

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

KT IMAGING USA, LLC,

Plaintiff

-against-

SAMSUNG ELECTRONICS CO., LTD. and,
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants

Civil Action No.: 4:20-cv-339

Jury Trial Demanded

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff KT Imaging USA, LLC (“KTI” or “Plaintiff”), by way of this Complaint against Defendants Samsung Electronics Co., Ltd. (“Samsung-Korea”) and Samsung Electronics America, Inc. (“Samsung-America”) (collectively “Samsung” or “Defendants”), alleges as follows:

PARTIES

1. Plaintiff KT Imaging USA, LLC is a limited liability company organized and existing under the laws of the State of Texas, having its principal place of business at 106 E 6th Street, Suite 900, Austin, TX 78701.
2. On information and belief, Defendant Samsung-Korea is a corporation organized and existing under the laws of the Republic of Korea with its principal place of business at 129 Samsung-Ro, Yeongtong-gu, Suwon, Gyeonggi-do, 16677 Korea.
3. On information and belief, Defendant Samsung-America is a wholly-owned subsidiary of Samsung-Korea. On information and belief, Samsung-America is a New York corporation, with

its principal place of business at 85 Challenger Road, Ridgefield Park, New Jersey 07660. Samsung-America is registered to do business in the state of Texas and has maintained a regular and established place of business with offices and/or other facilities in this Judicial District at, at least, 6625 Excellence Way, Plano, Texas 75023. On information and belief, Samsung-America can be served with process through its agent CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX 75201.

JURISDICTION AND VENUE

4. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, for infringement by Samsung of claims of U.S. Patent No. 6,590,269 and its Ex Parte Reexamination Certificate; U.S. Patent No. 6,876,544; U.S. Patent No. 7,196,322; U.S. Patent No. 7,511,261; U.S. Patent No. 8,004,602; and U.S. Patent No. 8,314,481 (collectively “the Patents-in-Suit”).

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

6. Samsung-Korea is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) Samsung-Korea has committed and continues to commit acts of patent infringement in the State of Texas, including by making, using, offering to sell, selling, and/or importing the accused products into Texas; (ii) Samsung-Korea purposefully supplies and directs the accused products for storage, warehousing, and sales by distributors and resellers in the State of Texas; and (iii) Samsung-Korea delivers its products into the stream of commerce with the expectation that they will be purchased by consumers in the State of Texas. In addition, or in the alternative, this Court has personal jurisdiction over Samsung-Korea pursuant to Fed. R. Civ. P. 4(k)(2).

7. Samsung-America is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) Samsung-America has committed and continues to commit acts of

patent infringement in the State of Texas, including by making, using, offering to sell, selling, and/or importing the accused products into Texas; (ii) Samsung-America purposefully supplies and directs the accused products for storage, warehousing, and sales by distributors and resellers in the State of Texas; (iii) Samsung-America delivers its products into the stream of commerce with the expectation that they will be purchased by consumers in the State of Texas; (iv) derives substantial revenue from its activities in this District; and (v) has purposefully established substantial, systematic and continuous contacts with this District such that it should reasonably expect to be haled into court in this District.

8. Venue is proper as to Samsung-Korea in this District under 28 U.S.C. § 1391(c) because, *inter alia*, Samsung-Korea is a foreign corporation.

9. Venue is proper as to Samsung-America in this District under 28 U.S.C. § 1400(b) because, *inter alia*, on information and belief, Samsung-America has committed acts of infringement in the District and/or has contributed to or induced acts of patent infringement by others in this District, and has a regular and established place of business within the District. For example, on information and belief, Samsung-America has offices at 6625 Excellence Way, Plano, Texas 75023.

BACKGROUND

10. On July 8, 2003, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,590,269 (“the ’269 Patent”), entitled “Package Structure for a Photosensitive Chip.”

11. On April 5, 2005, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,876,544 (“the ’544 Patent”), entitled “Image Sensor Module and Method for Manufacturing the Same.”

