Robert F. Kramer (SBN 181706)
rkramer@feinday.com
M. Elizabeth Day (SBN 177125)
eday@feinday.com
David Alberti (SBN 220625)
dalberti@feinday.com
Russell S. Tonkovich (SBN 233280)
rtonkovich@feinday.com
Marc C. Belloli (SBN 244290)
mbelloli@feinday.com
Kate E. Hart (SBN 275121)
khart@feinday.com
Nicholas V. Martini (SBN 237687)
nmartini@feinday.com
Aidan M. Brewster (SBN 319691)
abrewster@feinday.com
FEINBERG DAY KRAMER ALBERTI
LIM TONKOVICH & BELLOLI LLP
1600 El Camino Real, Suite 280
Menlo Park, California 94025
Telephone: (650) 618-4360
Facsimile: (650) 618-4368

Attorneys for Plaintiff
Polaris PowerLED Technologies, LLC

UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF CALIFORNIA

POLARIS POWERLED TECHNOLOGIES, LLC, Plaintiff, v. HON HAI PRECISION INDUSTRY CO., LTD. D/B/A FOXCONN TECHNOLOGY GROUP, Defendant.	Case No. 8:19-cv-01926 **COMPLAINT FOR PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

Plaintiff Polaris PowerLED Technologies, LLC ("Polaris PowerLED"), by and through its undersigned counsel, files this Complaint for Patent Infringement relating to two U.S. patents as identified below (collectively, the "Patents-in-Suit") and alleges as follows:

THE PARTIES

1. Plaintiff Polaris PowerLED Technologies, LLC ("Polaris PowerLED" or "Plaintiff") is a Delaware limited liability company, with its address at 32932 Pacific Coast Highway #14-498, Dana Point, California.

2. Upon information and belief, Hon Hai Precision Industry Co., Ltd. d/b/a Foxconn Technology Group ("Foxconn") is a Taiwanese corporation with its principal place of business at No. 2, Zihyou Street, Tucheng Dist., New Taipei City, 236, Taiwan.

JURISDICTION AND VENUE

3. Polaris PowerLED brings this civil action for patent infringement pursuant to the Patent Laws of the United States, 35 U.S.C. § 1, *et seq*. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. Upon information and belief, Defendant transacts and conducts business in this District and the State of California, and is subject to the personal jurisdiction of this Court. Upon information and belief, Defendant has minimum contacts within the State of California and this District and has purposefully availed itself of the privileges of conducting business in the State of California and in this District. Polaris PowerLED's causes of action arise directly from Foxconn's business contacts and other activities in the State of California and in this District.

5. Upon information and belief, Foxconn has committed acts of infringement within this District and the State of California by, *inter alia*, making, using, selling, offering for sale, importing, advertising, and/or promoting products that infringe one or more claims of the Patents-in-Suit. More specifically, Foxconn,

directly and/or through intermediaries, makes, uses, sells, ships, imports, distributes, offers for sale, advertises, and otherwise promotes its products in the United States, the State of California, and this District. Upon information and belief, Foxconn solicits customers in the State of California and this District and has one or more customers who are residents of the State of California and this District and who use or resell Foxconn's products in the State of California and in this District.

6. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b), including based on Foxconn's transaction of business in this District directly and/or through its customers and acts of patent infringement in this District.

THE PATENTS-IN-SUIT

7. Polaris PowerLED owns the entire right, title, and interest in U.S. Patent No. 7,239,087 entitled "Method and Apparatus to Drive LED Arrays Using Time Sharing Technique" (the "'087 Patent"). The '087 Patent issued on July 3, 2007 to inventor Newton E. Ball from U.S. Patent Application No. 11/011,752, filed on Dec. 14, 2004. A true and correct copy of the '087 Patent is attached as **Exhibit A** to this Complaint.

8. Polaris PowerLED owns the entire right, title, and interest in U.S. Patent No. 8,223,117 entitled "Method and Apparatus to Control Display Brightness with Ambient Light Correction" (the "'117 Patent"). The '117 Patent issued on July 17, 2012 to inventor Bruce R. Ferguson from U.S. Patent Application No. 12/336,990, filed on Dec. 17, 2008. A true and correct copy of the '117 Patent is attached as **Exhibit B** to this Complaint.

