

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

Solas OLED Ltd., an Irish corporation,

*Plaintiff,*

vs.

Samsung Display Co., Ltd., a Korean corporation,  
Samsung Electronics Co., Ltd., a Korean  
corporation, and Samsung Electronics America, Inc.,  
a New York corporation,

*Defendants.*

CASE NO. 2:19-cv-152-JRG

**Amended Complaint for  
Patent Infringement**

**JURY DEMANDED**

**Amended Complaint for Patent Infringement**

Plaintiff Solas OLED Ltd. (“Solas”) files this amended complaint against Defendants Samsung Display Co., Ltd.; Samsung Electronics Co., Ltd.; and Samsung Electronics America, Inc. (collectively, “Defendants”), alleging infringement of U.S. Patent Nos. 6,072,450; 7,446,338; and 9,256,311 (“Patents-in-Suit”). The accused products are Samsung products containing active-matrix organic light-emitting diode (AMOLED) displays.

**Plaintiff Solas OLED and the Patents-in-Suit.**

1. Plaintiff Solas is a technology licensing company organized under the laws of Ireland, with its headquarters at 4-5 Burton Hall Road, Sandyford, Dublin 18.

2. Solas is the owner of U.S. Patent No. 6,072,450, entitled “Display Apparatus,” which issued June 6, 2000 (the “’450 patent”). A copy of the ’450 patent is attached to this complaint as Exhibit 1.

3. Solas is the owner of U.S. Patent No. 7,446,338, entitled “Display Panel,” which issued November 4, 2008 (the “’338 patent”). A copy of the ’338 patent is attached to this complaint as Exhibit 2.

4. Solas is the owner of U.S. Patent No. 9,256,311, entitled “Flexible Touch Sensor,” which issued February 9, 2016 (the “’311 patent”). A copy of the ’311 patent is attached to this complaint as Exhibit 3.

**Defendants and the Accused Products.**

5. Defendant Samsung Display Co., Ltd. (“Samsung Display”) is a Korean corporation. Defendant Samsung Electronics Co., Ltd. (“Samsung Electronics”) is a Korean corporation. Defendant Samsung Electronics America, Inc. (“Samsung Electronics America”) is a New York corporation with regular and established places of business in this district.

6. The Accused Products are Samsung products containing active-matrix organic light-emitting diode (AMOLED) displays. As an illustrative example, this includes Galaxy S9 model smartphones (illustrated below).



Galaxy S9

<https://www.samsung.com/us/smartphones/galaxy-s9/>

7. Defendant Samsung Display makes and supplies displays incorporated into the accused products. Defendants Samsung Electronics and Samsung Electronics America make and supply the accused products.

**Jurisdiction, venue, and joinder.**

8. Solas asserts claims for patent infringement against Defendants under the patent laws of the United States, including 35 U.S.C. §§ 271 and 281, et seq. The Court has original jurisdiction over Solas' patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).

9. The Court has personal jurisdiction over Defendants. Defendants Samsung Display and Samsung Electronics have established minimum contacts with the United States as a whole such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice. Defendants Samsung Display and Samsung Electronics have purposefully directed activities at the United States—in particular, directing accused Galaxy smartphones for sale to distributors and end customers within the United States (including within this district) and engaging in sales and marketing efforts to generate and support such sales. The claims for infringement arise out of, or relate to, those activities. Defendant Samsung Electronics America has regular and established places of business within this district and has committed acts of infringement within this district (e.g., selling and using Accused Products). Samsung Electronics America has established minimum contacts with the State of Texas such that the exercise of jurisdiction over Samsung Electronics America would not offend traditional notions of fair play and substantial justice.

10. Defendants are jointly and severally liable for infringing the asserted patents. Defendants' liability arises out of the same transaction, occurrence or series of transactions or occurrences related to the making, using, importing into the United States, offering for sale and

selling the Accused Products. As a result, this action involves questions of law and fact that are common to all Defendants.

11. Venue is proper in this district under 28 U.S.C. §1400(b) and 28 U.S.C. §§ 1391(c). For Defendants Samsung Display and Samsung Electronics, venue is proper as to a foreign defendant in any district. Defendant Samsung Electronics America has regular and established places of business in this district at: 1301 East Lookout Drive, Richardson, Texas 75080; and 6635 Declaration Drive, Plano, TX 75023.

**Count 1 – Claim for infringement of the '450 patent.**

12. Solas incorporates by reference each of the allegations in paragraphs 1–11 above and further alleges as follows:

13. On June 6, 2000, the United States Patent and Trademark Office issued U.S. Patent No. 6,072,450, entitled “Display apparatus.” Ex. 1.

14. Solas is the owner of the '450 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

15. Each claim of the '450 patent is valid, enforceable, and patent-eligible.

16. Solas and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the '450 patent, and Solas is entitled to damages for Defendants' past infringement.

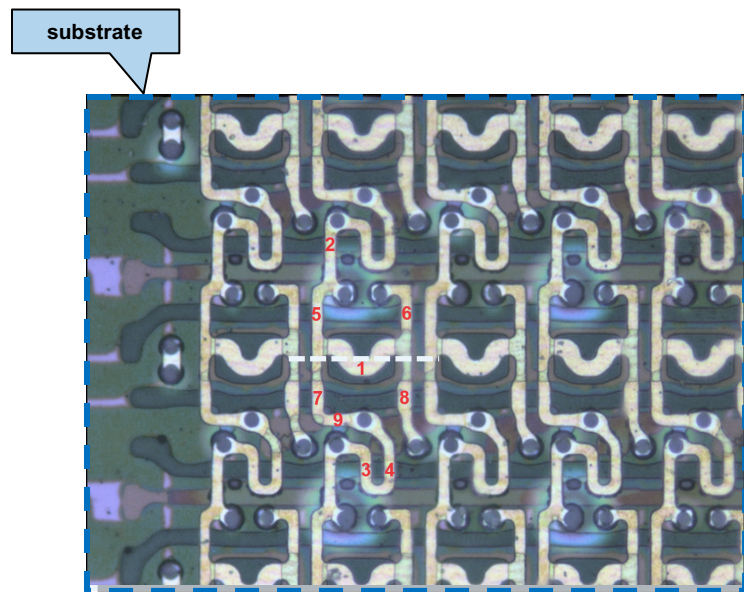
17. Defendants have directly infringed (literally and equivalently) and induced others to infringe the '450 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the '450 patent and by inducing others to infringe the claims of the '450 patent without a license or permission from Solas.