12. On March 27, 2007, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,196,322 (“the ’322 Patent”), entitled “Image Sensor Package.”

13. On March 31, 2009, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,511,261 (“the ’261 Patent”), entitled “Image Sensor Module Structure With Lens Holder Having Vertical Inner and Outer Sidewalls.”

14. On August 23, 2011, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,004,602 (“the ’602 Patent”), entitled “Image Sensor Structure And Integrated Lens Module Thereof.”

15. On November 20, 2012, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,314,481 (“the ’481 Patent”), entitled “Substrate Structure for an Image Sensor Package and Method for Manufacturing the Same.”

16. KTI is the assignee and owner of the right, title, and interest in and to the Patents-in-Suit, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

17. On March 11, 2019, KTI notified Samsung of the existence of the ’544, ’322, ’261, and ’602 Patents.

18. Samsung has infringed and continues to infringe the Patents-in-Suit by making, using, selling, or offering for sale in the United States, or importing into the United States smartphones, tablets, and laptops with front and/or rear image sensor technology claimed in the Patents-in-Suit. Attachment A to this Complaint provides a non-exhaustive listing of Accused Products. Attachment B to this Complaint provides a listing of Exhibits comprising exemplary teardown images for certain Accused Products.

COUNT I: INFRINGEMENT OF THE '269 PATENT BY SAMSUNG

19. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

20. On information and belief, Samsung has infringed the '269 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

21. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 2 of the '269 Patent by including a rear facing package structure including a photosensitive chip in the Samsung Note 3 product. *See* Ex.1 (Samsung Note 3 rear facing package structure). The rear facing package structure in the Accused Products comprises a substrate having an upper surface and a lower surface opposite to the upper surface. *See* Ex. 2. The rear facing package structure further comprises a frame layer having a first surface and a second surface opposite to the first surface, the frame layer being formed on the substrate with the first surface contacting the upper surface of the substrate, so as to form a cavity with the substrate. *See* Ex. 1. The rear facing package structure further comprises a photosensitive chip placed on the upper surface of the substrate and within the cavity. *See* Ex. 1. The rear facing package structure further comprises a plurality of wires for electrically connecting the substrate to the photosensitive chip. *See* Ex. 3. The rear facing package structure further comprises a transparent layer arranged on the frame layer to cover the photosensitive chip, wherein the second surface of the frame layer is formed with a depression in which the transparent layer is placed to cover the photosensitive chip. *See* Exs. 1 and 4. The rear facing package further comprises a plurality of projections each having a suitable height and formed within depression layer of the frame layer. *See* Ex. 5.

22. On information and belief, Samsung has induced infringement of the '269 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging

others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

23. On information and belief, Samsung has committed the foregoing infringing activities without a license.

COUNT II: INFRINGEMENT OF THE '544 PATENT BY SAMSUNG

24. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

25. On information and belief, Samsung has infringed the '544 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

26. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 1 of the '544 Patent by including an image sensor module to be mounted to a printed circuit board in the Samsung Tab A10.1 product. *See* Ex. 6 (Samsung Tab A10.1" front facing image sensor). The front facing image sensor module in the Accused Products comprises a substrate having an upper surface formed with a plurality of first connection points and a lower surface formed with a plurality of second connection points, which is electrically connected to the printed circuit board. *See* Exs. 7-8 (Samsung Tab A10.1" front facing image sensor). The image sensor module further comprises a photosensitive chip mounted to the upper surface of the substrate. *See* Ex. 6 (Samsung Tab A10.1" front facing image sensor). The image sensor module further comprises a plurality of wires for electrically connecting the photosensitive chip to the first

connection points on the upper surface of the substrate. *See* Ex. 8 (Samsung Tab A10.1” front facing image sensor). The image sensor module further comprises a frame layer mounted to the upper surface of the substrate to surround the photosensitive chip, an inner edge of the frame layer being formed with an internal thread from top to bottom, and a transparent layer being fixed by the frame layer such that the photosensitive chip may receive optical signals passing through the transparent layer. *See* Exs. 6-7, 9 (Samsung Tab A10.1” front facing image sensor). The image sensor module further comprises a lens barrel formed with a chamber at a center thereof and an external thread at an outer edge thereof, the external thread being screwed to the internal thread of the frame layer, wherein the lens barrel has a through hole and an aspheric lens from top to bottom. *See* Exs. 6, 10-11 (Samsung Tab A10.1” front facing image sensor).