BACKGROUND

9. Vizio, Inc. ("Vizio") is a California corporation which designs, manufactures, and sells televisions, sound bars, speakers, and other television accessories. Vizio offers its products for sale through retailers and online.

10. Foxconn manufactures, sells for importation, offers for sale for importation, imports into the United States, and/or distributes certain consumer electronics with display and processing capabilities on behalf of or for sale to Vizio, namely televisions sold under the Vizio brand (the "Vizio Televisions").

COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 7,239,087)

11. Polaris PowerLED incorporates by reference paragraphs 1-10 above.

12. Mr. Newton E. Ball invented a novel manner of arranging and controlling light sources that was a significant advance in improving display quality in electronics products such as televisions. Mr. Ball patented these innovations in the '087 patent.

13. Upon information and belief, Foxconn makes, uses, offers for sale, distributes, sells, and/or imports into the United States products that directly infringe, or that employ systems, components, and/or processes that directly infringe, the '087 Patent, including, namely the Vizio Televisions, including one or more of Vizio's D-series, E-Series, M-Series, and P-Series televisions. The exemplary, non-exhaustive list of devices stated in this paragraph are collectively referred to in this Count and in this Complaint as the "Accused Products." Foxconn's infringement includes infringement of at least claim 1 of the '087 Patent.

14. Claim 1 of the '087 Patent, for example, reads as follows:

> 1. A multi-load time sharing driver comprising:
> a current source configured to provide a regulated current;
> a network of semiconductor switches coupled in series; and
> a plurality of light sources in a backlight system, each light source associated with a semiconductor switch, wherein the semiconductor switch selectively opens to allow the associated light source to conduct the regulated current.

15. Foxconn has directly infringed and continues to directly infringe one

or more claims of the '087 patent, including at least claim 1 of the '087 Patent, literally and/or under the doctrine of equivalents, by or through making, using, distributing, offering for sale, selling within the United States, and/or importing into the United States the Accused Products.

16. The Accused Products have "a multi-load time sharing driver comprising: a current source configured to provide a regulated current." The Accused Products include, for example, a boost controller chip or other regulated current source that is coupled to a power supply via a LED connection port. The power supply, working with one or more wide input boost controller chips, provides a regulated current. For example, the Vizio E70-F3 ("E70") made by Foxconn includes a FAN7930B Critical Conduction Mode PFC Controller ("FAN7930B") and an HR1001B Enhanced LLC Controller ("HR1001B") and associated circuitry that provide a regulated current to twelve (12) LED strings that are used implement "local dimming zones." The FAN7930B and HR1001B and their associated circuitry work in conjunction with current sink circuitry in an AMS AS3824E1 LED driver chip to provide a regulated current to each string of LEDs.

17. The Accused Products have "a network of semiconductor switches coupled in series." For instance, the Accused Products include semiconductor switches associated with the FAN7930B and HR1001B that are coupled in series with each of a plurality of semiconductor switches (e.g., twelve (12) FETs), each of which is, in turn, coupled to an LED string. Additionally, in the Accused Products, there are also semiconductor switches, such as operational amplifiers, in the LED driver each coupled in series with a FET, or similar, semiconductor switch. Each of the twelve (12) FET semiconductor switches is further in series with the regulated current source and the LED strings. The E70 also includes an AMS AS3824E1 LED driver chip. The AMS AS3824E1 LED driver is connected to the twelve (12) FET semiconductor switches, one for each string of LEDs. The FAN7930B and HR1001B and their associated circuitry include semiconductor switches in series

that control the voltage and current output provided to each of the twelve (12) FETs and their respective LED strings. These semiconductor switches are coupled in series with each of the LED strings and each of the twelve (12) FETs (*i.e.*, semiconductor switches), thereby forming a "network of semiconductor switches coupled in series."

