoing dates that LGD was on notice of the '829 patent as a result of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>5</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '829 patent from at least the foregoing dates that LGD was on notice of the '829 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company to LGEUS.<sup>6</sup> On information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '829 patent from at least the

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<sup>5</sup> See FN 1, *supra*.

<sup>6</sup> See FN 1, *supra*.

foregoing dates that LGE was on notice of the '829 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>7</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>8</sup>

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

82. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '829 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended to cause, and took affirmative steps to induce infringement by their 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

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<sup>7</sup> See FN 1, *supra*.

<sup>8</sup> See FN 1, *supra*.

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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD, and New Optics 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 LGD and New Optics 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/>.

83. On information and belief, despite having knowledge of the '829 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '829 patent. For example, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '829 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

84. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and, New Optics' 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.

85. Plaintiff has been damaged as a result of Defendants' infringing conduct described in this Count. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendants' 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.

86. 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 Defendants' infringements of the '829 patent.

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

87. Plaintiff incorporates paragraphs 1 through 86 herein by reference.

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

89. 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.

90. 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))**

91. Defendants have 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.

92. On information and belief, and pursuant to 35 U.S.C. §271(a) and §271(g), Defendants, either by themselves (individually and/or in concert) 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, Defendants 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

93. Furthermore, LGE directly infringes the '293 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '293 patent by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.

94. Additionally, LGD directly infringed the '293 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '293 patent by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously

liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

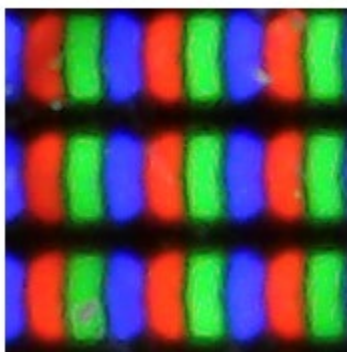
95. Further, New Optics directly infringed the '293 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '293 patent by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time frame. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has the right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

96. 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. LM270QQ1(SD)(D1) (which is used in products such as the Apple iMac Pro) was made by a method for manufacturing an in-plane electric field mode liquid crystal element having a pair of substrates:

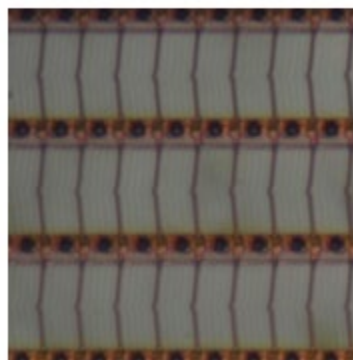


counter substrate

Array substrate

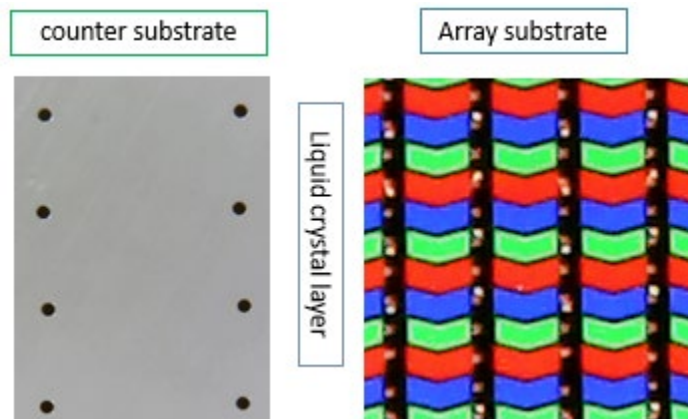
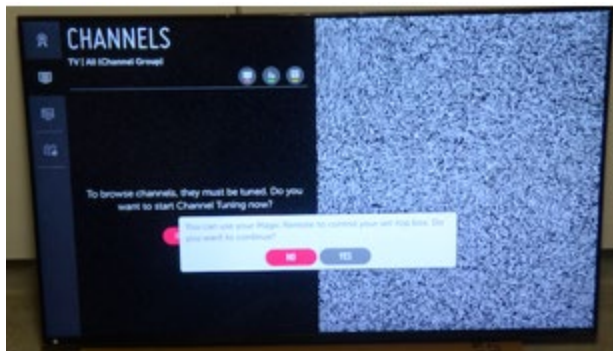


Liquid crystal layer



For example, LGD's TFT-LCD (model no. not identified on device) used in products such as the Heesung LCM model no. HC49EQH-SLXA1-211X and/or 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:





For example, LGD's TFT-LCD (model no. not identified on device) used in products such as the New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA was made by a method for manufacturing an in-plane electric field mode liquid crystal element having a pair of substrates:

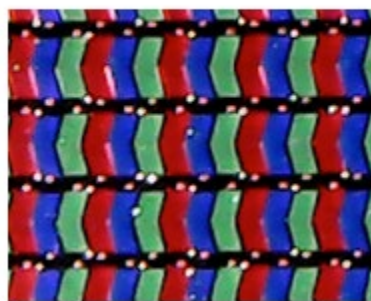


counter substrate

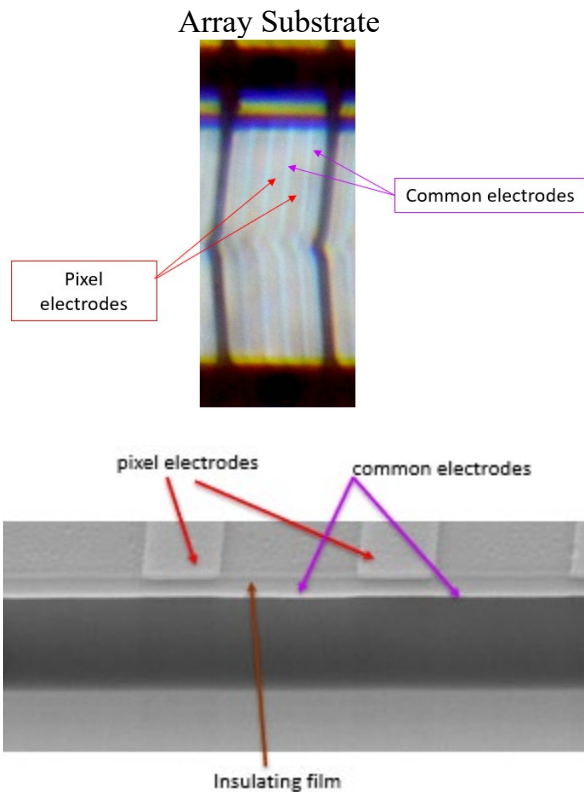
Array substrate



Liquid crystal layer

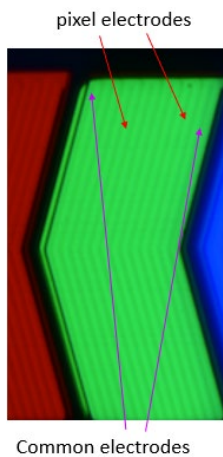


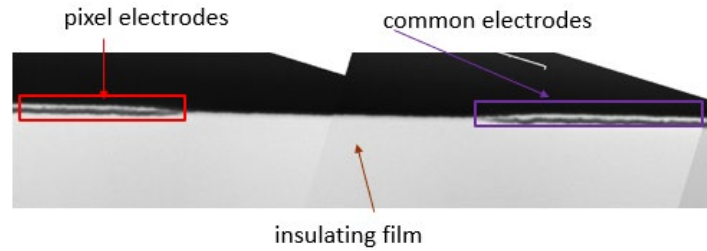
97. At least one of the substrates on the products made using the method of manufacturing accused of infringing the '293 patent includes pixel electrodes for generating an in-plane electric field, common electrodes, and an insulating film for insulating these electrodes from one another. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



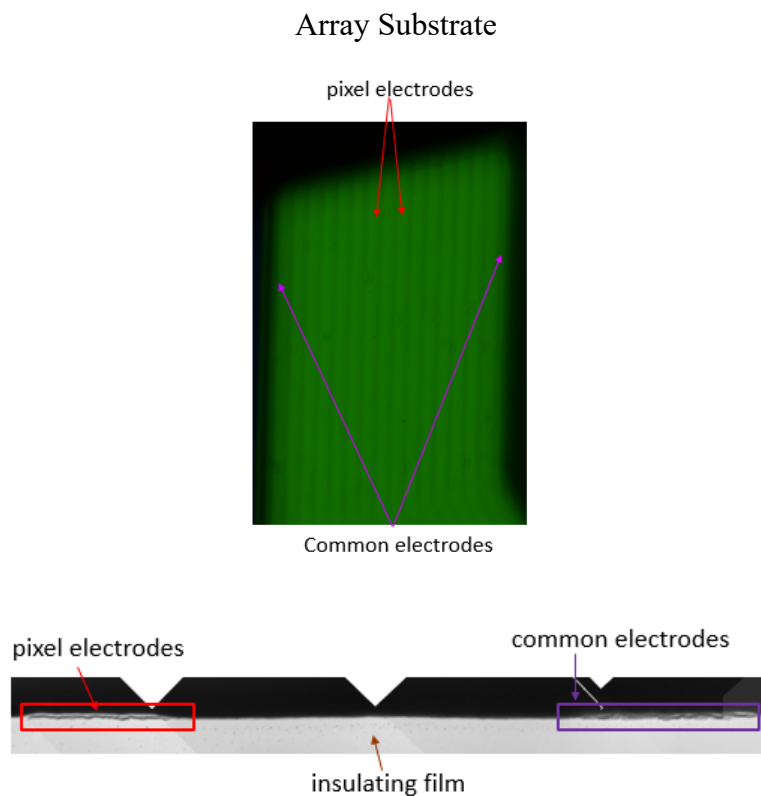
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

