

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

POLARIS POWERLED TECHNOLOGIES, §
LLC, §

Plaintiff, §

v. §

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

Defendant. §

Civil Action No. 2-17-cv-00715-JRG

JURY TRIAL DEMANDED

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Polaris PowerLED Technologies, LLC (“Polaris PowerLED”) brings this patent infringement action against Defendants Samsung Electronics America, Inc. (“SEA”), Samsung Electronics Co., Ltd. (“SEC”), and Samsung Display Co., Ltd. (“SDC”) (collectively “Samsung” or “Defendants”) as follows:

NATURE OF THE ACTION

1. This is a civil action for infringement of U.S. Patent No. 8,223,117 (“117 Patent” or “patent-in-suit”) under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*
2. Polaris PowerLED brings this patent infringement action to protect its valuable patented technology relating to controlling the brightness of a visual display, reducing power consumption and increasing battery life, a significant advance in the field of display technology and power control for stationary display products, including televisions, and mobile and battery operated devices, including smart phones and tablets.

THE PARTIES

3. Polaris PowerLED is a Delaware limited liability company having its address at 32932 Pacific Coast Highway #14-498, Dana Point, California.

4. Defendant SEA is a New York corporation with its principal place of business located at 85 Challenger Road, Ridgefield Park, New Jersey 07660. SEA's registered agent, The Corporation Trust Company, is located at Corporation Trust Center, 111 Eighth Avenue, New York, New York, 10011.

5. Defendant SEC is a corporation organized and existing under the laws of the Republic of Korea with its principal place of business at 129 Samsung-ro, Maetan-3dong, Yeongton-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea. SEC may be served via its domestic entities or by process under the Hague convention.

6. Defendant SDC is a corporation organized and existing under the laws of the Republic of Korea with its principal place of business at 181, Samsung-ro, Tangjeong-Myeon, Asan-city, Chungcheongnam-Do, 336-741, Republic of Korea. SDC may be served via its domestic entities or by process under the Hague convention.

7. The claims of the patent-in-suit are infringed by various Samsung electronics products, including smart phones, tablets and televisions made and offered for sale by Samsung in the United States, including Samsung's Galaxy S6, Galaxy S7, Galaxy S8, Galaxy Note5, Galaxy Note7, Galaxy Note8, and Galaxy Tab S2, Galaxy Tab S3, and Samsung television products, including QLED televisions (e.g., 2017 4K QLED TVs (Q6F Series) such as QN55Q6FAMFXZA), 4K SUHD televisions (e.g., 2016 4K SUHD Smart televisions (KS8 Series) such as UN65KS8500FXZA) 4K UHD televisions (e.g., 2017 UHD smart televisions such as UN55MU6300FXZA), Full HD televisions (e.g., M530x Series such as

UN32M5300FXZA), and HD televisions (e.g., J4500 Series such as UN32J4500AFXZA).

Defendants SEA, SEC and SDC are related entities that work in concert to design, manufacture, import, distribute and/or sell these infringing devices.

JURISDICTION AND VENUE

8. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject matter jurisdiction under 28 U.S.C. §§1331 and 1338(a) and the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

9. The Court has personal jurisdiction over Defendants consistent with the Texas Long Arm Statute. This Court has personal jurisdiction over Defendants in this action because, among other reasons, Defendants have committed infringing acts within the Eastern District of Texas giving rise to this action and have established minimum contacts with the forum state of Texas. Defendants conduct business in this District and maintain a regular and established places of business within this District.

10. This Court has personal jurisdiction over Defendants because Defendants have committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271 and places infringing products into the stream of commerce, with the knowledge or understanding that such products are sold in the State of Texas, including in this District. Samsung has purposefully availed itself of the privileges of conducting business in the State of Texas; Samsung regularly conducts business within the State of Texas, including at least by virtue of Samsung's infringing methods and apparatuses, which are, or were at least made, used sold and/or offered for sale in, the State of Texas. Further, this Court has general jurisdiction over Samsung, including due to its continuous and systematic contacts with the State of Texas. Further, on information and belief, Samsung is subject to the Court's jurisdiction, including

because Samsung has committed patent infringement in the State of Texas.

11. On information and belief, Samsung's business operations concerning cellular phones, tablets and televisions are conducted at its facilities located in Richardson, Texas. Additionally, Samsung has committed infringing activities by marketing, selling, distributing, and servicing certain Samsung-branded cellular phones, tablets and televisions which Plaintiff accuses of infringement in this Action.

12. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b), (c) and 1400(b). Defendant SEA maintains regular and established places of business, and a permanent and continuous physical presence within the District, including an office located at 1301 East Lookout Drive, Richardson, Texas 75080, which is located in Collin County and within this district, and 1000 Klein Rd., Plano, Texas 75074.

13. Defendants also employ full-time personnel, such as engineers and senior managers in this district, including in Richardson, Texas. On information and belief, Samsung's business operations relating to cellular mobile devices and televisions are conducted primarily at its facilities located in Richardson, Texas.

14. Defendant SEA has also committed acts of infringement in this district by commercializing, marketing, selling, distributing, and servicing certain Samsung-branded devices, including but not limited to phones, tablets and televisions, which are devices Plaintiff accuses of infringement in this Action.

15. Venue is proper against Defendants' SEC and SDC, including pursuant to § 1391(c)(3), including because Defendants' SEC and SDC are foreign corporations which are not a resident in the United States or any judicial district therein, including this District. Defendants' SEC and SDC manufacture, import and/or sell smart phones, tablets and/or televisions in the

United States.

16. Further, on information and belief, Samsung is subject to the venue in this District, including because Samsung has committed patent infringement in this District. Pursuant to 35 U.S.C. § 271, Samsung infringes the patent-in-suit by the infringing acts described herein in this District. Further, Samsung solicits and induces customers/users in this District, including via its website at www.samsung.com. On information and belief, Samsung has customers/users who are residents of this District and who purchase, acquire, and/or use Samsung infringing products in this District.

PATENT-IN-SUIT

17. On July 17, 2012, the United States Patent Office duly and legally issued United States Patent No. U.S. Patent No. 8,223,117, entitled “Method and Apparatus to Control Display Brightness With Ambient Light Correction” to Mr. Bruce R. Ferguson. Polaris PowerLED is the owner of all substantial rights, title, and interest in the ’117 Patent. A true and correct copy of the ’117 Patent is attached as Exhibit A.

BACKGROUND

18. In modern electronic stationary and mobile devices, including smart phones, tablets and televisions, display screens can consume significant power. In mobile devices this drains the battery of the mobile device more quickly. Additionally, if a screen is too bright or too dark for the ambient light conditions, use of the device can cause significant eye strain for the user. These are significant disadvantages of modern displays and mobile devices that adversely affect the experience of the user of electronic products and mobile devices.

19. The ability to read or view the display can be hampered under conditions of high ambient lighting. Ambient light may reflect off the surface of the display and reduce the display

contrast to give a washed-out appearance. This condition can be improved by increasing the brightness of the display in comparison to the reflected light of the display surface. The brightness of the display can be adjusted to be brighter for high ambient lighting conditions and less bright for low ambient lighting conditions to maintain consistent perceived brightness.

20. In electronics products, including televisions, and battery operated systems, such as smart phones and tablets, it is advantageous to reduce power consumption. For battery systems, it is advantageous to extend the run time on a battery between charges. A method of reducing power consumption, and extending battery run time, is to reduce the brightness under low ambient lighting conditions. The display can operate at a lower brightness level for low ambient lighting conditions because light reflections caused by the ambient light are lower and produce less of a washed-out effect. It is also advantageous to turn down the brightness under low ambient lighting conditions to reduce power consumption or to extend the life of the battery.

21. Mr. Bruce Ferguson invented a novel manner of adjusting the brightness of a display screen in response to ambient light, conserving power, and increasing battery life of mobile and battery powered devices, and reducing eye strain for the user, and significantly improving the experience of the user. His inventions were a significant advance in the field of display technology, power conservation and power control for electronics products, including televisions and mobile and battery operated devices.