### Direct Infringement

18. Defendants have directly infringed (literally and equivalently) at least one claim of the '450 patent by making, using, offering to sell, selling, and importing the Accused Products. Defendants have infringed multiple claims of the '450 patent, including independent claim 1. By way of example only, the Samsung Galaxy S8 phone infringed an exemplary claim of the '450 patent, as in the following description, which Solas provides without the benefit of information about the accused device obtained through discovery. For example, claim 1 claims a display apparatus as follows:

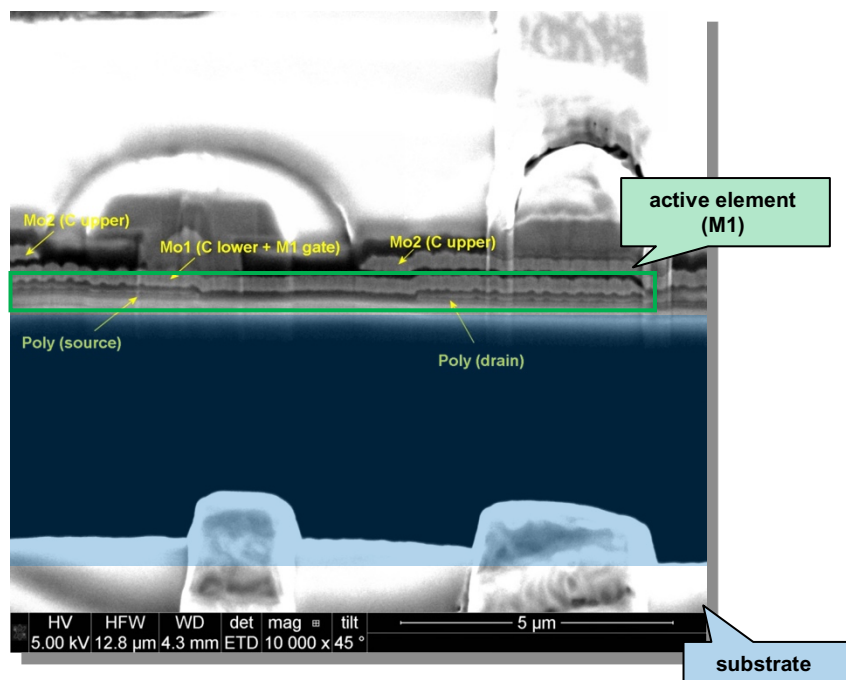
#### **[1a] “a substrate;”**

The accused Galaxy smartphones include Organic Light Emitting Diode (OLED) panels that include a polyimide substrate:

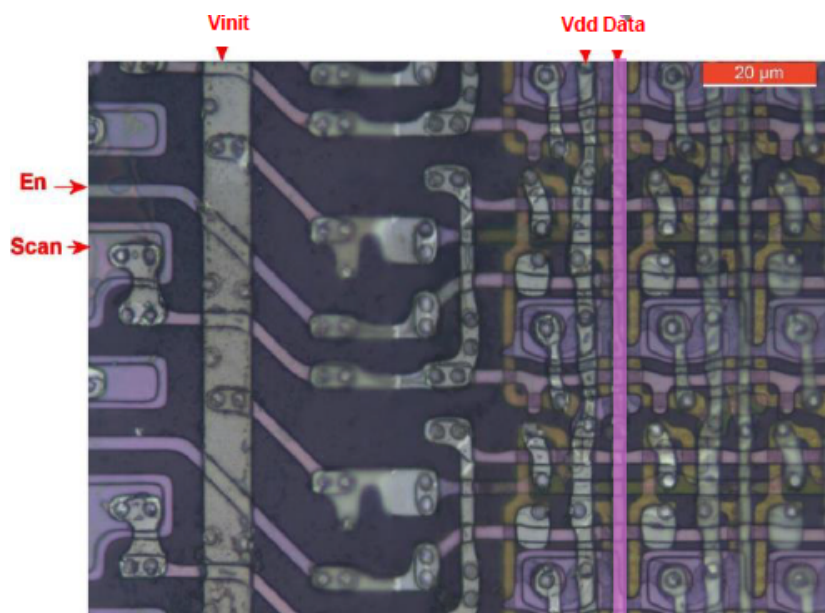


#### **[1b] “active elements formed over said substrate and driven by an externally supplied signal;”**

The accused Galaxy smartphones include active elements formed over the substrate:

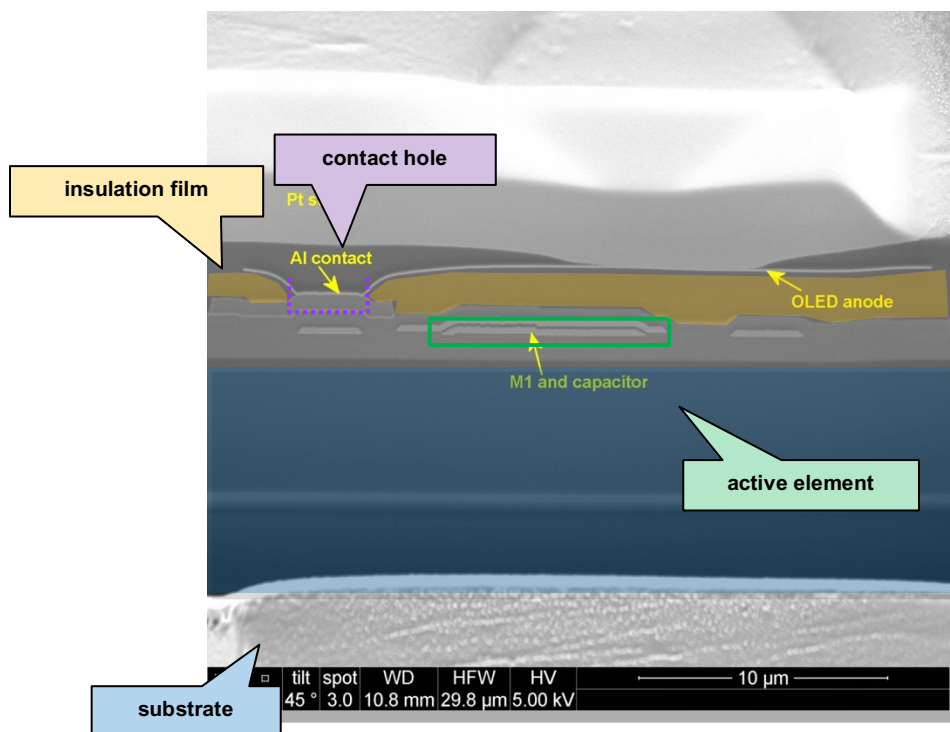


These active elements are driven by an externally supplied signal:



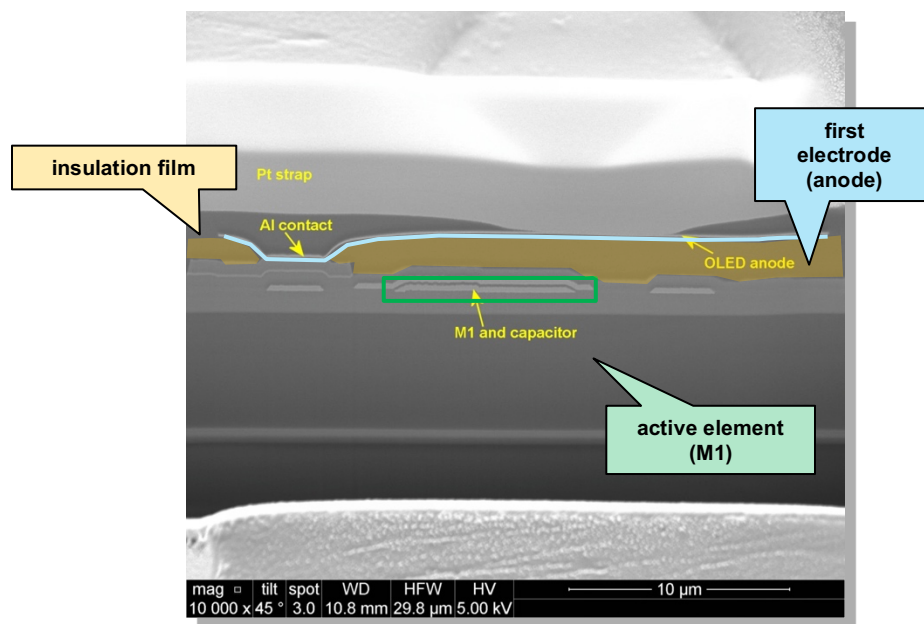
**[1c] “an insulation film formed over said substrate so as to cover said active elements, said insulation having at least one contact hole;”**