Array Substrate



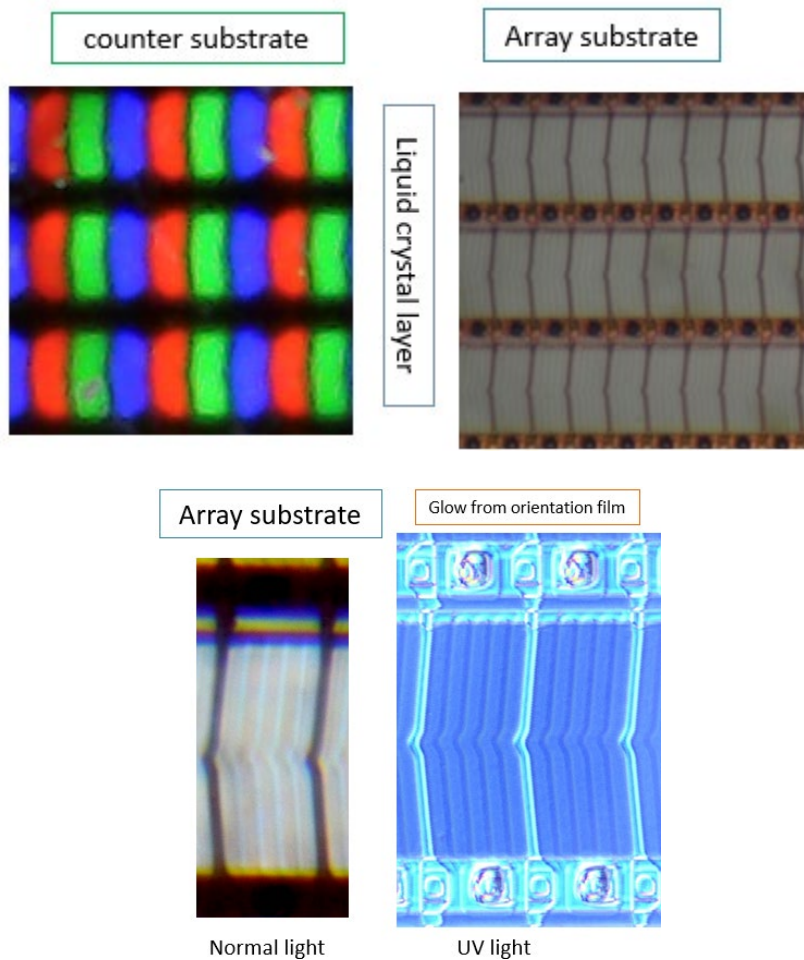


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

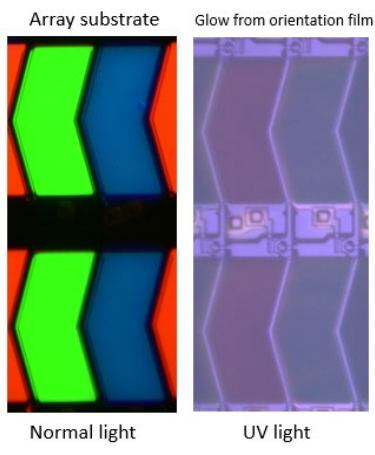
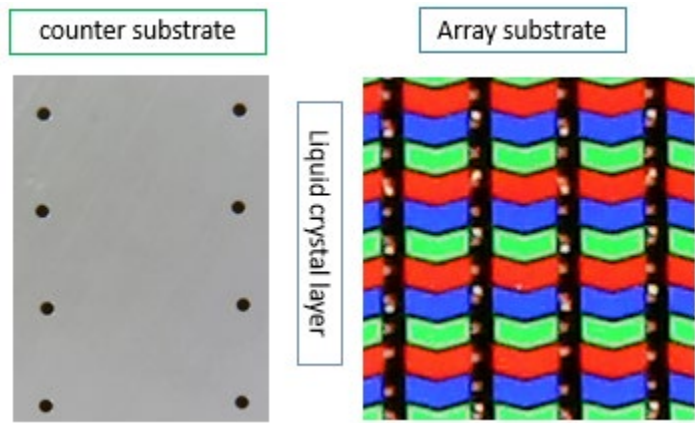


98. The products made using the method of manufacturing accused of infringing the '293 patent include orientation films provided on the inner side of one or both of the substrates and a liquid crystal layer sandwiched between the substrates. For example, the orientation film is evidenced by the ability 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

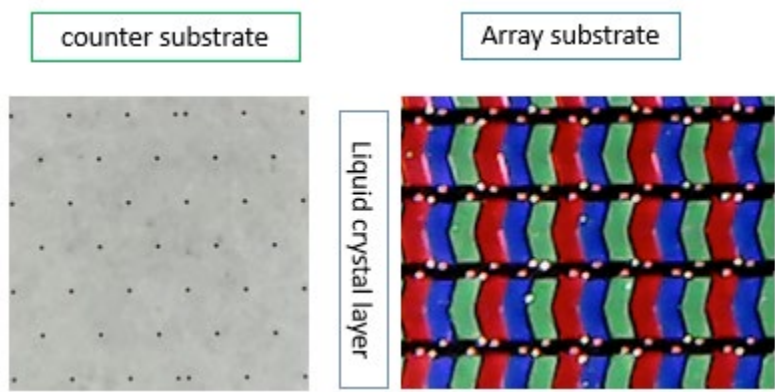
of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates the presence of an orientation film that glows under UV light:

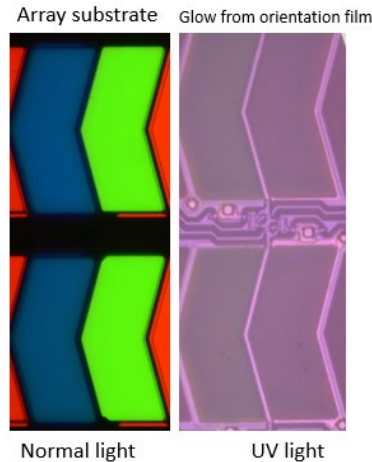


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:





99. 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 Defendants' possession, custody, and control.

100. In addition, Defendants have 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 Defendants 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.

101. 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. Based on information and belief, LGE was on notice of the '293 patent from at least the foregoing dates that LGD was on notice of the '293 patent as a result

of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>9</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '293 patent from at least the foregoing dates that LGD was on notice of the '293 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company to LGEUS.<sup>10</sup> On information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '293 patent from at least the foregoing dates that LGE was on notice of the '293 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>11</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>12</sup>

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

102. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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.

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<sup>9</sup> See FN 1, *supra*.

<sup>10</sup> See FN 1, *supra*.

<sup>11</sup> See FN 1, *supra*.

<sup>12</sup> See FN 1, *supra*.



Since at least the notice provided on the above-mentioned dates, LGE, LGEUS, LGD, and New Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '293 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended to cause, and took affirmative steps to induce infringement by their 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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD and New Optics 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 LGD and New Optics 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/>.

103. On information and belief, despite having knowledge of the '293 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '293 patent. For example, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '293 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

104. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and New Optics' 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.

105. Plaintiff has been damaged as a result of Defendants' infringing conduct described in this Count. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendants' 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.

106. 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 Defendants' infringements of the '293 patent.

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

107. Plaintiff incorporates paragraphs 1 through 106 herein by reference.

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

109. 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.

110. 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))**

111. Defendants have 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.

112. Defendants 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, Defendants, either by themselves (individually and/or in concert) 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

113. Furthermore, LGE directly infringed the '208 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constituted direct infringement of the '208 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.

114. Additionally, LGD directly infringed the '208 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '208 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

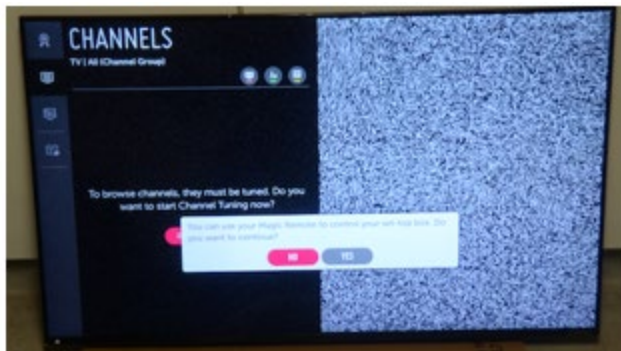
115. Further, New Optics directly infringed the '208 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '208 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant timeframe. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has (and has had) the

right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

116. For example, Defendants infringed claim 1 of the '208 patent. The products accused of infringing the '208 patent comprise a liquid crystal display device. For example, LGD's TFT-LCD model no. LM270QQ1(SD)(D1), which is used in products such as the Apple iMac Pro, comprises an active matrix liquid crystal display device:



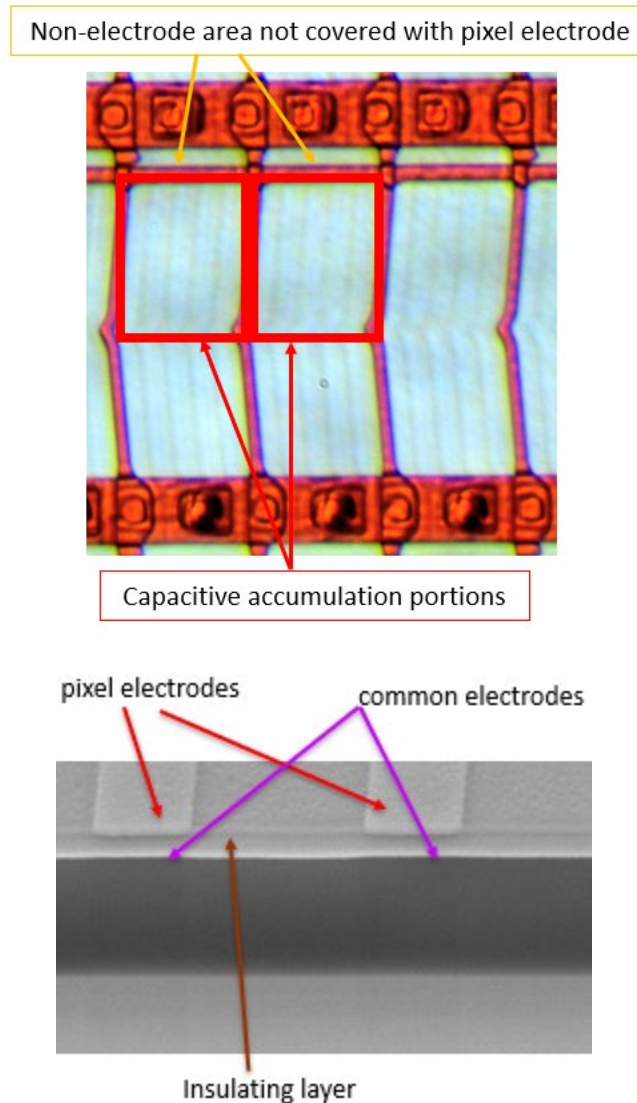
In another example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC49EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises an active matrix liquid crystal display device:



In a further example, LGE's TV model no. 55UM7300PUA includes New Optics LCM model no. NC550DQG-AAHX1, which includes an LGD LCD (model no. not identified on device), such that each comprises an active matrix liquid crystal display device:

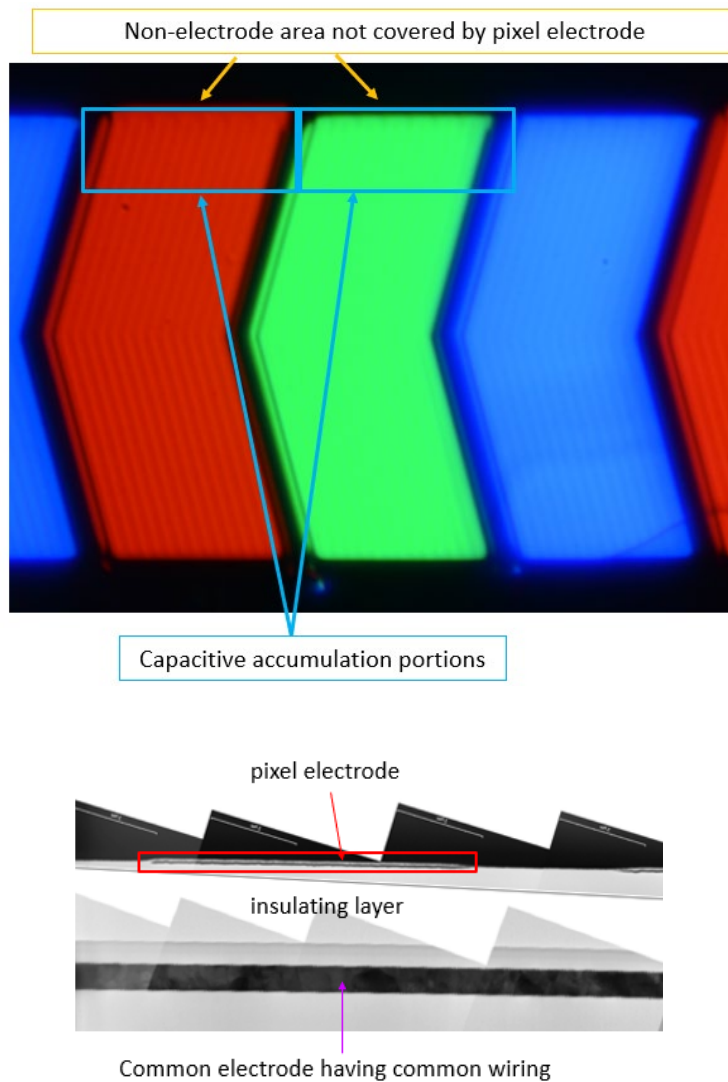


117. The products accused of infringing the '208 patent comprise a capacitive accumulation portion formed by overlapping a pixel electrode, an insulating layer and a common electrode for each pixel area, and a non-electrode area in a part of the pixel area, which is not covered with a pixel electrode. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:

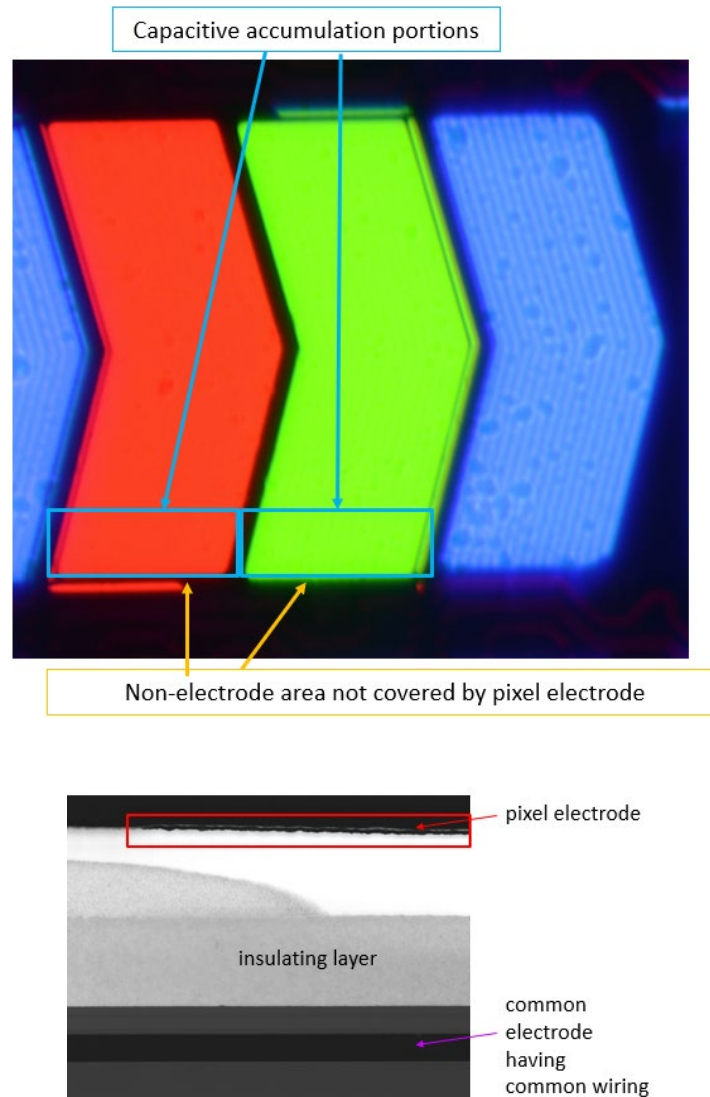


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



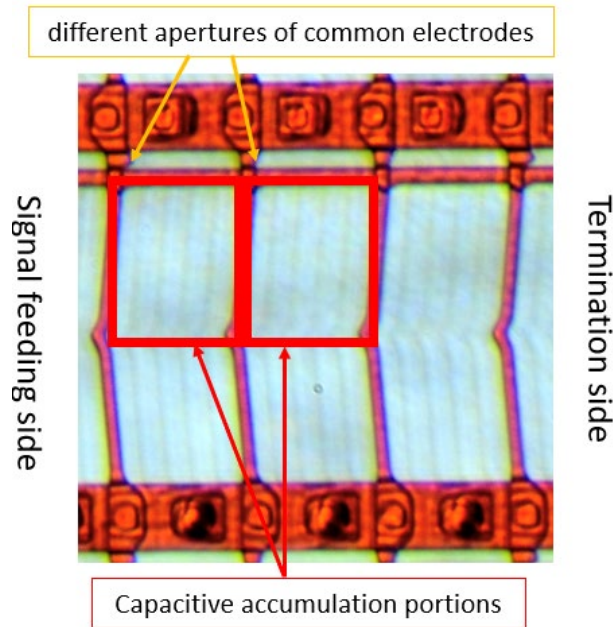


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

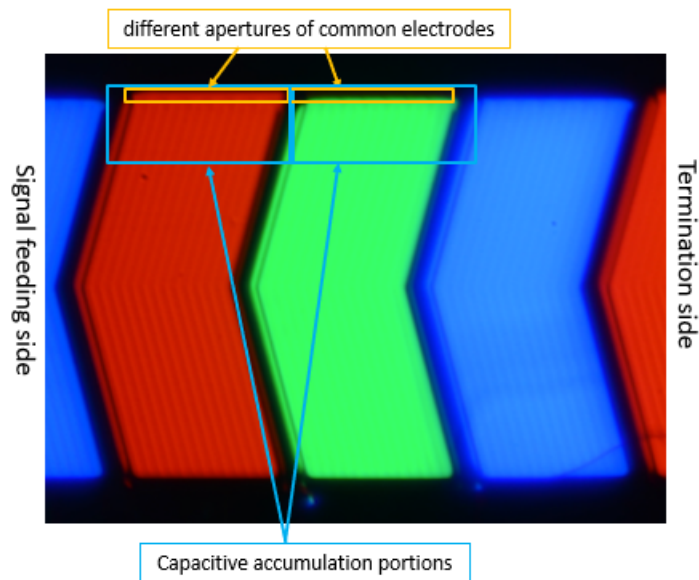


118. The products accused of infringing the '208 patent are configured such that a peripheral shape of said capacitive accumulation portion on a side contacting said non-electrode area is substantially the same between respective pixels, and a value of a storage capacity in said capacitive accumulation 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.

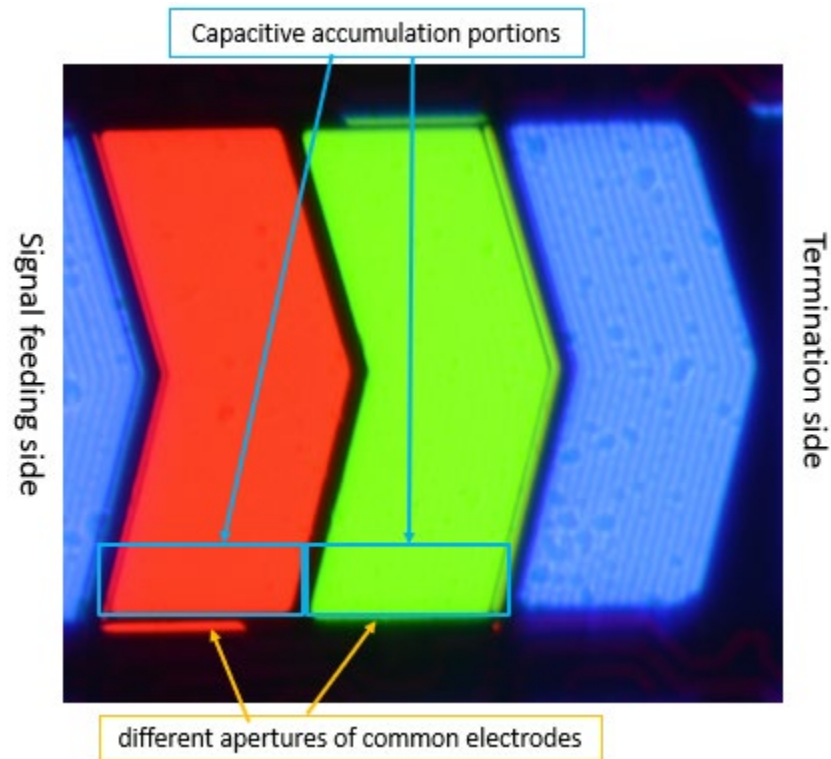
For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



119. 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. Based on information and belief, LGE was on notice of the '208 patent from at least the foregoing dates that LGD was on notice of the '208 patent as a result of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>13</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '208 patent from at least the foregoing dates

<sup>13</sup> See FN 1, *supra*.

that LGD was on notice of the '208 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company to LGEUS.<sup>14</sup> On information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '208 patent from at least the foregoing dates that LGE was on notice of the '208 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>15</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>16</sup>

120. Further, at a minimum, New Optics has known about the '208 patent since at least April 27, 2021, when New Optics received notice of its infringement.

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

121. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New

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<sup>14</sup> See FN 1, *supra*.

<sup>15</sup> See FN 1, *supra*.

<sup>16</sup> See FN 1, *supra*.

Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '208 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended to cause, and took affirmative steps to induce infringement by their 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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD and New Optics 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 LGD and New Optics 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/>.

122. On information and belief, despite having knowledge of the '208 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '208 patent. For example, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '208 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

123. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and New Optics' 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.

124. Plaintiff has been damaged as a result of Defendants infringing conduct described in this Count. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates

Plaintiff for Defendants' 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.

125. 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 Defendants' infringements of the '208 patent.

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

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

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

128. 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.

129. 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))**

130. Defendants have 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.

131. Defendants 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, Defendants, either by themselves (individually and/or in concert) 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

132. Furthermore, LGE directly infringed the '303 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constituted direct infringement of the '303 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.