27. On information and belief, Samsung has induced infringement of the ’544 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

28. On information and belief, Samsung has committed the foregoing infringing activities without a license.

COUNT III: INFRINGEMENT OF THE ’322 PATENT BY SAMSUNG

29. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

30. On information and belief, Samsung has infringed the ’322 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in

the United States or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

31. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 1 of the '322 Patent by including an image sensor module in the Samsung Note 5 product. *See* Ex. 12 (front facing image sensor of the Samsung Note 5 model). The image sensor module in the Accused Products comprises a substrate having an upper surface, and a lower surface on which second electrodes are formed, and a frame layer arranged on the upper surface of the substrate, a cavity formed between the frame layer and substrate, and a plurality of first electrodes are formed on the frame layer. *See* Exs. 12-13 (front facing image sensor of the Samsung Note 5 model). The image sensor module in the Accused Products further comprises a photosensitive chip mounted on the upper surface of the substrate and located within the cavity, and electrically connected to the first electrodes of the frame layer. *See* Exs. 12, 14-15 (front facing image sensor of the Samsung Note 5 model). The image sensor module in the Accused Products further comprises a lens holder having an upper end face, a lower end face, and an opening penetrating through the lens holder from the upper end face to the lower end face, the upper end of the opening formed with an internal thread and the lower end of the opening formed with a breach, so that the internal diameter of the upper end of the opening is smaller than the lower end of the opening, the lens holder adhered on the upper surface of the substrate by glue, wherein, the frame layer is located within the breach of the lens holder. *See* Exs. 12, 15-16 (front facing image sensor of the Samsung Note 5 model). The image sensor module of the Accused Products further comprises a lens barrel having an upper end face, a lower end face, and an external thread screwed to the internal thread of the lens holder. *See* Exs. 12, 16-17 (front facing image sensor of the Samsung Note 5 model).

32. On information and belief, Samsung has induced infringement of the '322 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

33. On information and belief, Samsung has committed the foregoing infringing activities without a license.

COUNT IV: INFRINGEMENT OF THE '261 PATENT BY SAMSUNG

34. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

35. On information and belief, Samsung has infringed the '261 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

36. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 1 of the '261 Patent by including an image sensor module structure in the Galaxy A9 product. *See* Ex. 18 (cross-sectional image of the front facing image sensor in the Samsung Galaxy A9 model). The image sensor module structure in the Accused Products comprises a substrate having a horizontal upper surface on which first electrodes are formed, and a lower surface on which second electrodes are formed, wherein the first electrodes are correspondingly and electrically connected to the second electrodes. *See* Exs. 18-20. The image sensor module structure in the Accused Products comprises a photosensitive chip mounted on the upper surface

of the substrate, and electrically connected to the first electrodes of the substrate by wires. *See* Exs. 20-21. The image sensor module further comprises a lens holder having an upper end face, a lower end face, and an opening penetrating through the lens holder from the upper end face to the lower end face, wherein an upper end portion of the opening is formed with an internal thread and a lower end portion of the opening is formed with a breach so that an internal diameter of the upper end portion of the opening is smaller than an internal diameter of the lower end portion of the opening, the lens holder is adhered to the upper surface of the substrate by glue, the photosensitive chip is located within the opening of the lens holder, the glue is filled within the breach of the lens holder and coated over the wires, the lens holder has a vertical inner sidewall and a vertical outer sidewall, the vertical inner sidewall is connected to the breach at a portion, which is located at a level higher than a level of the photosensitive chip, a portion of each of the wires is located under the breach, and an outer diameter of the lens holder corresponding to the internal diameter of the upper end portion of the opening is substantially equal to an outer diameter of the lens holder corresponding to the internal diameter of the lower end portion of the opening. *See* Exs. 18-19, 22. The image sensor module further comprises a lens barrel having an upper end face, a lower end face, and an external thread crewed to the internal thread of the lens holder. *See* Ex. 18 and 23.