In the accused Galaxy smartphones, an insulation film is formed over the substrate, covers the active elements, and has contact holes:



**[1d] “at least one first electrode formed on said insulation film so as to cover said active elements, and connected to said active elements through said at least one contact hole, said at least one first electrode being made of a material which shields visible light;”**

In the accused Galaxy smartphones, an electrode is formed on the insulation film, covers active elements, and is connected to active elements through contact holes:

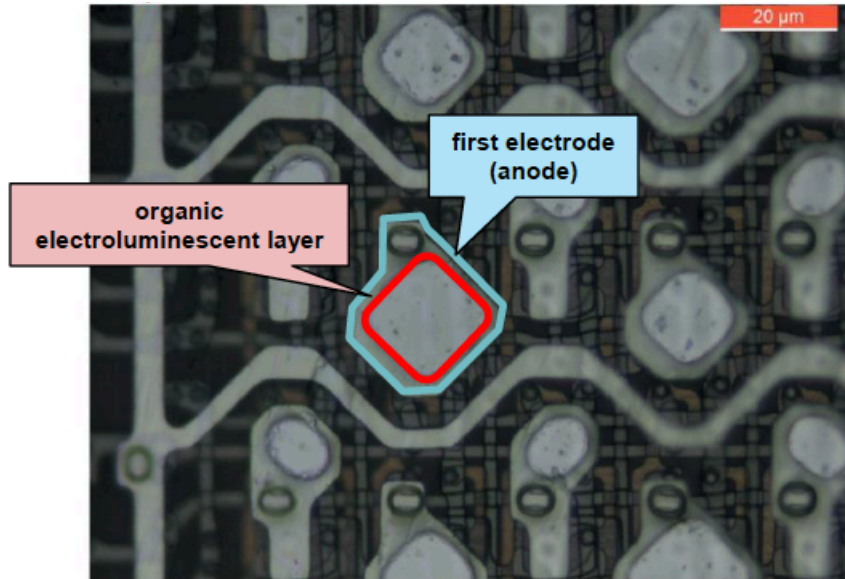


This electrode is formed of silver, which shields visible light.

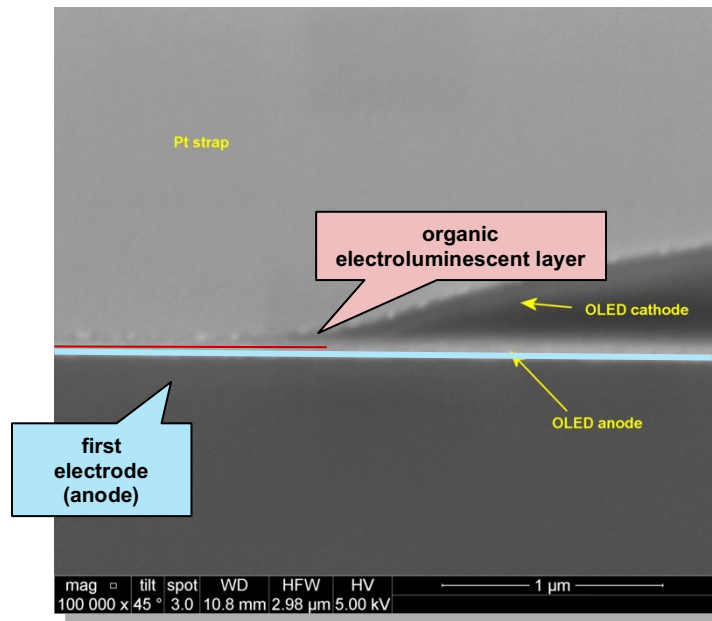
**[1e] “an organic electroluminescent layer having an organic electroluminescent material formed on said at least one first electrode so as to cover said active elements and including at least one layer which emits light in accordance with a voltage applied to said at least one layer;”**

In the accused Galaxy smartphones, a layer of organic electroluminescent material is formed on the electrode, and covers active elements:



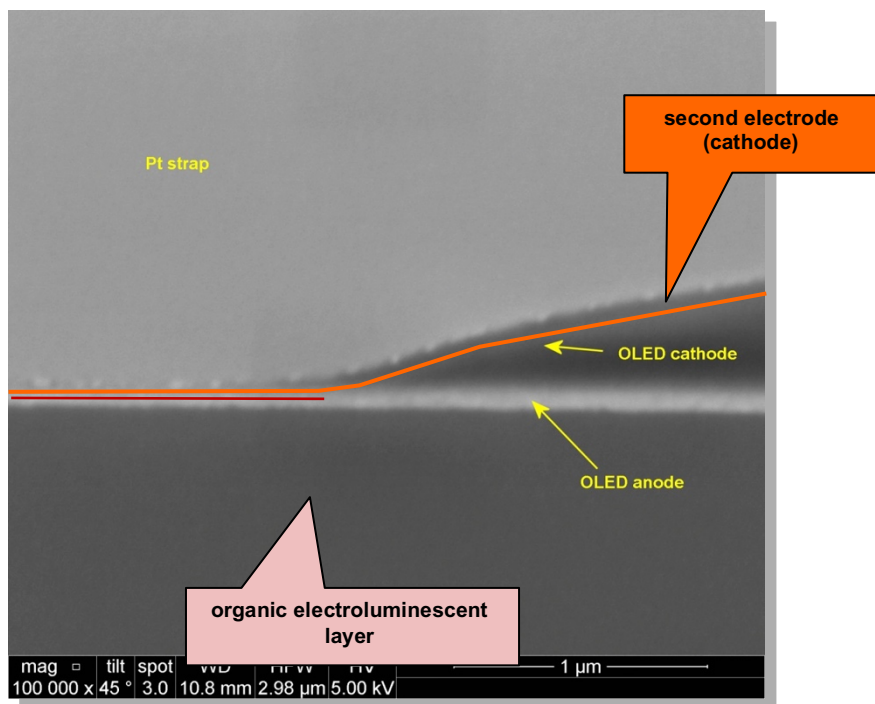


This organic electroluminescent layer emits in accordance with a voltage applied to the layer using the OLED cathode and anode:



**[1f] “and at least one second electrode formed on said organic electroluminescent layer which covers said active elements.”**

In the accused Galaxy smartphones, a second electrode is formed on the organic electroluminescent layer:



#### Defendants’ knowledge of the patent and of their infringement

19. Defendants have known of the ’450 patent or have been willfully blind to the ’450 patent, since at least 2003. The ’450 patent issued on June 6, 2000. The ’450 patent was cited by the examiner and/or by Defendants during the prosecution of the following patent applications:

- US 09/755,193 (published as US2001/0019129A1) (“Contact structure of wiring and a method for manufacturing the same”), published on September 6, 2001, assigned to “Samsung Electronics Co., Ltd.” The ’450 patent was cited by the examiner of this patent application in two separate rejections of Samsung

Electronics' claims, issued on March 2003 and September 4, 2003. U.S. Patent No. 6,885,064 issued based upon this application on April 26, 2005 and cites the '450 patent on its face. On September 4, 2012, Samsung Electronics assigned this patent to Samsung Display.