133. Additionally, LGD directly infringed the '303 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the

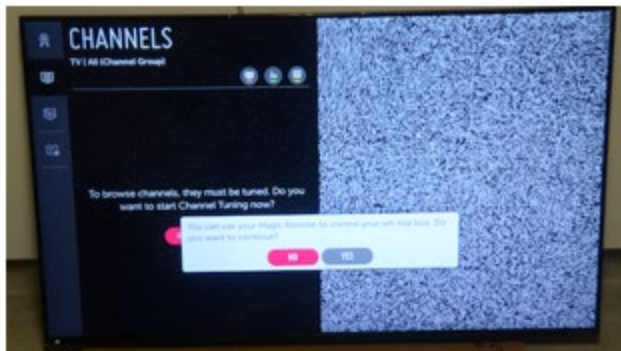
Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '303 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

134. Further, New Optics directly infringed the '303 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '303 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant timeframe. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has (and has had) the right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

135. For example, Defendants infringed claim 1 of the '303 patent. The products accused of infringing the '303 patent comprise a liquid crystal display device. For example, LGD's TFT-LCD model no. LM270QQ1(SD)(D1), which is used in products such as the Apple iMac Pro, comprises a liquid crystal display device:



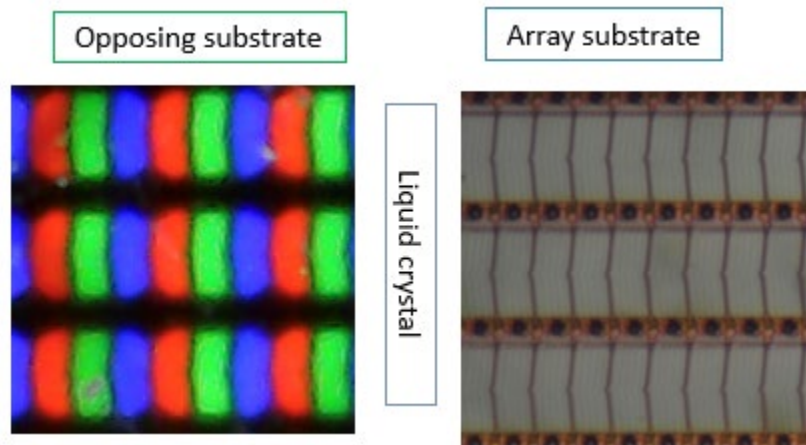
In another example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC49EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display device:



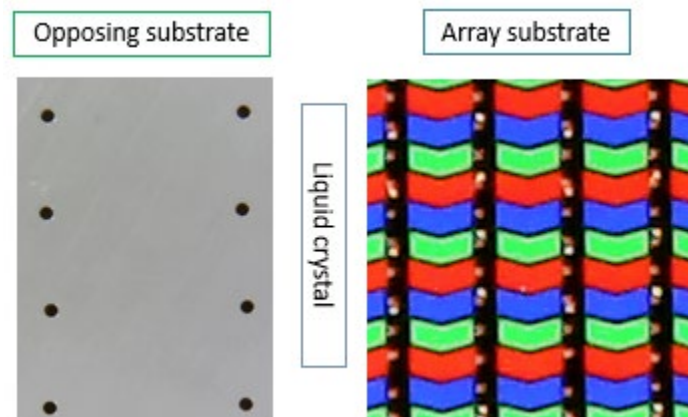
In a further example, LGE's TV model no. 55UM7300PUA includes New Optics LCM model no. NC550DQG-AAHX1, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal display device:



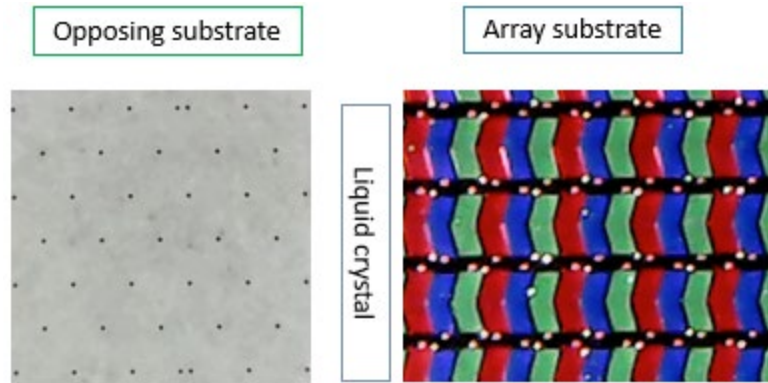
136. The products accused of infringing the '303 patent comprise an array substrate, an opposing substrate facing the array substrate, and liquid crystal held between the array substrate and the opposing substrate. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



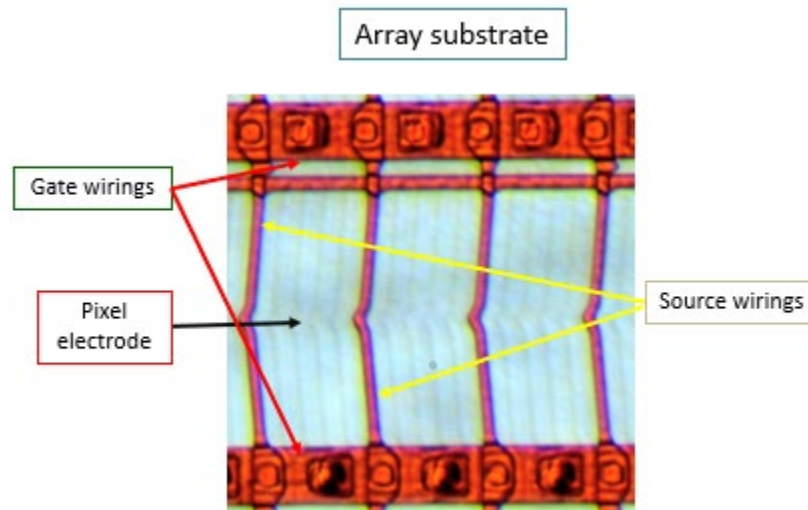
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



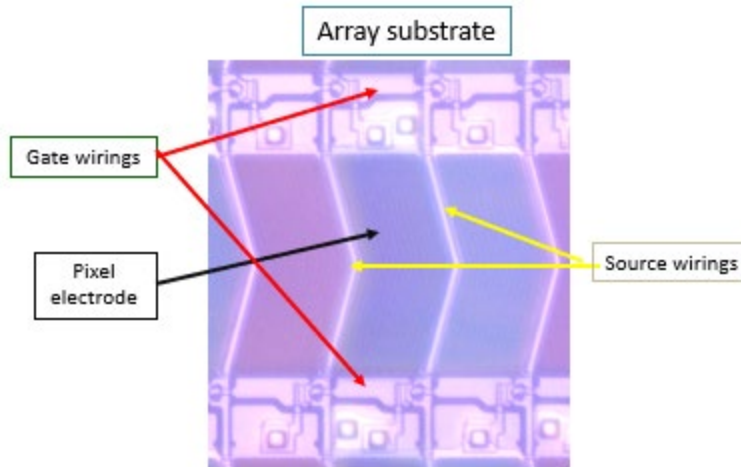
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



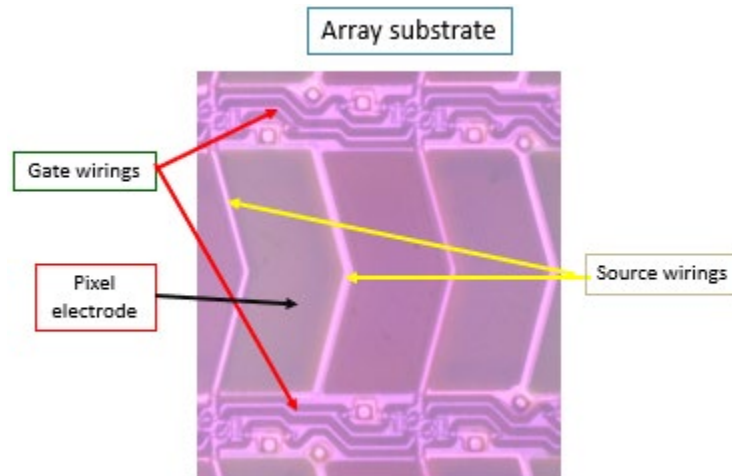
137. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a plurality of gate wirings and a plurality of source wirings intersecting each other and a pixel electrode disposed in a region defined by two adjacent gate wirings and two adjacent source wirings. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



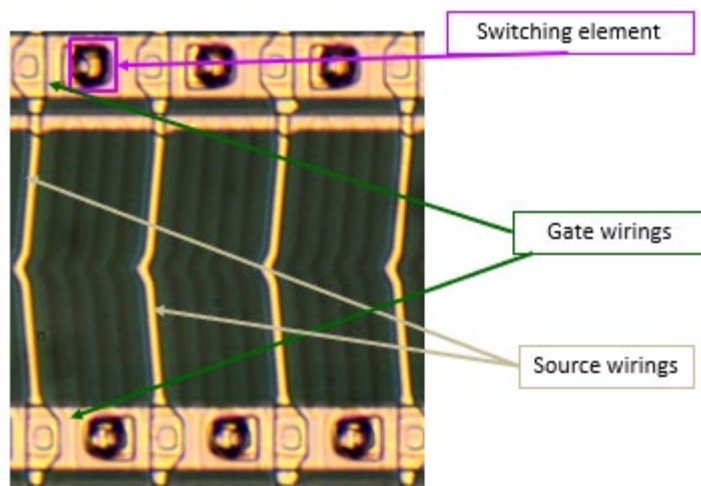
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



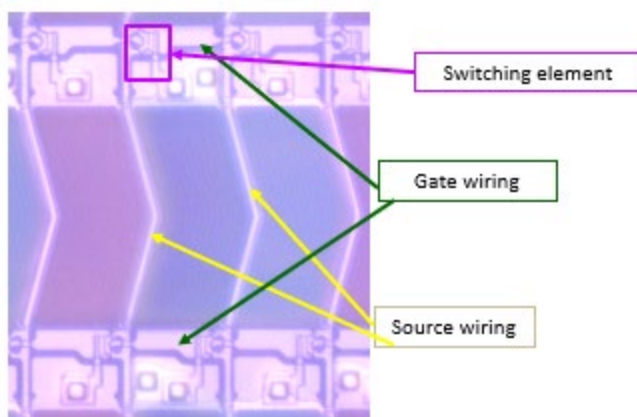
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



138. 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 model no. LM270QQ1(SD)(D1) demonstrates this:

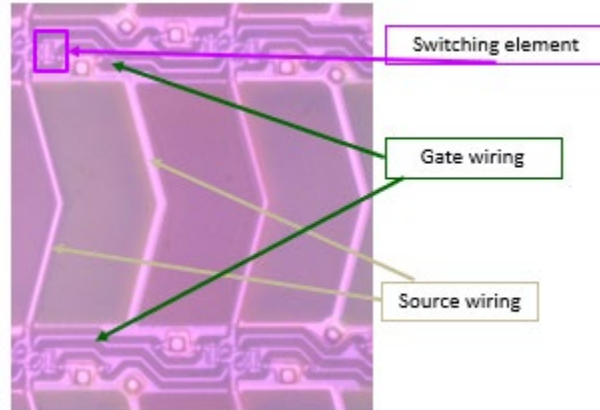


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

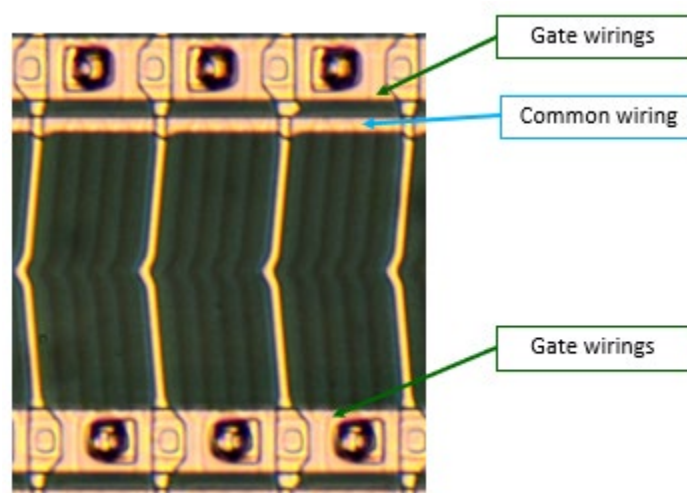


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

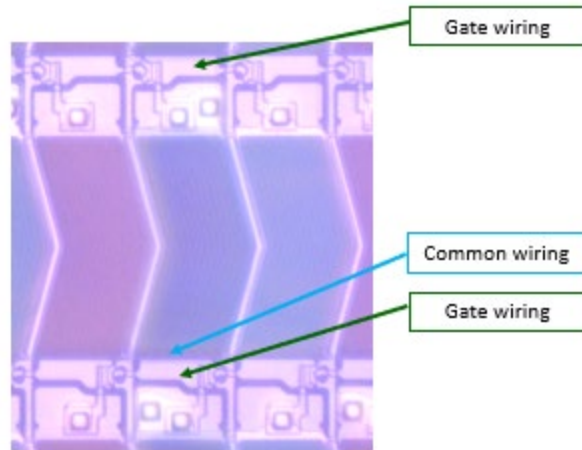




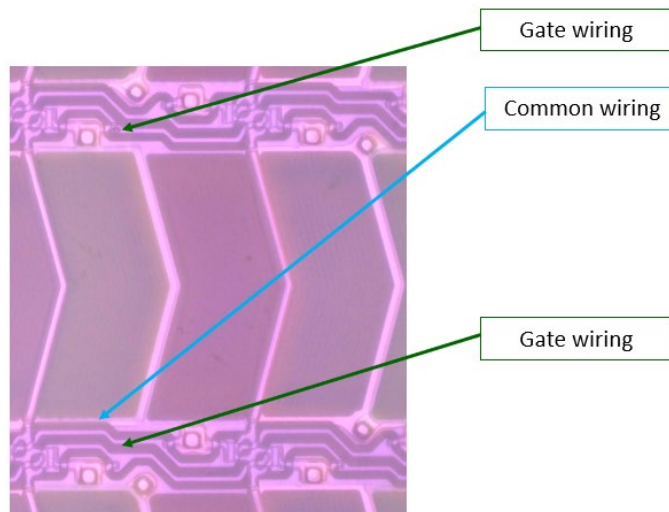
139. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a common wiring formed between the two adjacent gate wirings. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



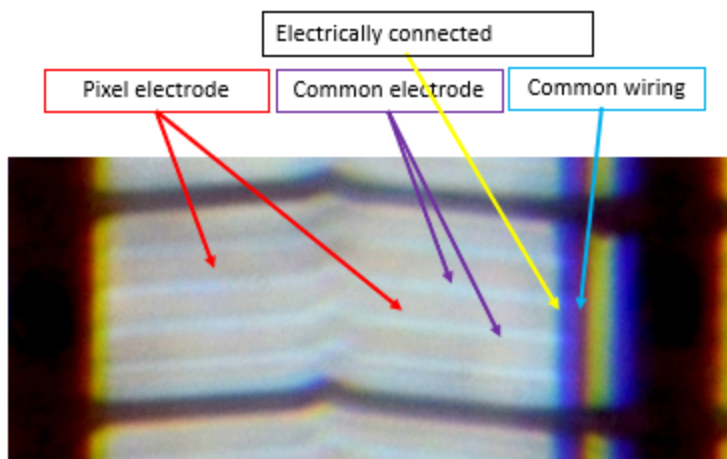
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



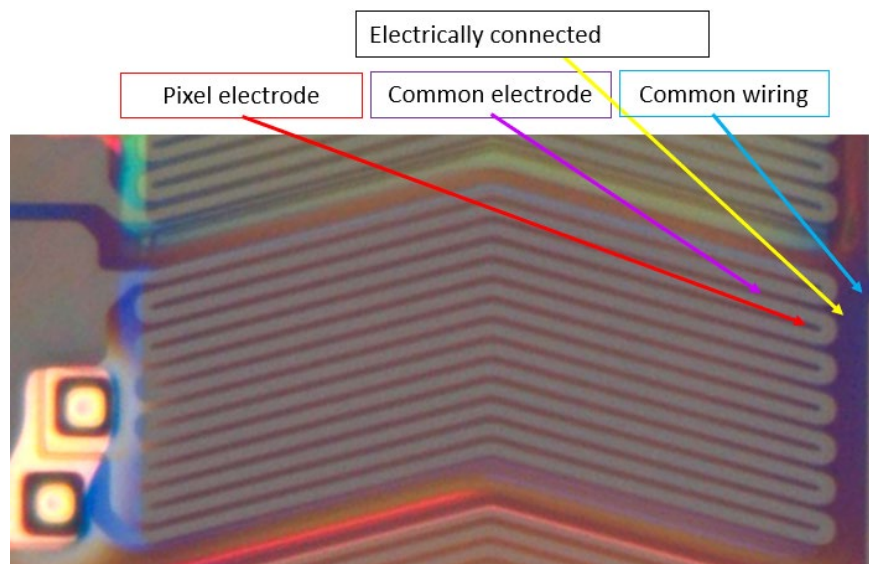
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



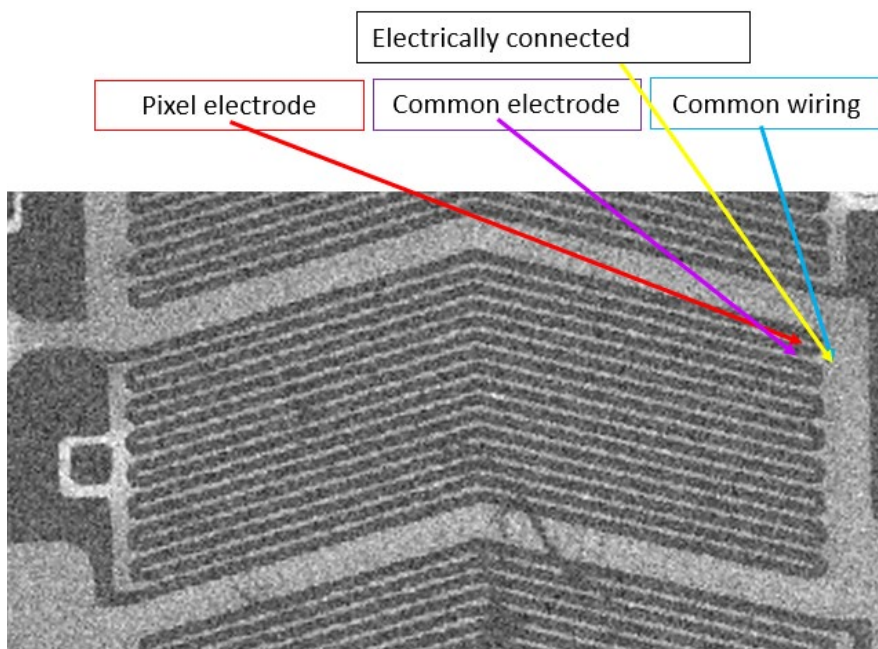
140. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a common electrode being electrically connected to the common wiring and generating an electric field between the common electrode and the pixel electrode creating a voltage for driving the liquid crystal. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



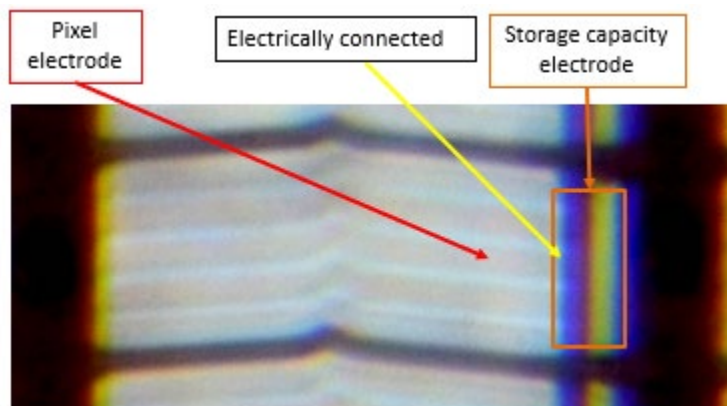
In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



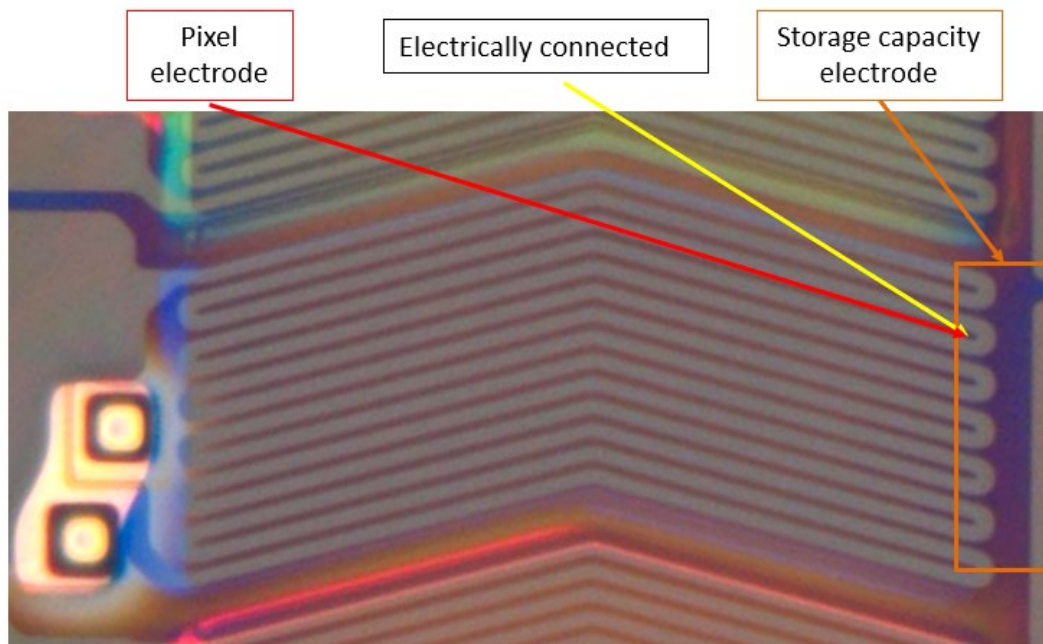
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



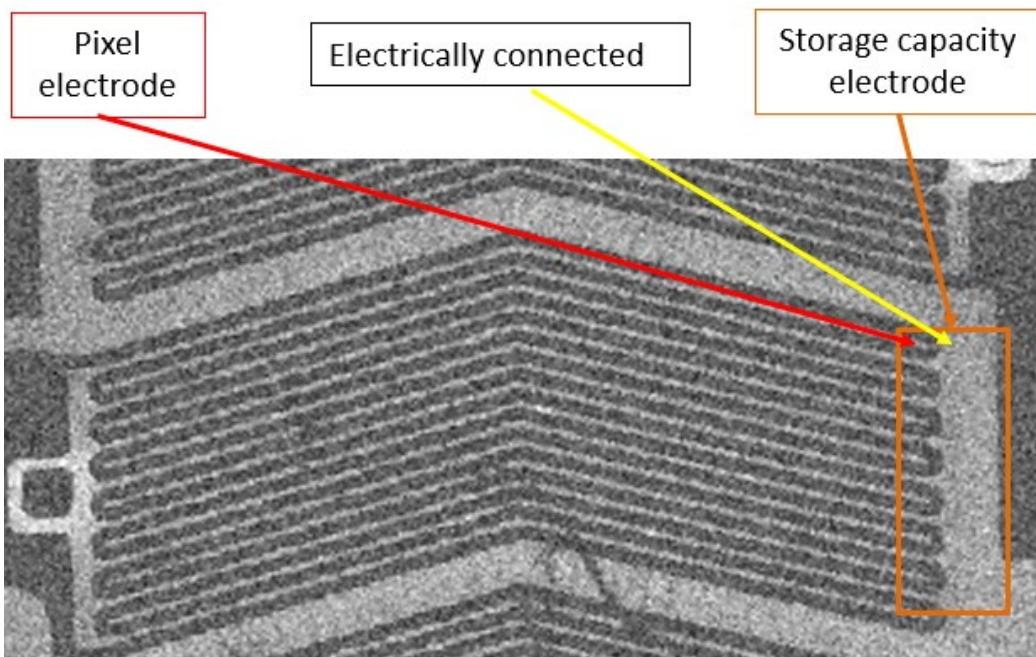
141. The products accused of infringing the '303 patent are configured such that the array substrate is provided with a storage capacity electrode electrically connected to the pixel electrode. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