37. On information and belief, Samsung has induced infringement of the '261 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing

materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

38. On information and belief, Samsung has committed the foregoing infringing activities without a license.

COUNT V: INFRINGEMENT OF THE '602 PATENT BY SAMSUNG

39. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

40. On information and belief, Samsung has infringed the '602 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

41. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 1 of the '602 Patent by including an image sensor structure with an integrated lens module in the Chromebook 3 product. *See* Ex. 30 (cross-sectional images of the front facing camera in the Samsung Chromebook 3 model). The image sensor structure in the Accused Products comprises a chip having a plurality of light-sensing elements arranged on a light sensing area of a first surface of the chip, a plurality of first conducting pads arranged around the light-sensing area and electrically connected to the light-sensing elements, and at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end as well as extending along with a second surface of the chip. *See* Exs.30-33. The image sensor structure in the Accused Products comprises a lens module comprising a holder having a through hole and a contact surface on a bottom of the holder, wherein the contact surface is combined with the first surface, and at least one lens completely embedded inside the through hole and integrated with the holder. *See* Ex. 30.

42. On information and belief, Samsung has induced infringement of the '602 Patent pursuant

to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

43. On information and belief, Samsung has committed the foregoing infringing activities without a license.

COUNT VI: INFRINGEMENT OF THE '481 PATENT BY SAMSUNG

44. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

45. On information and belief, Samsung has infringed the '481 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products and all other products with substantially similar imaging sensors.

46. For example, on information and belief, Samsung has infringed and continues to infringe at least claim 1 of the '481 Patent by including a substrate structure for an image sensor package in the Note 4 product. *See* Ex. 34 (Samsung Note 4 rear facing image sensor). The substrate structure in the Accused Products comprises a bottom base having an upper surface formed with a plurality of first electrodes, and a lower surface formed with a plurality of second electrodes, wherein an insulation layer is coated between first electrodes and in direct surface contact with the upper surface of the bottom base. *See* Exs. 35-36 (Samsung Note 4 rear facing image sensor). The substrate structure in the Accused Products comprises a frame layer arranged on and in direct surface contact with the first electrodes and the insulation layer to form a cavity together with the

bottom base, wherein the insulation layer is interposed between the bottom base and the frame layer. *See* Exs. 35 and 37 (Samsung Note 4 rear facing image sensor).

47. On information and belief, Samsung has induced infringement of the '481 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated image sensor technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

48. On information and belief, Samsung has committed the foregoing infringing activities without a license.

PRAYER FOR RELIEF

WHEREFORE, KTI prays for judgment in its favor against Samsung for the following relief:

- A. Entry of judgment in favor of KTI against Samsung on all counts;
- B. Entry of judgment that Samsung has infringed the Patent-in-Suit;
- C. An order permanently enjoining Samsung from infringing the Patent-in-Suit;
- D. Award of compensatory damages adequate to compensate KTI for Samsung's infringement of the Patent-in-Suit, in no event less than a reasonable royalty trebled as provided by 35 U.S.C. § 284;
- E. Award of reasonable attorneys' fees and expenses against Samsung pursuant to 35 U.S.C. § 285;

- F. KTI's costs;
- G. Pre-judgment and post-judgment interest on KTI's award; and
- H. All such other and further relief as the Court deems just or equitable.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Fed. R. Civ. Proc., Plaintiff hereby demands trial by jury in this action of all claims so triable.

Dated: April 20, 2020

Respectfully submitted,

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