- US 11/107,889 (published as US2005/0181582A1) ("Contact structure of wiring and a method for manufacturing the same"), published August 18, 2005, assigned to "Samsung Electronics Co., Ltd." The '450 patent was cited by Samsung Electronics in an Information Disclosure Statement filed April 18, 2005. U.S. Patent No. 7,115,433 issued based upon this application on October 3, 2006 and cites the '450 patent on its face. On September 4, 2012, Samsung Electronics assigned this patent to Samsung Display.
- US 11/170,158 (published as US2006/0001363A1) ("Active matrix organic light emitting display device and method of fabricating the same"), published on January 5, 2006, assigned to "Samsung SDI Co., Ltd." The '450 patent was cited by the examiner of this patent application in a rejection of Samsung SDI Co. Ltd.'s claims issued on August 17, 2007. U.S. Patent No. 7,402,950 issued based upon this application on July 22, 2008 and cites the '450 patent on its face. On December 12, 2008, Samsung SDI Co. Ltd. assigned this patent to Samsung Mobile Display Co., Ltd. On July 2, 2012, Samsung Mobile Display Co., Ltd. merged into Samsung Display.
- US 11/284,106 (published as US2006/0119251A1) ("Organic electroluminescence display with an insulating layer selectively formed"), published June 8, 2006, assigned to "Samsung SDI Co., Ltd." The '450 patent

was cited by the examiner of this patent application in a document issued March 26, 2008. On December 12, 2008, Samsung SDI Co. Ltd. assigned this patent application to Samsung Mobile Display Co., Ltd. U.S. Patent No. 7,538,481 issued based upon this application on May 26, 2009 and cites the '450 patent on its face. On July 2, 2012, Samsung Mobile Display Co., Ltd. merged into Samsung Display.

- US 11/480,199 (published as US2007/0012926A1) (“Display device with reduced number of wires and manufacturing method thereof”), published on January 18, 2007, assigned to “Samsung Electronics Co., Ltd.” The '450 patent was cited by the examiner of this patent application in two separate rejections of Samsung Electronics' claims, issued on February 20, 2008 and September 19, 2008. Samsung Electronics subsequently abandoned this patent application.
- US 11/535,222 (published as US2007/0096636A1) (“Organic light emitting diode display and method of manufacturing the same”), published on May 3, 2007, assigned to “Samsung Electronics Co., Ltd.” The '450 patent was cited by the examiner of this patent application in a document issued February 24, 2010 and again in a rejection of Samsung Electronics' claims issued November 17, 2010. On September 4, 2012, Samsung Electronics assigned this patent application to Samsung Display. U.S. Patent No. 8,587,499 issued based upon this application on November 19, 2013 and cites the '450 patent on its face.
- US 12/805,200 (published as US20110012816A1) (“Organic light-emitting display apparatus”), published January 20, 2011, assigned to “Samsung Mobile Display Co., Ltd.” The '450 patent was cited by Samsung Mobile Display Co.,

Ltd. in an Information Disclosure Statement filed March 30, 2012. On July 2, 2012, Samsung Mobile Display Co., Ltd. merged into Samsung Display. U.S. Patent No. 8816331 issued based upon this application on August 26, 2014 and cites the issued '338 patent on its face.

- US 13/100,996 (published as US2012/0153321A1) (“Organic light emitting diode display”), published June 21, 2012, assigned to “Samsung Mobile Display Co., Ltd.” On July 2, 2012, Samsung Mobile Display Co., Ltd. merged into Samsung Display. The '450 patent was cited by the examiner of this patent application in a document issued July 1, 2014. Samsung Display subsequently abandoned this patent application.

20. Defendants Samsung Electronics, Samsung Display, and Samsung Electronics America have learned of the '450 patent through their work with the other Defendants to manufacture and supply the Accused Products. Defendants' engineers and product development employees work together with Samsung legal staff and outside counsel in the process of preparing and prosecuting Defendants' patent applications. Through this process, these employees became aware of and/or were willfully blind to the '450 patent and to its relevance to the products that they design for Defendants.

21. Defendants have known how the Accused Products are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

Indirect infringement

22. Defendants have induced, and continue to induce, infringement of the '450 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

Willful infringement

23. Defendants' infringement of the '450 patent has been, and continues to be, willful and egregious.

Damages

24. Solas has been damaged by Defendants' infringement of the '450 patent and is entitled to reasonable royalty damages and enhanced damages due to Defendants' willful infringement.

**Count 2 – Claim for infringement of the '338 patent.**

25. Solas incorporates by reference each of the allegations in paragraphs 1–24 above and further alleges as follows:

26. On November 4, 2008, the United States Patent and Trademark Office issued U.S. Patent No. 7,446,338, entitled "Display panel." Ex. 2.

27. Solas is the owner of the '338 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

28. Each claim of the '338 patent is valid, enforceable, and patent-eligible.

29. Solas and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the '338 patent, and Solas is entitled to damages for Defendants' past infringement.

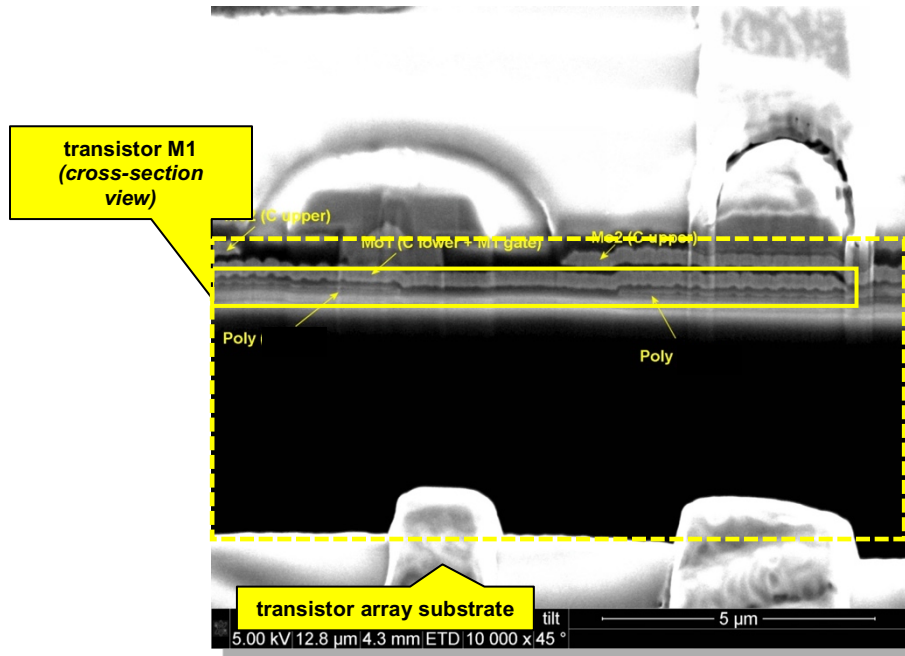
30. Defendants have directly infringed (literally and equivalently) and induced others to infringe the '338 patent and, unless enjoined, will continue to do so by making, using, selling, offering for sale, or importing products that infringe the claims of the '338 patent and by inducing others to infringe the claims of the '338 patent without a license or permission from Solas.