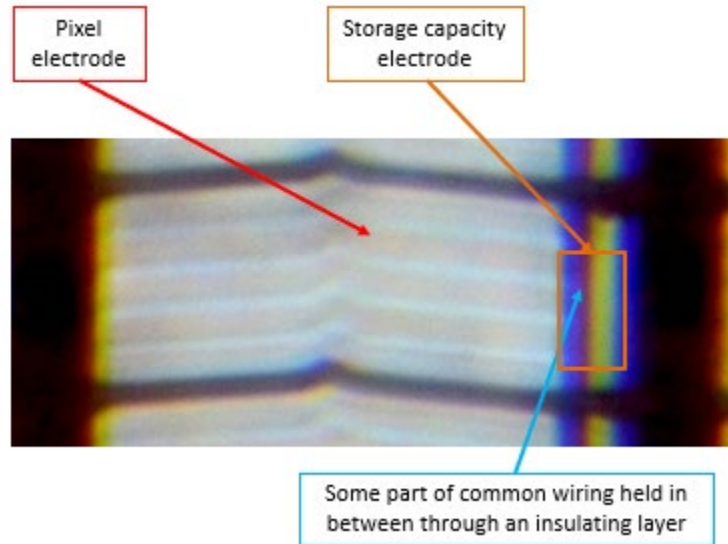


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:

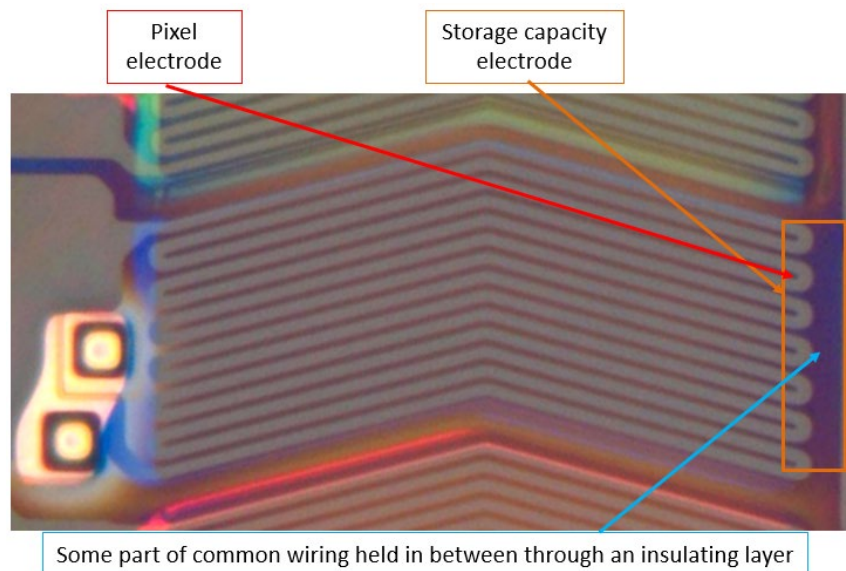


142. The products accused of infringing the '303 patent are configured such that the pixel electrode and the storage capacity electrode are layered so as to hold at least some part of the

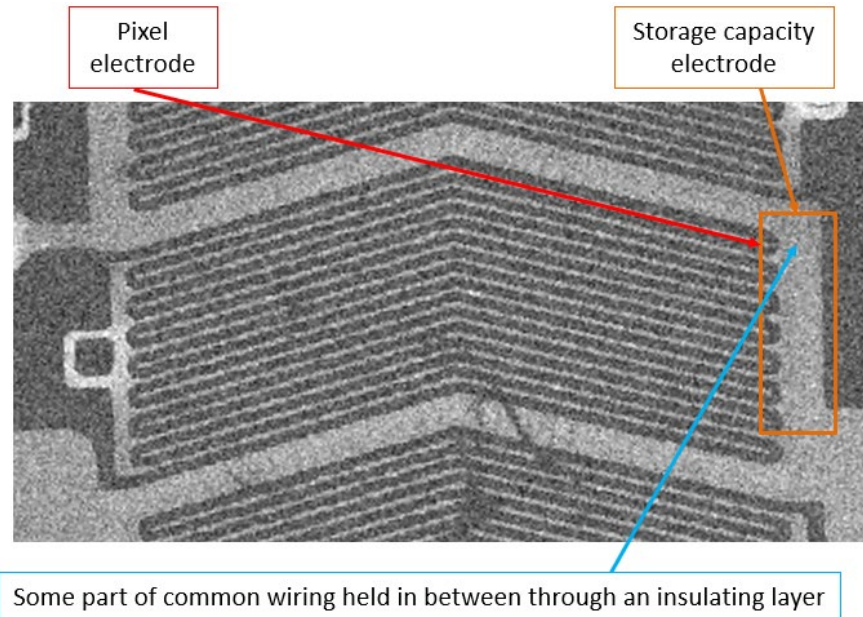
common wiring in between through an insulating layer. For example, an examination of LGD's TFT-LCD model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:



In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



143. 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. Further, on information and belief, LGD's conduct before the United States Patent and Trademark Office ("USPTO") and foreign offices, suggest that it was aware of the '303 patent prior to receiving any letters. For example, in prosecuting U.S. Patent Publication No. US20040109121A1, LGD has known of the '303 patent. Based on information and belief, LGE was on notice of the '303 patent from at least the foregoing dates that LGD was on notice of the '303 patent as a result of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>17</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '303 patent from at least the foregoing dates that LGD was on notice of the '303 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company

<sup>17</sup> See FN 1, *supra*.

to LGEUS.<sup>18</sup> On information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '303 patent from at least the foregoing dates that LGE was on notice of the '303 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>19</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>20</sup>

144. Further, at a minimum, New Optics has known about the '303 patent since at least April 27, 2021, when New Optics received notice of its infringement.

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

145. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '303 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended

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<sup>18</sup> See FN 1, *supra*.

<sup>19</sup> See FN 1, *supra*.

<sup>20</sup> See FN 1, *supra*.



to cause, and took affirmative steps to induce infringement by their 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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD and New Optics 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 LGD and New Optics 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/>.

146. On information and belief, despite having knowledge of the '303 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '303 patent. For example, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '303 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

147. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and New Optics' 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.

148. Plaintiff has been damaged as a result of Defendants' infringing conduct described in this Count. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendants' 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.

149. 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 Defendants' infringements of the '303 patent.

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

150. Plaintiff incorporates paragraphs 1 through 149 herein by reference.

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

152. 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.

153. 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))**

154. Defendants have 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.

155. Defendants 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, Defendants, either by themselves (individually and/or in concert) 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 their alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, Defendants sold and made

some Accused Products outside of the United States, delivered those products to their customers, distributors, and/or subsidiaries in the United States, or in the case that they delivered the Accused Products outside of the United States they 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).

156. Furthermore, LGE directly infringed the '769 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, including by selling and offering for sale the Accused Products directly to such entities and/or importing the Accused Products into the United States for such entities. Such entities conducted activities that constituted direct infringement of the '769 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products. Further, LGE is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGEUS, LGD, and LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGE, LGEUS, LGD, and LGDUS are (and were) essentially the same company, and/or agents of each other, and LGE has (and had) the right and ability to control LGEUS, LGD, and LGDUS' infringing acts and receives a direct financial benefit from LGEUS, LGD, and LGDUS' infringement.

157. Additionally, LGD directly infringed the '769 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates, including LGDUS, including by selling (and having sold) and offering for sale (and having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute

direct infringement of the '769 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant time period. Further, LGD is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including LGDUS, (under both the alter ego and agency theories) because, as an example and on information and belief, LGDUS is (and has been) essentially the same company, and LGD has (and has had) the right and ability to control LGDUS' infringing acts and received a direct financial benefit from LGDUS' infringement.

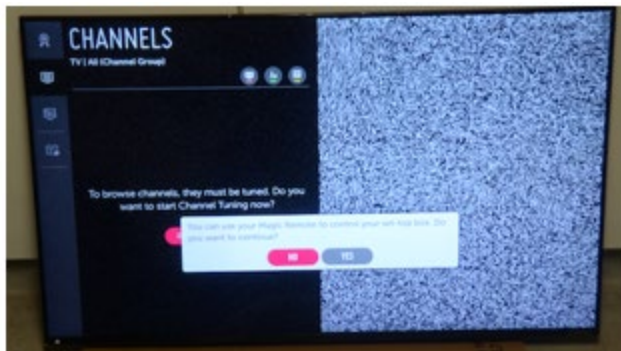
158. Further, New Optics directly infringed the '769 patent through its direct involvement in the activities of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, including by selling (or having sold) and offering for sale (or having offered for sale) the Accused Products directly to such entities and/or importing (or having imported) the Accused Products into the United States for such entities. Such entities conducted activities that constitute direct infringement of the '769 patent under 35 U.S.C. § 271(a) by making, using, testing, offering for sale, selling, and/or importing those Accused Products during the relevant timeframe. Further, New Optics is vicariously liable for the infringing conduct of its subsidiaries, related companies, and/or affiliates or agents, including New Optics US, (under both the alter ego and agency theories) because, as an example and on information and belief, New Optics US is (and has been) essentially the same company, and New Optics has (and has had) the right and ability to control New Optics US' infringing acts and received a direct financial benefit from New Optics US' infringement.

159. Defendants infringed claim 1 of the '769 patent. The products accused of infringing the '769 patent comprise a liquid crystal screen display. For example, LGD's TFT-LCD model no.