22. Mr. Ferguson patented these innovations in the '117 Patent.

COUNT I
(INFRINGEMENT OF U.S. PATENT NO. 8,223,117)

23. Polaris PowerLED incorporates by reference paragraphs 1-22 above.

24. Samsung has directly infringed and continues to directly infringe the '117 patent by making, using, offering for sale, selling and/or importing into the United States mobile

phones and tablets, including, for example, Samsung's Galaxy S6, Galaxy S7, Galaxy S8, Galaxy Note5, Galaxy Note7, Galaxy Note8, and Galaxy Tab S3, Galaxy Tab S2, and Samsung television products, including, for example, QLED televisions (e.g., 2017 4K QLED TVs (Q6F Series) such as QN55Q6FAMFXZA), 4K SUHD televisions (e.g., 2016 4K SUHD Smart televisions (KS8 Series) such as UN65KS8500FXZA) 4K UHD televisions (e.g., 2017 UHD smart televisions such as UN55MU6300FXZA), Full HD televisions (e.g., M530x Series such as UN32M5300FXZA), and HD televisions (e.g., J4500 Series such as UN32J4500AFXZA), and other consumer electronics display products (collectively examples of "Accused Products").

25. Claim 1 of the '117 Patent, for example, reads as follows:

1. A brightness control circuit with selective ambient light correction comprising:

a first input configured to receive a user signal indicative of a user selectable brightness setting;

a light sensor configured to sense ambient light and to output a sensing signal indicative of the ambient light level;

a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal; and

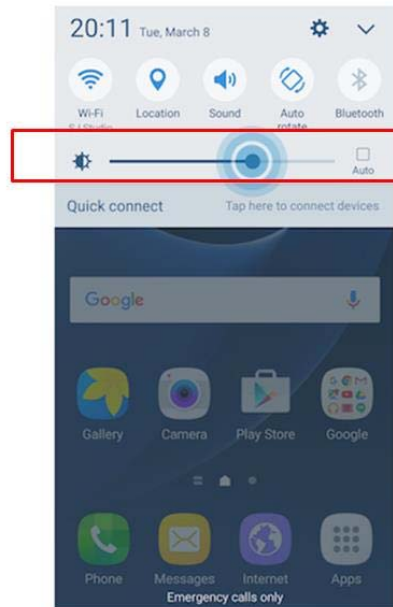
a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.

26. Samsung has directly infringed, and continues to directly infringe, one or more claims of the '117 Patent, including at least claim 1 of the '117 Patent, literally and/or under the doctrine of equivalents, by or through making, using, offering for sale, selling within the United States and/or importing the Accused Products.

27. The Samsung Galaxy S7, for example, has "a brightness control circuit with selective ambient light correction comprising: a first input configured to receive a user signal

indicative of a user selectable brightness setting” as shown below. The slide bar shown below can be utilized by a user to select the brightness of the display.

2. Touch and drag the slider to the right for a brighter screen or to the left for a darker screen.



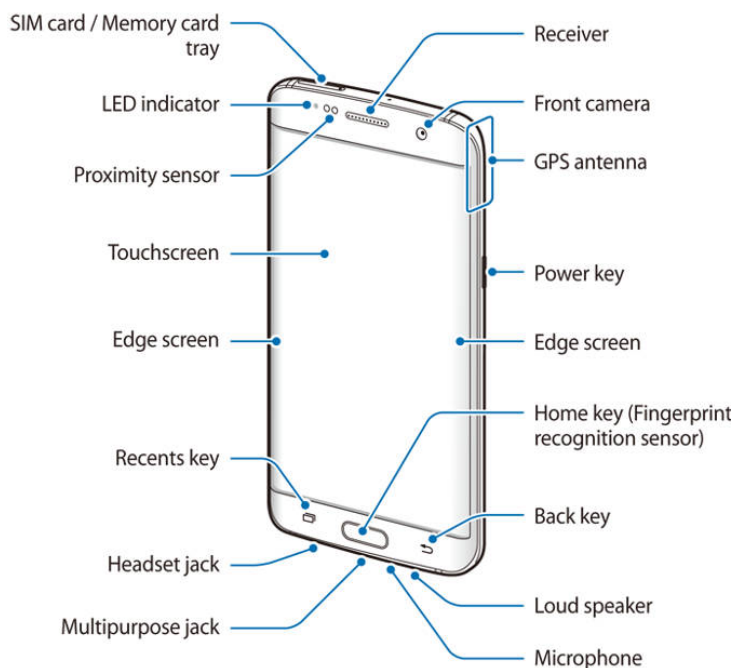
Note: Marking the **Auto** checkbox lets the device adjust the display brightness based on your environment.

Samsung Galaxy S7 FAQ, available at <http://www.samsung.com/ca/support/skp/faq/1102467>.

28. The Samsung Galaxy S7 has “a light sensor configured to sense ambient light and to output a sensing signal indicative of the ambient light level” as shown below.