Direct Infringement

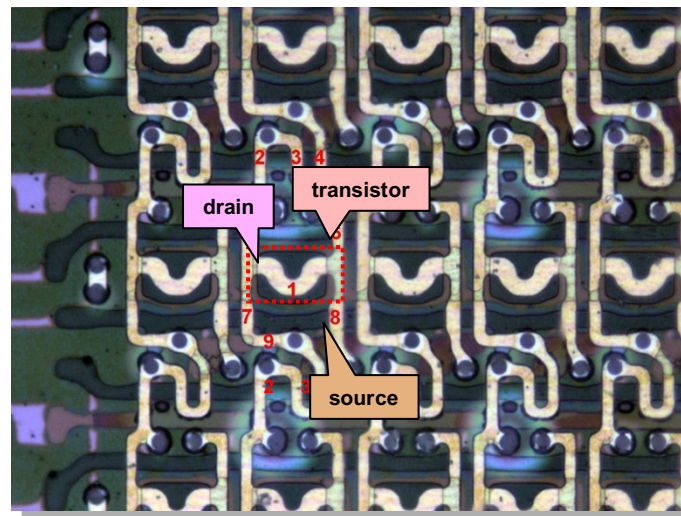
31. Defendants have directly infringed (literally and equivalently) at least one claim of the '338 patent, and continue to do so, by making, using, offering to sell, selling, and importing the Accused Products. Defendants infringe multiple claims of the '338 patent, including independent claim 1. By way of example only, the Samsung Galaxy S8 phone infringes an exemplary claim of the '338 patent, as in the following description, which Solas provides without the benefit of information about the accused device obtained through discovery. For example, claim 1 claims a display panel as follows:

**[1a] “a transistor array substrate which includes a plurality of pixels and comprises a plurality of transistors for each pixel, each of the transistors including a gate, a gate insulating film, a source, and a drain;”**

The accused Galaxy smartphones contain a transistor array substrate:



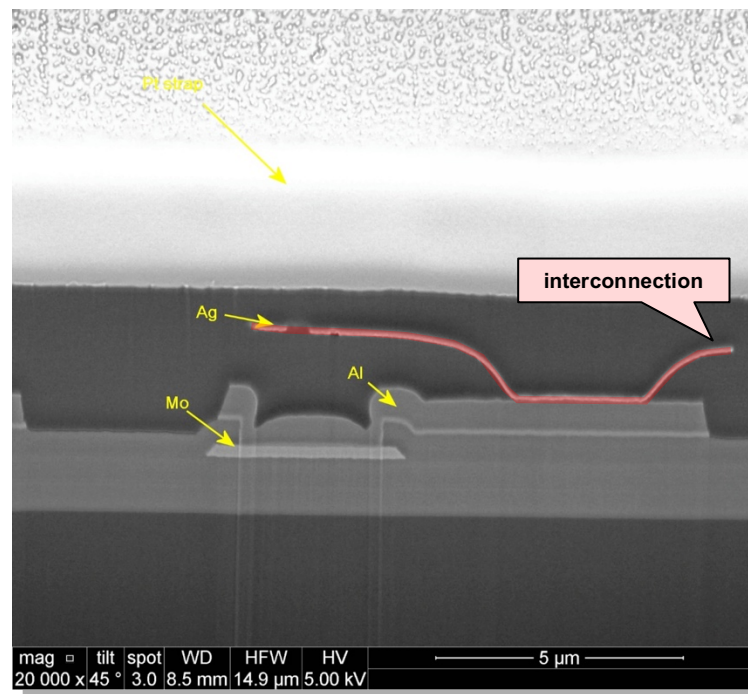
The transistor array substrate includes a plurality of pixels and comprises a plurality of transistors for each pixel, each of the transistors including a gate, a gate insulating film, a source, and a drain:



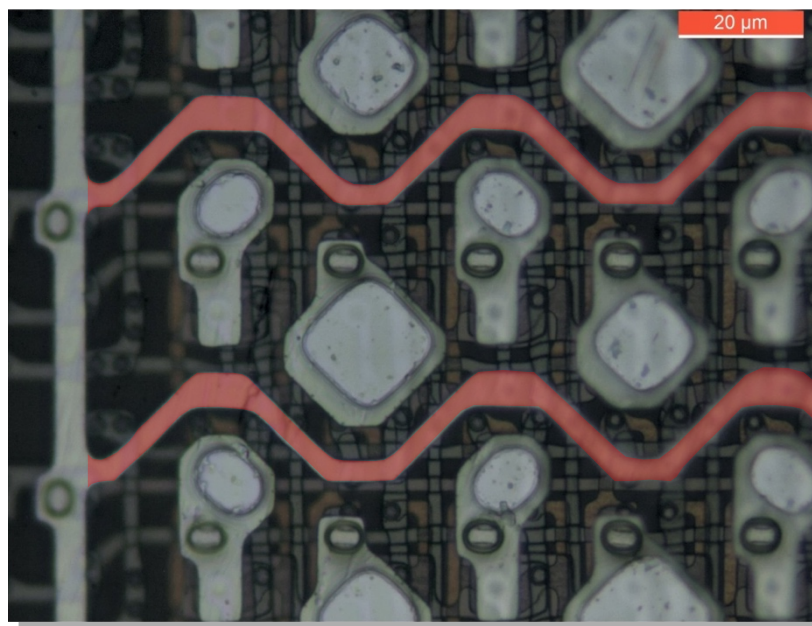
[1b] “a plurality of interconnections which are formed to project from a surface of the transistor array substrate, and which are arrayed in parallel to each other;”



The accused Galaxy smartphones include a plurality of interconnections which are formed to project from a surface of the transistor array substrate:

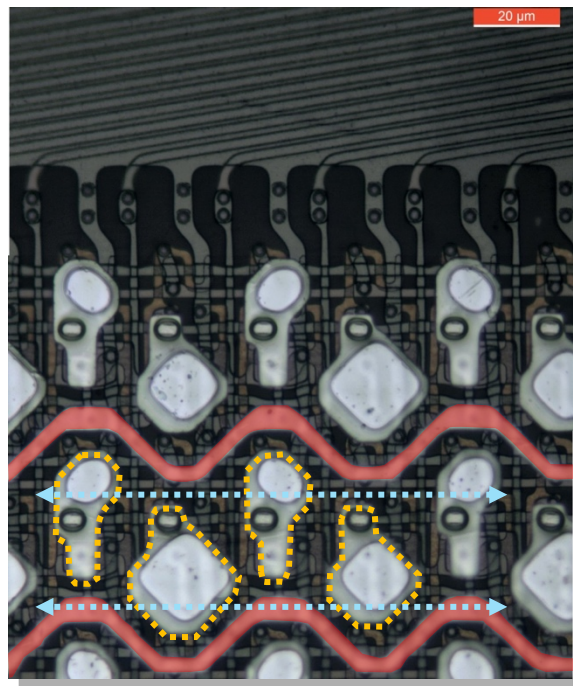


These interconnections are arrayed in parallel to each other:



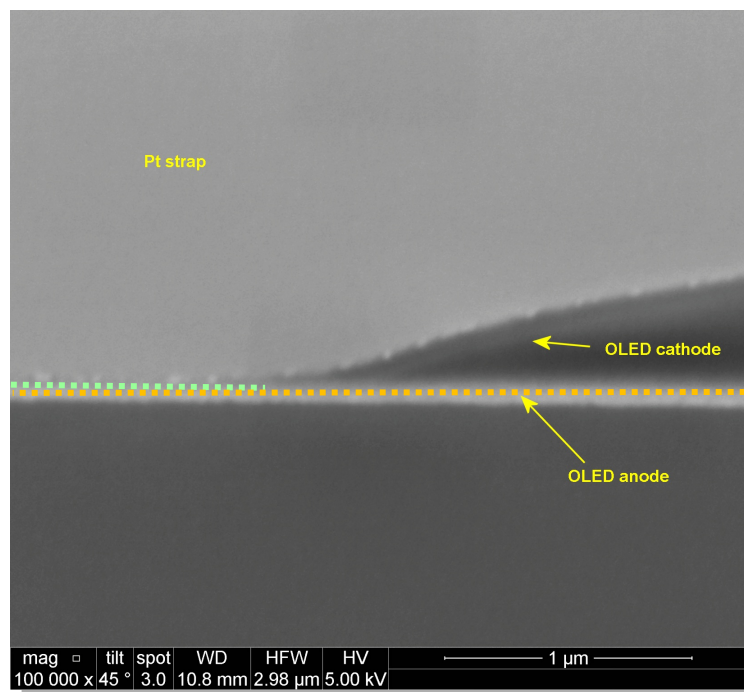
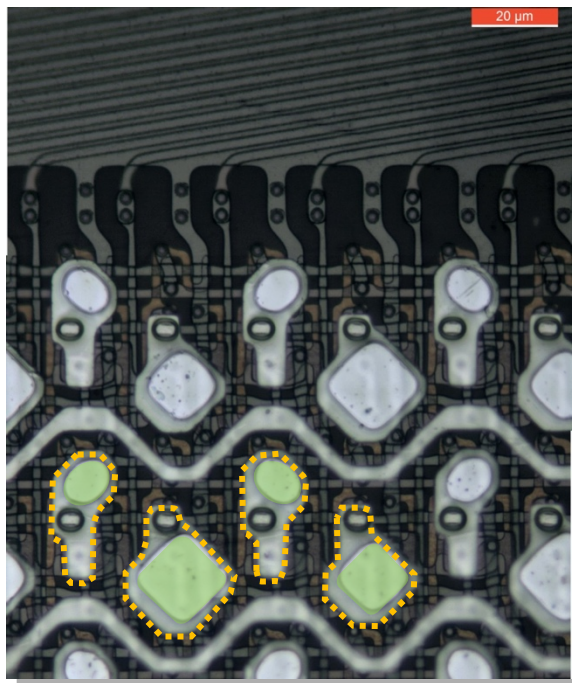
**[1c] “a plurality of pixel electrodes for the plurality of pixels, respectively, the pixel electrodes being arrayed along the interconnections between the interconnections on the surface of the transistor array substrate;”**

The accused Galaxy smartphones include a plurality of pixel electrodes for the plurality of pixels, respectively, the pixel electrodes being arrayed along the interconnections between the interconnections on the surface of the transistor array substrate:



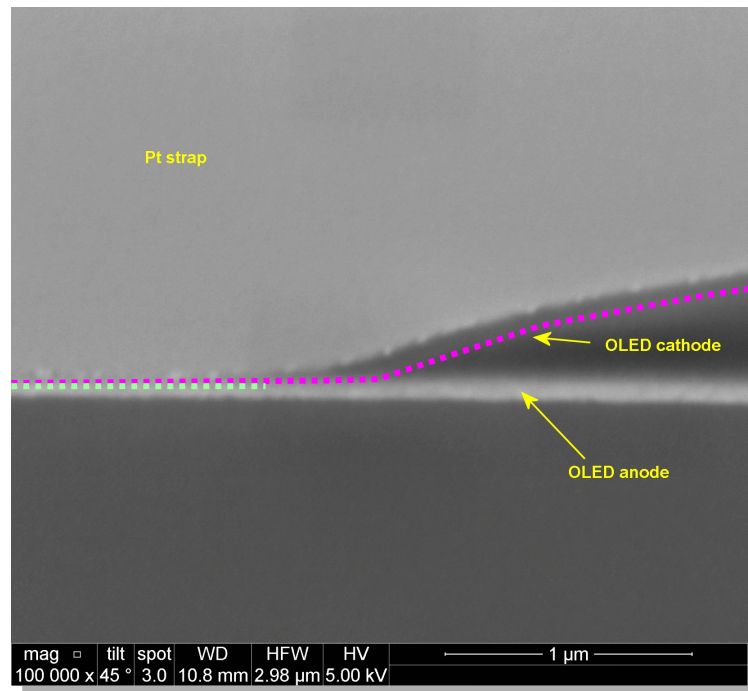
**[1d] “a plurality of light-emitting layers formed on the pixel electrodes, respectively;”**

The accused Galaxy smartphones include a plurality of light-emitting layers formed on the pixel electrodes, respectively:



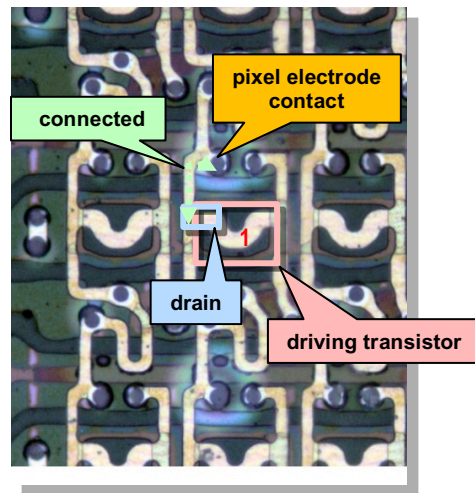
**[1e] “and a counter electrode which is stacked on the light-emitting layers,”**

The accused Galaxy smartphones include a counter electrode which is stacked on the light-emitting layers:

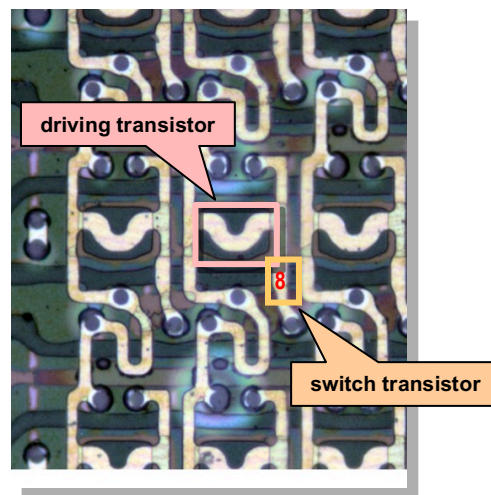


**[1f] “wherein said plurality of transistors for each pixel include a driving transistor, one of the source and the drain of which is connected to the pixel electrode, a switch transistor which makes a write current flow between the drain and the source of the driving transistor, and a holding transistor which holds a voltage between the gate and source of the driving transistor in a light emission period.”**

In the accused Galaxy smartphones, the plurality of transistors for each pixel includes a driving transistor, one of the source and the drain of which is connected to the pixel electrode:

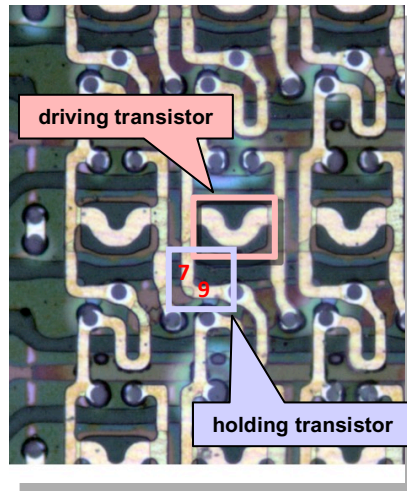


The plurality of transistors includes a switch transistor which makes a write current flow between the drain and the source of the driving transistor:



The plurality of transistors includes a holding transistor which holds a voltage between the gate and source of the driving transistor in a light emission period:





Defendants' knowledge of the patent and of their infringement

32. Defendants have known of the '338 patent or have been willfully blind to the '338 patent, since at least 2012. The application that became the '338 patent (No. 11/235,579) was published as US2006/0066535A1 (the '535 published application) on March 30, 2006. The '535 published application was cited by the examiner and/or by Samsung Display during the prosecution of the following Samsung Display patent applications:

- US 12/609,550 (published as US2010/0110058A1) ("Display apparatus including voltage compensator to compensate common voltage"), published on May 6, 2010, assigned to "Samsung Electronics Co., Ltd." The '535 published application was cited by the examiner of this patent application in a document issued March 21, 2012, describing the '535 published application as "pertinent" to Samsung's application. On September 4, 2012, Samsung Electronics assigned this patent application to Samsung Display. U.S. Patent No. 8,514,162 issued based upon this application on August 20, 2013 and cites the '535 published application on its face.