LM270QQ1(SD)(D1), which is used in products such as the Apple iMac Pro, comprises a liquid crystal screen display:



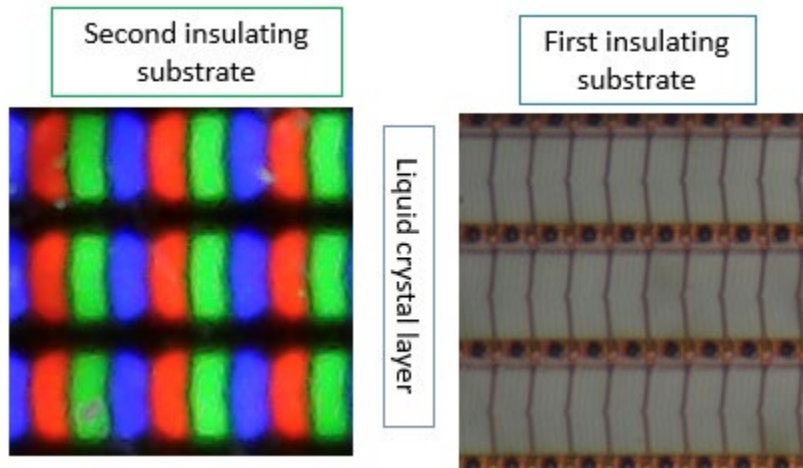
In another example, LGE's TV model no. 49SM8600PUA includes Heesung LCM model no. HC49EQH-SLXA1-211X, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal screen display:



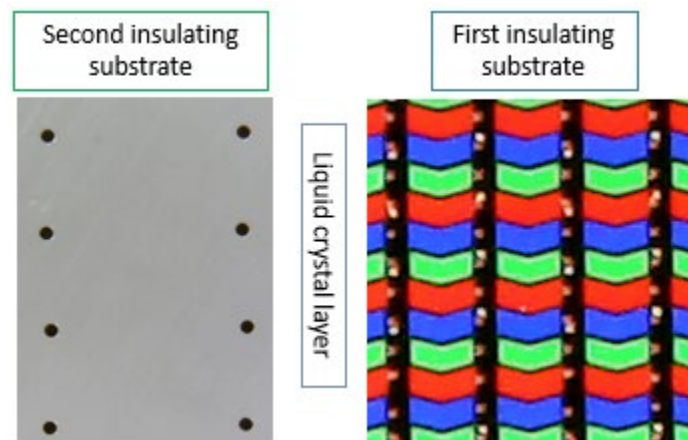
In a further example, LGE's TV model no. 55UM7300PUA includes New Optics LCM model no. NC550DQG-AAHX1, which includes an LGD LCD (model no. not identified on device), such that each comprises a liquid crystal screen display:



160. 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 model no. LM270QQ1(SD)(D1) demonstrates this:

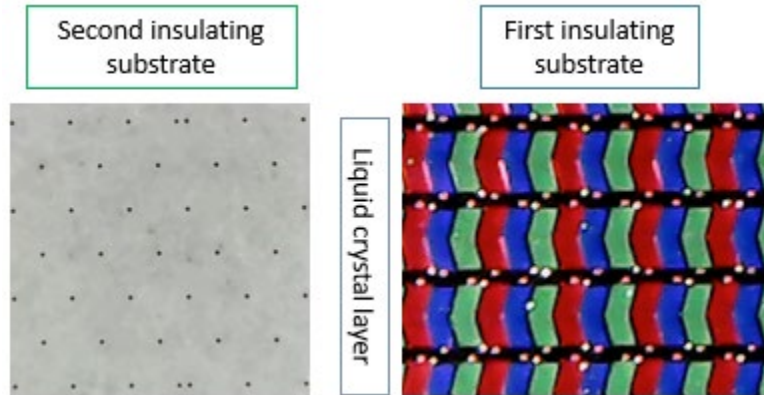


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

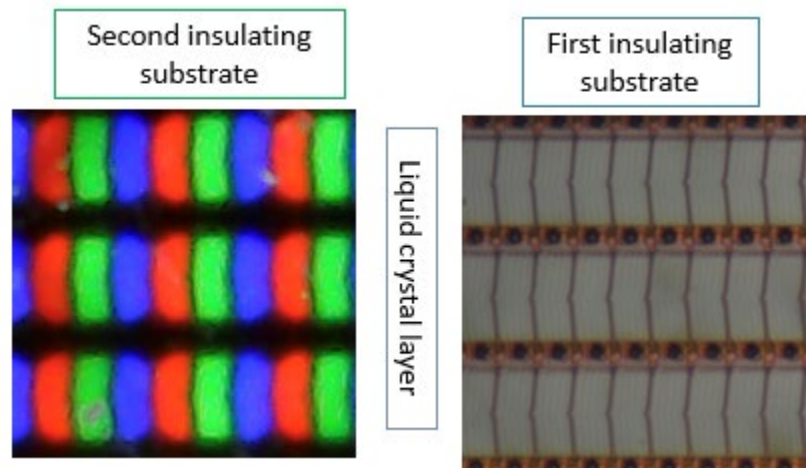


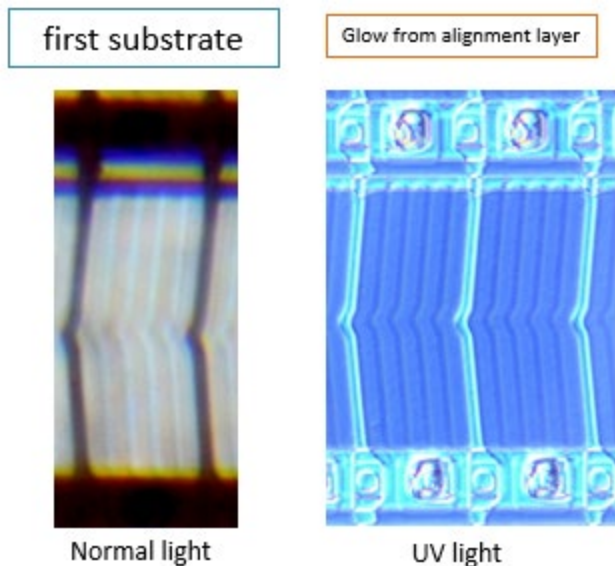
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



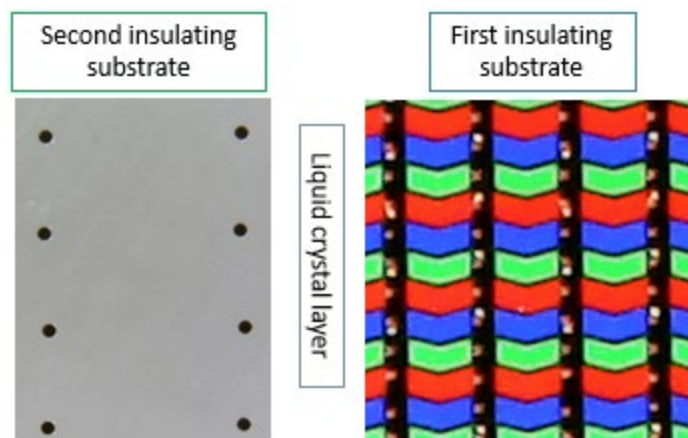


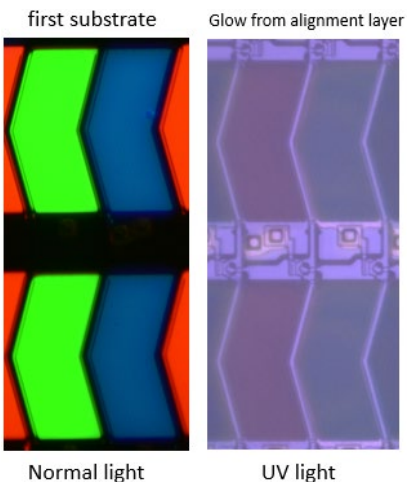
161. The products accused of infringing the '769 patent comprise alignment layers formed between the first insulating substrate and the liquid crystal layer and between the second insulating substrate and the liquid crystal layer, respectively, for aligning the liquid crystal layer. For example, an alignment 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 model no. LM270QQ1(SD)(D1) demonstrates this:



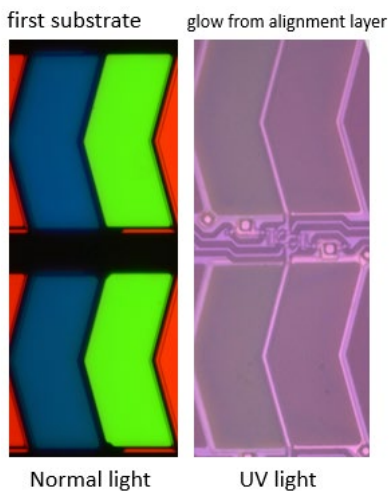
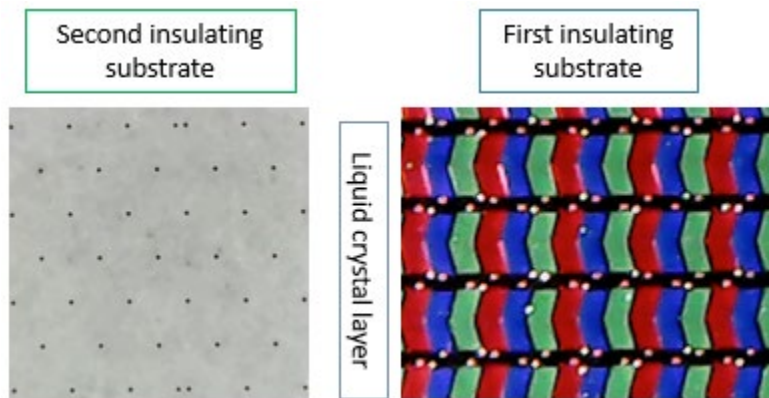


In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

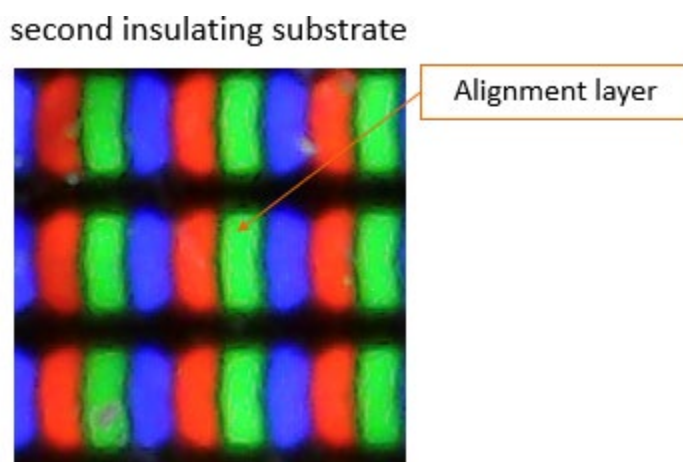




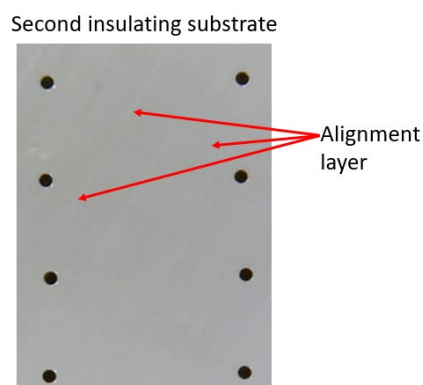
In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



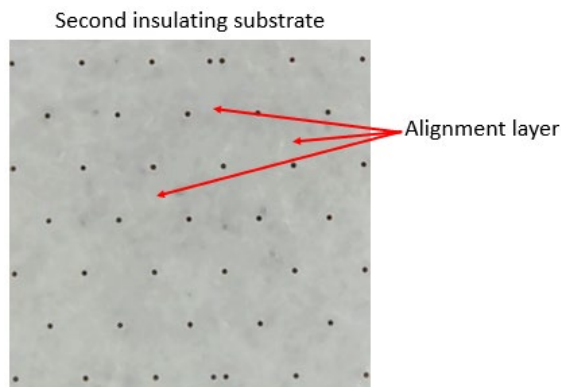
162. The products accused of infringing the '769 patent comprise alignment layers formed between the first insulating substrate and the liquid crystal layer and between the second insulating substrate and the liquid crystal layer, respectively, for aligning the liquid crystal layer. For example, an alignment 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 model no. LM270QQ1(SD)(D1) demonstrates this:



In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA demonstrates this:

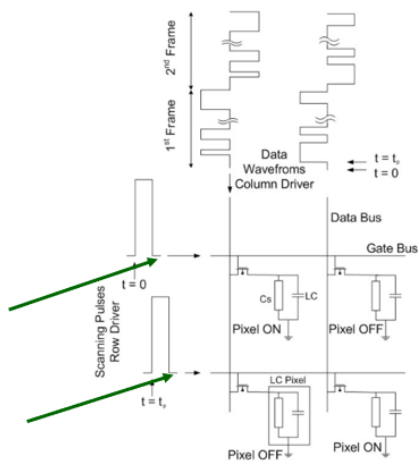
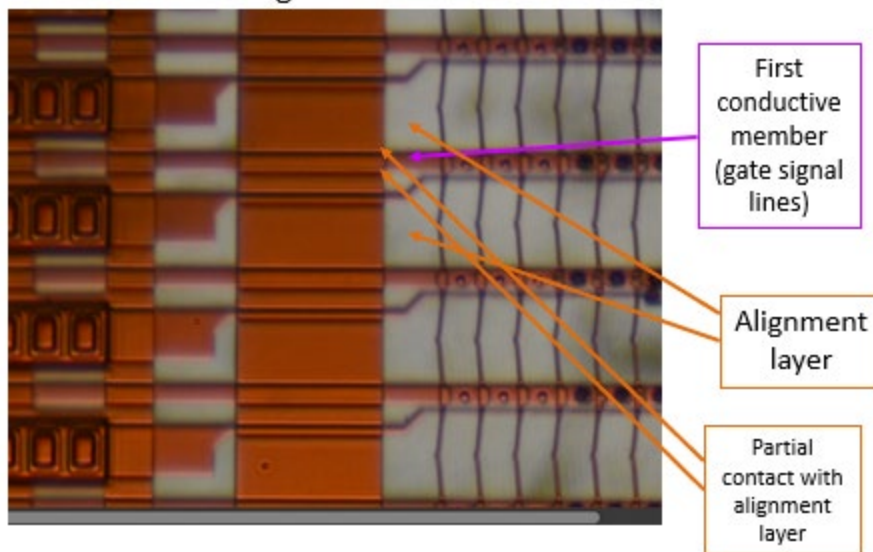


In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this:



163. 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 model no. LM270QQ1(SD)(D1) demonstrates this:

first insulating substrate



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

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)

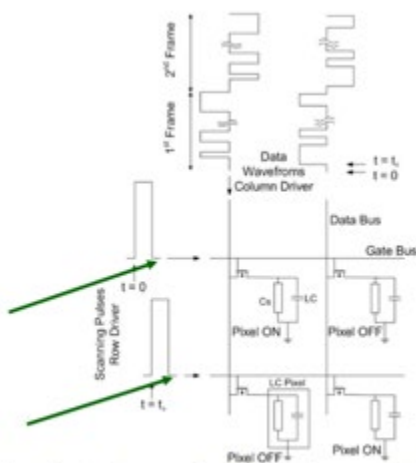
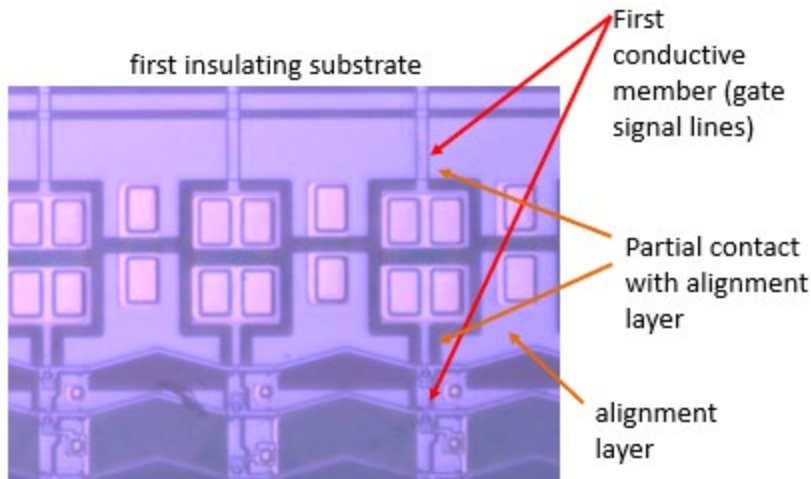
Voff: TFT, Gate gate OFF voltage. (- 7V)

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.panadisplay.com/info/tft-lcd-driving-principle-and-related-circui-21312972.html>

In another example, an examination of LGD's TFT-LCD included in Heesung LCM model no. HC49EQH-SLXA1-211X and/or LGE's TV model no. 49SM8600PUA 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)

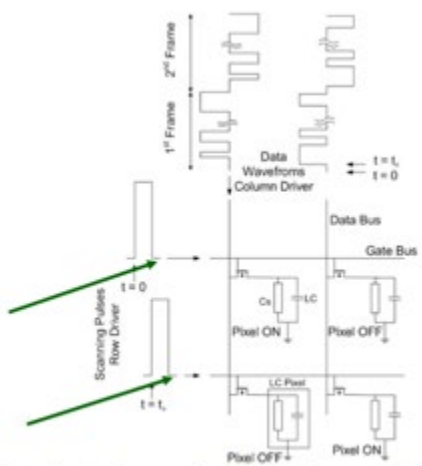
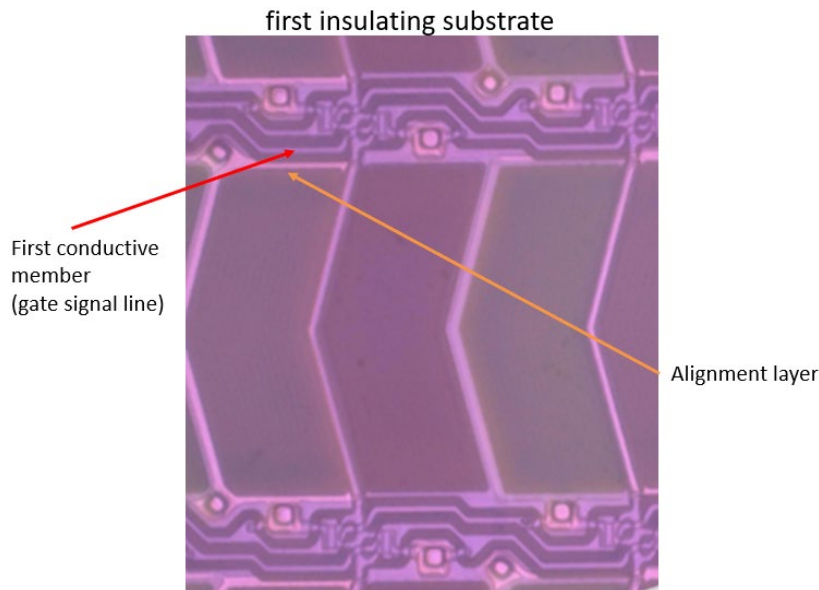
VCOM: CF (color filter) internal reference voltage (5.5V)

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.pasatiny.com/info/tft-lcd-driving-principle-and-related-circuit-21112877.html>

In a further example, an examination of LGD's TFT-LCD included in New Optics LCM model no. NC550DQG-AAHZ1 and/or LGE's TV model no. 55UM7300PUA demonstrates this, such that the gate signal lines are in partial contact with the alignment layer at the perimeter edges of the LGD TFT-LCD:



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

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.amsat.org/infotv.com/info/tft-vol-driving-principle-and-related-circuit-21312877.html>

164. 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. Further, on information and belief, LGD's conduct before the United States Patent and Trademark Office ("USPTO") and foreign offices, suggest that it was aware of the '769 patent prior to receiving any letters. For example, in prosecuting U.S. Patent Publication No. KR100895016B1, LGD has known of the '769 patent. In another example, in



prosecuting KR20110139829A, LGD has known of the '769 patent. In a further example, in prosecuting KR101980765B1, LGD has known of the '769 patent. Based on information and belief, LGE was on notice of the '769 patent from at least the foregoing dates that LGD was on notice of the '769 patent as a result of receiving notice from LGD, which was (and is) LGE's supplier and a closely related company controlled by LGE.<sup>21</sup> On information and belief, LGD is an agent and alter ego of LGE. Based on information and belief, LGEUS was on notice of the '769 patent from at least the foregoing dates that LGD was on notice of the '769 patent as a result of receiving notice from LGD, which was (and is) LGEUS' supplier and a closely related company to LGEUS.<sup>22</sup> On information and belief, LGEUS is an alter ego of LGD. Based on information and belief, LGEUS was on notice of the '769 patent from at least the foregoing dates that LGE was on notice of the '769 patent as a result of receiving notice from LGE, which has wholly owned and controlled its U.S. subsidiary LGEUS.<sup>23</sup> On information and belief, LGEUS is an agent and alter ego of LGE. Moreover, New Optics, 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.<sup>24</sup>

165. Further, at a minimum, New Optics has known about the '769 patent since at least April 27, 2021, when New Optics received notice of its infringement.

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<sup>21</sup> See FN 1, *supra*.

<sup>22</sup> See FN 1, *supra*.

<sup>23</sup> See FN 1, *supra*.

<sup>24</sup> See FN 1, *supra*.

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

166. On information and belief, since at least the above-mentioned dates when LGE, LGEUS, LGD, and New Optics were on notice of their infringement, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics did so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '769 patent. LGE, LGEUS, LGD, and New Optics have caused and/or intended to cause, and took affirmative steps to induce infringement by their 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, LGE, LGEUS, LGD, and New Optics have 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, LGE, LGEUS, LGD, and New Optics have 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 LGD and New Optics 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 LGD and New Optics 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/>.

167. On information and belief, despite having knowledge of the '769 patent and their infringement, LGE, LGEUS, LGD, and New Optics specifically intended for others to import and sell products accused of infringing the '769 patent. For example, LGE, LGEUS, LGD, and New Optics 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, LGE, LGEUS, LGD, and New Optics instructed and encouraged the importers to import and/or sell products accused of infringing the '769 patent. On information and belief, the purchase and sale agreements between LGE, LGEUS, LGD, and New Optics and the importers provide such instruction and/or encouragement. Further, on information and belief, LGE, LGEUS, LGD, and New Optics' 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.

168. 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, LGE, LGEUS, LGD, and New Optics nevertheless continued their infringing conduct and

disregarded an objectively high likelihood of infringement. LGE, LGEUS, LGD, and New Optics' 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.

169. Plaintiff has been damaged as a result of Defendants' infringing conduct described in this Court. Defendants are, thus, liable to Plaintiff in an amount that adequately compensates Plaintiff for Defendants' 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.

170. 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 Defendants' infringements of the '769 patent.

### **CONCLUSION**

171. Plaintiff is entitled to recover from Defendants the damages sustained by Plaintiff as a result of the Defendants' 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.

172. 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 Defendants and that the Court grant Plaintiff the following relief:

1. A judgment that Defendants have 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 Defendants;
3. A judgment and order requiring Defendants 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 Defendants 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 Defendants 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: February 8, 2024

Respectfully submitted,

/s/ Patrick J. Conroy

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