29. Samsung’s product literature instructs users, for example, with respect to use of a proximity/light sensor in the accused products advising users that they should never block the proximity/light sensor if they use a screen protector. It advises that the light sensor provides information to the system to adjust brightness and other display settings. It explains that when a user is on a call, and when the user moves the phone close to his/her ear, the proximity sensor can detect it and turns off the screen to avoid inadvertent touch.

- **Proximity/light sensor.** You should **never** block the **proximity/light sensor** if you use a screen protector. The light sensor provides info to the system to adjust brightness and other display settings. When you are in a call, and when you move the phone close to your ear, the proximity sensor can detect it and turns off the screen to avoid inadvertent touch.



Galaxy S7 layout, available at <http://gadgetguideonline.com/s7/galaxy-s7-online-manual/galaxy-s7-layout-and-galaxy-s7-edge-layout/>.

30. The Samsung Galaxy S7 has “a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal.” Specifically, the computer code running on the Galaxy S7 uses a mathematical function as a multiplier to generate a combined signal based on the user signal, which includes the brightness setting input by the user, and a sensing signal, which is a signal from the light sensor.

31. The Samsung Galaxy S7 has “a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.” The computer code running on the

Galaxy S7 adjusts the control signal that controls the brightness of the Galaxy S7 display to maintain the brightness level of the display above a predetermined level when the ambient brightness is approximately zero.

32. The Samsung UN55MU6300F television, for example, has a brightness control circuit with selective ambient light correction.

33. The Samsung UN55MU6300F television includes a first input configured to receive a user signal indicative of a user selectable brightness setting. The Samsung UN55MU6300F provides instructions to guide end users how to manually navigate to and adjust display brightness using a display brightness adjustment setting. Samsung UN55MU6300F has an option for a user to manually set the brightness of the television's display as off, low, medium, high, or to adjust the backlight, brightness, or contrast. The Samsung UN55MU6300F has a first input configured to receive a user signal indicative of a user selectable brightness setting (i.e., off, low, medium, high, backlight, brightness, contrast).

34. The Samsung UN55MU6300F television has a light sensor configured to sense ambient light and to output a sensing signal indicative of the ambient light. This Samsung television also includes an Eco Solution or Energy Saving function, which can include an Ambient Light Detection feature. Samsung's User Manual provides instructions for selecting the Ambient Light Detection feature. The Ambient Light Detection uses signals input from the ambient light sensor to produce a signal indicative of the ambient light level.

35. The Samsung UN55MU6300F TV includes a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal.

36. The Samsung UN55MU6300F television has a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a

brightness level of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero. The computer code and associated hardware running on this product adjusts the control signal that controls the brightness of the display to maintain the brightness level of the display above a predetermined level when the ambient brightness is approximately zero.

37. As a result of Samsung's infringement of the '117 Patent, Polaris PowerLED has suffered monetary damages and is entitled to no less than a reasonable royalty for Samsung's use of the claimed inventions of the '117 Patent, together with interest and costs as determined by the Court. Polaris PowerLED will continue to suffer damages in the future unless Samsung's infringing activities are enjoined by this Court.

38. By at least March 2, 2011, Samsung had actual knowledge or should have known of the '117 Patent and/or the patent application that issued as the '117 Patent, and that at least some of Samsung's activities were infringing the '117 Patent. Upon information and belief, said infringement has been or will continue to be deliberate and willful.

39. Samsung had actual knowledge of the '117 patent and/or the published patent application that issued as the '117 patent, U.S. Publication US2009/0091560 (the "'117 Published Patent Application"), well before the date this lawsuit was filed, and early as at least March 2011. The Samsung defendants also had knowledge of the parent patent to the '117 patent, *i.e.*, U.S. Patent No. 7,468,722, well before the date this lawsuit was filed, and as early as at least July 2010.

40. SEC, for example, cited the '117 Published Patent Application in Samsung's own patent filings in the United States Patent Office, including for example, during prosecution of Samsung's U.S. Patent US 8,107,825 entitled "Apparatus and Method for Support of Dimming

in Visible Light Communication.” During prosecution of Samsung’s US 8,107,825, the U.S. Patent Office examiner cited the ’117 Published Patent Application in an Office Action on or about March 2, 2011.