- US 13/268,273 (published as US2012/0280215A1) (“Organic light-emitting display apparatus”), published November 8, 2012, assigned to “Samsung Display Co., Ltd.” The issued ’338 patent was cited by the examiner of this patent application in two separate rejections of Samsung Display’s claims, issued on August 19, 2013 and February 11, 2014. U.S. Patent No. 8816331 issued based upon this application on August 26, 2014 and cites the issued ’338 patent on its face.

33. Defendants Samsung Electronics and Samsung Electronics America have learned of the ’338 patent through their work with Samsung Display to manufacture and supply the Accused Products.

34. Defendants Samsung Electronics, Samsung Display, and Samsung Electronics America have learned of the ’338 patent through their work with the other Defendants to manufacture and supply the Accused Products. Defendants’ engineers and product development employees work together with Samsung legal staff and outside counsel in the process of preparing and prosecuting Defendants’ patent applications. Through this process, these employees became aware of and/or were willfully blind to the ’338 patent and to its relevance to the products that they design for Defendants.

35. Defendants have known how the Accused Products are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

Indirect infringement

36. Defendants have induced, and continue to induce, infringement of the '338 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

Willful infringement

37. Defendants' infringement of the '338 patent has been, and continues to be, willful and egregious.

Damages

38. Solas has been damaged by Defendants' infringement of the '338 patent and is entitled to reasonable royalty damages and enhanced damages due to Defendants' willful infringement.

**Count 3 – Claim for infringement of the '311 patent.**

39. Solas incorporates by reference each of the allegations in paragraphs 1–38 above and further alleges as follows:

40. On February 9, 2016, the United States Patent and Trademark Office issued U.S. Patent No. 9,256,311, entitled "Flexible touch sensor." Ex. 3.

41. Solas is the owner of the '311 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

42. Each claim of the '311 patent is valid, enforceable, and patent-eligible.



43. Solas and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the '311 patent, and Solas is entitled to damages for Defendants' past infringement.

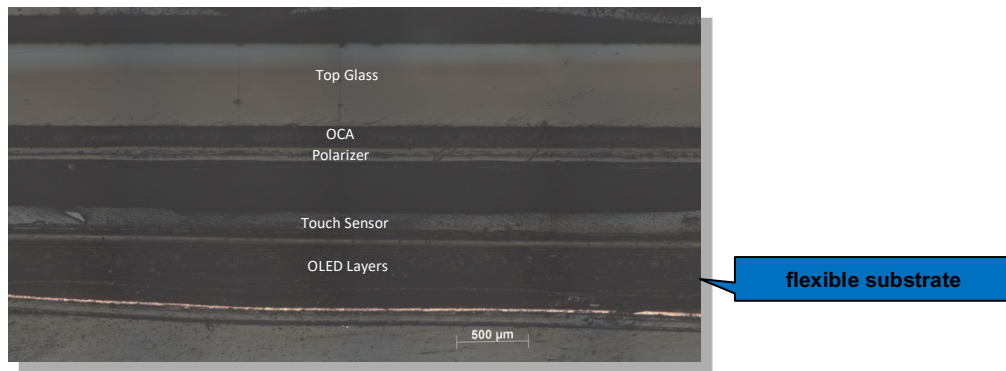
44. Defendants have directly infringed (literally and equivalently), contributed to the infringement, and induced others to infringe the '311 patent and, unless enjoined, will continue to do so by making, using, selling, offering for sale, or importing products that infringe the claims of the '311 patent and by contributing to or inducing others to infringe the claims of the '311 patent without a license or permission from Solas.

Direct Infringement

45. Defendants have directly infringed (literally and equivalently) at least one claim of the '311 patent, and continue to do so, by making, using, offering to sell, selling, and importing the Accused Products. Defendants infringe multiple claims of the '311 patent, including independent claim 1. By way of example only, the Samsung Galaxy S9 phone infringes an exemplary claim of the '311 patent, as in the following description, which Solas provides without the benefit of information about the accused device obtained through discovery. For example, claim 1 claims an apparatus as follows:

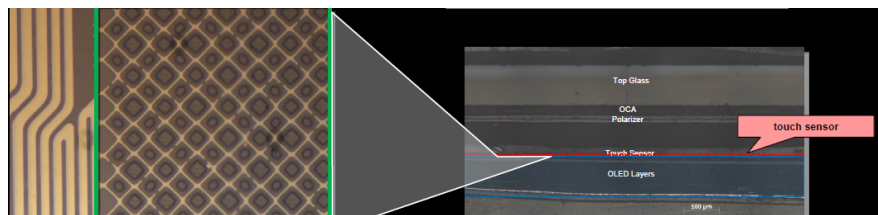
**[1a] “a substantially flexible substrate;”**

The accused Galaxy smartphones include flexible Organic Light Emitting Diode (OLED) panels that include a flexible substrate:



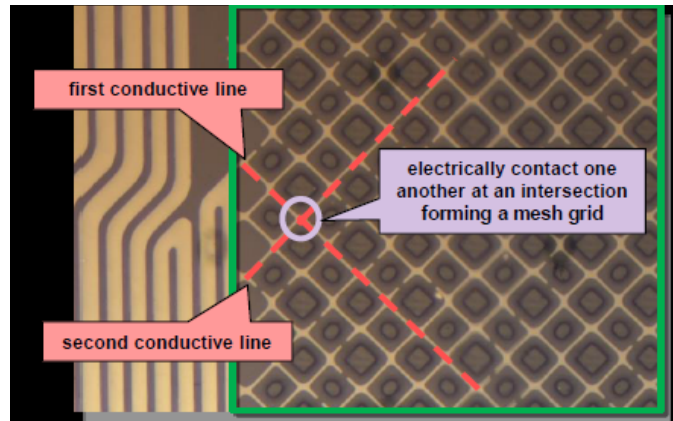
**[1b] “and a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate,”**

The accused Galaxy smartphones include a touch sensor layered on top of the flexible OLED panel. The touch sensor includes drive or sense electrodes (the mesh grid illustrated below) made from flexible, conductive metal, configured to bend with the flexible OLED panel.