18. The Accused Products have "a plurality of light sources in a backlight system, each light source associated with a semiconductor switch, wherein the semiconductor switch selectively opens to allow the associated light source to conduct the regulated current." The light sources in the Accused Products are connected, for example, to an LED TV backlight controller and power supply such that semiconductor switches can be selectively opened to allow the associated light source to conduct the regulated current. Each of the switches selectively open to allow an associated light source to conduct regulated current, and when not open, the associated light source will not conduct the regulated current through the associated light sources. For example, each switch may be a transistor which is controlled via the gate terminal of the transistor. Each switch is coupled to a light source via the source or drain terminals of the transistor. The switch will open or close depending on the voltage at the gate of the associated switch, thereby controlling the associated light source for that switch. In the E70, twelve (12) different LED strings are used in its backlight system, and each string is associated with at least one semiconductor switch within the network, such that the semiconductor switch can selectively open to allow the LED string to conduct regulated current.

19. As a result of Foxconn's infringement of the '087 Patent, Polaris PowerLED has suffered monetary damages and is entitled to no less than a reasonable royalty for Foxconn's use of the claimed inventions of the '087 Patent, together with interest and costs as determined by the Court. Polaris PowerLED will

continue to suffer damages in the future unless Foxconn's infringing activities are enjoined by this Court.

20. Polaris PowerLED will be irreparably harmed unless a permanent injunction is issued, enjoining Foxconn and their agents, employees, representatives, affiliates, and others acting in concert with Foxconn from infringing the '087 Patent.

COUNT II

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

21. Polaris PowerLED incorporates by reference paragraphs 1-20 above.

22. Mr. Bruce Ferguson invented a novel manner of adjusting the brightness of a display screen in response to ambient light, conserving power, reducing eye strain, 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 other devices. Mr. Ferguson patented these innovations in the '117 Patent.

23. Upon information and belief, Foxconn makes, uses, offers for sale, distributes, sells, and/or imports into the United States products that directly infringe, or that employ systems, components, and/or processes that directly infringe, the '117 patent, namely the Vizio Televisions, including, for example, one or more of the Vizio D-Series, E-Series, M-Series, and P-Series televisions. The non-exhaustive list of exemplary devices listed in this paragraph are collectively referred to in this Count as the "Accused Products."

24. 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.

25. Foxconn has directly infringed and continues to directly infringe one or more claims of the '117 patent, including at least claim 1of 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.

26. The Accused Products have "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," including auto brightness control, backlight and brightness circuitry, and associated user signals.

27. The Accused Products have "a light sensor configured to sense ambient light and to output a sensing signal indicative of the ambient light level" as shown below. The front portion of the Accused Products include an ambient light sensor. The ambient light sensor is connected to the main board in the Accused Products, for example.

28. The Accused Products have "a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal." The Accused Products include a multiplier implemented at least in part in software to generate a combined signal based on the user signal, which includes the brightness setting input by a user, and a sensing signal, including signaling from a light sensor.

29. The Accused Products have "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 source code and/or hardware included in the Accused Products with associated components adjusts a signal that controls the brightness of the Accused Products maintaining the brightness level of the display above a predetermined level when the ambient brightness is approximately zero.

30. As a result of Foxconn's infringement of the '117 Patent, Polaris PowerLED has suffered monetary damages and is entitled to no less than a reasonable royalty for Foxconn'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 Foxconn's infringing activities are enjoined by this Court.

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

PRAYER FOR RELIEF

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

(A) A judgment that Defendant is liable for direct infringement of one or more claims of the '087 and '117 Patents;

(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) Pre-judgment interest;

(D) Post-judgment interest;

(E) An order and judgment permanently enjoining Defendant 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 patents-in-suit;

(F) 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

(G) 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: October 8, 2019

FEINBERG DAY KRAMER ALBERTI LIM TONKOVICH & BELLOLI LLP

By: */s/ Robert F. Kramer*
Robert F. Kramer

Attorneys for Plaintiff
POLARIS POWERLED TECHNOLOGIES, LLC