41. SEC also cited the ’117 Published Patent Application in its own patent filing in the United States Patent Office, including for example during prosecution of Samsung’s U.S. Patent Application US20100284690 entitled “Apparatus and Method for Support of Dimming in Visible Light Communication.” During prosecution of Samsung’s U.S. Patent Application US20100284690, the U.S. Patent Office examiner cited the ’117 Published Patent Application in an Office Action on or about March 2, 2011.

42. SEC also cited the ’722 Patent (the parent patent to the ’117 patent) in Samsung’s own patent filings in the United States Patent Office, including for example during prosecution of Samsung’s U.S. Patent No. 7,903,081 entitled “Backlight Driver, Display Apparatus Having the Same and Methods of Driving Backlight.” During prosecution of Samsung’s U.S. Patent No. 7,903,081, the U.S. Patent Office examiner cited the ’722 Patent in an Office Action on or about July 9, 2010.

43. SDC, for example, also cited the ’722 Patent in Samsung’s own patent filings in the United States Patent Office, including for example during prosecution of Samsung’s U.S. Patent No. 8,432,100 entitled “Organic Light Emitting Display Device and Driving Method for the Same.” During prosecution of Samsung’s U.S. Patent No. 8,432,100, the U.S. Patent Office examiner cited the ’722 Patent in an Office Action on or about September 19, 2012.

44. The Samsung defendants, including SEC and SDC also had knowledge of the ’117 patent in the years prior to the filing of this lawsuit as evidenced by the citation of the ’117 patent, ’117 Published Patent Application, and the ’722 patent in various other patent

prosecutions that they and their affiliated Samsung companies conducted in the U.S. Patent Office, including with respect to Samsung's patent prosecution of the following U.S. patents and applications: US8139019 filed on Sept. 11, 2007; US8289303 filed on Sept. 29, 2009; US8643587 filed on Dec. 4, 2006; US9589491 filed on Dec. 22, 2014; US20070171157 filed on March 29, 2007; US20080143655 filed on Aug. 10, 2007; US20100090998 filed on Sept. 29, 2009; US20120299816 filed on May 4, 2012; and US20150339970 filed on Dec. 22, 2014.

45. Samsung's infringement has caused and is continuing to cause damage and irreparable injury to Polaris PowerLED. Polaris PowerLED will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court, as a remedy at law alone would be inadequate.

46. Polaris PowerLED is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

47. At least as of the time Samsung is served with this Complaint, Samsung will have actual notice of the '117 Patent and its infringement of that patent. On information and belief, at least after service of this Complaint, Samsung's infringement will be willful, at a minimum, if Samsung does not discontinue infringing use, offers to sell, sales and/or importations and remove the infringing products from its product offerings. Such willful infringement would entitle Polaris PowerLED to enhanced damages under 35 U.S.C. § 284 and a finding that this case is exceptional, entitle Polaris PowerLED to an award of its reasonable attorneys' fees under 35 U.S.C. § 285.

48. Polaris PowerLED will be irreparably harmed unless a permanent injunction is issued enjoining Samsung and their agents, employees, representatives, affiliates, and others acting in concert with Samsung from infringing the '117 Patent.

PRAYER FOR RELIEF

WHEREFORE, Polaris PowerLED requests the following relief from this Court:

(A) A judgment that each defendant is liable for infringement of one or more claims of the '117 Patent;

(B) Compensatory damages in an amount according to proof, and in any event no less than a reasonable royalty, including all pre-judgment and post-judgment interest at the maximum rate allowed by law;

(C) Treble damages for willful infringement pursuant to 35 U.S.C. § 284;

(D) Pre-judgment interest;

(E) Post-judgment interest;

(F) An order and judgment permanently enjoining Samsung and its officers, directors, agents, servants, employees, affiliates, attorneys, and all others acting in privity or in concert with them, and their parents, subsidiaries, divisions, successors and assigns from further acts of infringement of the '117 Patent;

(G) A judgment that this is an exceptional case and awarding Polaris PowerLED its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285; and

(H) A judgment granting Polaris PowerLED such further relief as the Court may deem just and proper.

JURY TRIAL DEMAND

Polaris PowerLED hereby demands trial by jury on all issues so triable pursuant to Fed. R. Civ. P. 38.

Dated: February 2, 2018

/s/ Deron R. Dacus

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel who are deemed to have consented to electronic service. Local Rule CV-5(a)(3)(A). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(d) and (e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by email on this the 2nd day of February 2018.

/s/ Deron R. Dacus
Deron R. Dacus