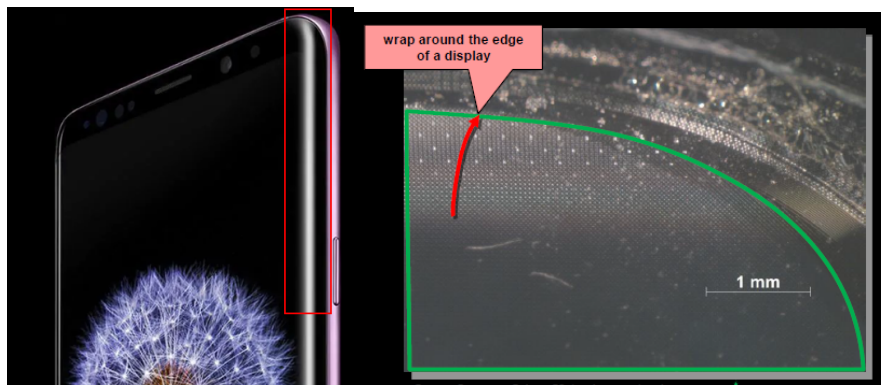
**[1c] “wherein: the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid;”**

In the accused Galaxy smartphones, the drive or sense electrodes are made from flexible metal mesh. This flexible metal mesh includes conductive metal lines that physically intersect (and thus electrically contact) to form a mesh grid.



**[1d] “and the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display.”**

In the accused Galaxy smartphones, the flexible metal touch sensor layer and the flexible OLED panel substrate wrap around the edge of the phone display.



#### Defendants’ knowledge of the patent and of their infringement

46. Defendants have known of the ’311 patent or have been willfully blind to the ’311 patent, since at least 2015. The application that became the ’311 patent (No. 13/284,674) was published as US2013/0106441A1 (the ’441 published application) on May 2, 2013. The ’441 published application was cited by the examiner and/or by Samsung Display during the prosecution of the following Samsung Display patent applications:

- US 13/776,932 (published as US2014/0132553A1) (“Flexible touch screen panel and flexible display device with the same”), published on May 15, 2014, assigned

to “Samsung Display Co., Ltd.” The ’441 published application was cited by the examiner of this patent application in a document issued January 5, 2015.

Samsung Display subsequently abandoned this patent application.

- US 14/248,126 (published as US2015/0153873A1) (“Touch panel, display apparatus, and method of manufacturing the touch panel”), published June 4, 2015, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by the examiner of this patent application in four separate rejections of Samsung Display’s claims, issued on March 9, 2017, September 7, 2017, June 7, 2018, and November 29, 2018. This patent application is still pending.
- US 14/457,259 (published as US2015/0220120A1) (“Display device having a touch panel”), published August 6, 2015, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by the examiner of this patent application in three separate rejections of Samsung Display’s claims, issued on June 16, 2017, December 19, 2016, and June 28, 2017. Samsung Display subsequently abandoned this patent application.
- US 14/592,276 (published as US2015/0123926A1) (“Flexible touch screen panel and flexible display device with the same”), published May 7, 2015, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by the examiner of this patent application in a document issued July 29, 2016. U.S. Patent No. 9,778,697 issued based upon this application on October 3, 2017 and cites the ’441 published application on its face.
- 14/601,947 (published as US2016/0066411A1) (“Flexible circuit board and electronic device including the same”), published March 3, 2016, assigned to

“Samsung Display Co., Ltd.” The ’441 published application was cited by the examiner of this patent application in three separate rejections of Samsung Display’s claims, issued on June 22, 2017, December 29, 2017, and June 28, 2018. The issued ’311 patent was cited by Samsung Display in an Information Disclosure Statement on October 31, 2018. U.S. Patent No. 10,285,263 issued based upon this application on May 7, 2019 and cites both the ’441 published application and the issued ’311 patent on its face.

- 15/073,515 (published as US2016/0203763A1) (“Sensing unit, flexible device, and display device”), published July 14, 2016, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by Samsung Display in an Information Disclosure Statement on March 17, 2016. U.S. Patent No. 9,959,811 issued based upon this application on May 1, 2018 and cites the ’441 published application on its face.
- 15/245,785 (published as US2016/0364048A1) (“Flexible touch screen panel and flexible display device with the same”), published December 15, 2016, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by Samsung Display in an Information Disclosure Statement on August 24, 2016. U.S. Patent No. 10,067,623 issued based upon this application on September 4, 2018 and cites the ’441 published application on its face.
- 15/709,575 (published as US2018/0004253A1) (“Flexible touch screen panel and flexible display device with the same”), published January 4, 2018, assigned to “Samsung Display Co., Ltd.” The ’441 published application was cited by Samsung Display in an Information Disclosure Statement on September 20, 2017

and by the examiner in a document issued October 20, 2017. U.S. Patent No.

10,025,356 issued based upon this application on July 17, 2018 and cites the '441 published application on its face.

47. Defendants Samsung Electronics and Samsung Electronics America have learned of the '311 patent through their work with Samsung Display to manufacture and supply the Accused Products.

48. Defendants Samsung Electronics, Samsung Display, and Samsung Electronics America have learned of the '311 patent through their work with the other Defendants to manufacture and supply the Accused Products. Defendants' engineers and product development employees work together with Samsung legal staff and outside counsel in the process of preparing and prosecuting Defendants' patent applications. Through this process, these employees became aware of and/or were willfully blind to the '311 patent and to its relevance to the products that they design for Defendants.

49. Defendants have known how the Accused Products are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the accused products within the United States, or importing the Accused Products into the United States, would constitute infringement.

Indirect infringement

50. Defendants have induced, and continue to induce, infringement of the '311 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, sell, and import the Accused Products. On information and belief, these acts include providing information and instructions on the use of the Accused Products; providing information,

education and instructions supporting sales by distributors; providing the Accused Products to distributors; and indemnifying patent infringement within the United States.

51. Defendants have contributed to infringement of the claims of the '311 patent and continue to do so by supplying, or causing to be supplied, material parts of the invention within the United States—in particular, as described above, a metal mesh touch sensor and OLED panel substrate that is designed to be flexible and to wrap around the edges of the smartphone display. The flexible nature of this component has no substantial non-infringing uses and has been known by Defendants to be especially adapted for use in infringing the '311 patent.

Willful infringement

52. Defendants' infringement of the '311 patent has been, and continues to be, willful and egregious.

Damages

53. Solas has been damaged by Defendants' infringement of the '311 patent and is entitled to reasonable royalty damages and enhanced damages due to Defendants' willful infringement.

**Jury demand.**

54. Solas demands trial by jury of all issues.

**Relief requested.**

Solas prays for the following relief:

A. A judgment in favor of Solas that Defendants have infringed the '450 patent, the '338 patent, and the '311 patent and that the '450 patent, the '338 patent, and the '311 patent are valid, enforceable, and patent-eligible;

B. A judgment and order requiring Defendants to pay Solas compensatory damages, costs, expenses, and pre- and post-judgment interest for its infringement of the asserted patents, as provided under 35 U.S.C. § 284;

C. A judgment that Defendants have willfully infringed the '450 patent, the '338 patent, and the '311 patent and that Solas is entitled to enhanced damages as a result of such willful infringement;

D. A permanent injunction prohibiting Defendants from further acts of infringement of the '338 patent, and the '311 patent;

E. A judgment and order requiring Defendants to provide an accounting and to pay supplemental damages to Solas, including, without limitation, pre-judgment and post-judgment interest;

F. A finding that this case is exceptional under 35 U.S.C. § 285, at minimum due to Defendants' willful infringement, and an award of Solas' reasonable attorney's fees and costs; and

G. Any and all other relief to which Solas may be entitled.



Dated: August 23, 2019

Respectfully submitted,

/s/ Reza Mirzaie

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**CERTIFICATE OF SERVICE**

The undersigned certifies that on August 23, 2019 all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system pursuant to Local Rule CV-5(a)(3)(A).

/s/ Reza Mirzaie  
Reza Mirzaie