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POLARIS POWERLED TECHNOLOGIES, LLC

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12 UNITED STATES DISTRICT COURT
13 FOR THE CENTRAL DISTRICT OF CALIFORNIA

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15 POLARIS POWERLED
16 TECHNOLOGIES, LLC,

17 Plaintiff,

18 v.

19 VIZIO, INC.,

20 Defendant.

Case No. 8:18-cv-01571

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

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

5 **THE PARTIES**

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

9 2. Defendant VIZIO, Inc. (“VIZIO” or “Defendant”), is a corporation
10 organized under the laws of California with its principal place of business at 39
11 Tesla, Irvine, CA 92618.

12 **JURISDICTION AND VENUE**

13 3. Polaris PowerLED brings this civil action for patent infringement
14 pursuant to the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.* This Court
15 has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and
16 1338(a).

17 4. Upon information and belief, Defendant VIZIO transacts and conducts
18 business in this District and State of California, and is subject to the personal
19 jurisdiction of this Court. Upon information and belief, VIZIO has minimum
20 contacts within the State of California and this District and has purposefully availed
21 itself of the privileges of conducting business in the State of California and in this
22 District. Polaris PowerLED’s causes of action arise directly from VIZIO’s business
23 contacts and other activities in the State of California and in this District.

24 5. Upon information and belief, VIZIO has committed acts of
25 infringement, both directly and indirectly, within this District and the State of
26 California by, *inter alia*, using, selling, offering for sale, importing, advertising,
27 and/or promoting products that infringe one or more claims of the Patents-in-Suit.
28 More specifically, VIZIO, directly and/or through intermediaries, uses, sells, ships,

1 distributes, offers for sale, advertises, and otherwise promotes its products in the
2 United States, the State of California, and this District. Upon information and
3 belief, VIZIO solicits customers in the State of California and this District, and has
4 customers who are residents of the State of California and this District and who use
5 VIZIO's products in the State of California and in this District.

6 6. Venue is proper in this district under 28 U.S.C. §§ 1391(b), (c) and
7 1400(b), including based on VIZIO's physical presence and headquarters being
8 located in this district.

9 **THE PATENTS-IN-SUIT**

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

16 8. Polaris PowerLED owns by the entire right, title, and interest in U.S.
17 Patent No. 8,843,331 entitled "Light Emitting Diode Fault Monitoring" (the '331
18 Patent). The '331 Patent issued on Sep. 23, 2014 to inventors Pierre R. Irissou,
19 Stephane Legoff, Sam Selichiro Ochi and Etienne Colmet-Daage from the U.S.
20 Patent Application No. 12/545,437, filed on Aug. 21, 2009. A true and correct
21 copy of the '331 Patent is attached as **Exhibit B** to this Complaint.

22 9. Polaris PowerLED owns by the entire right, title, and interest in U.S.
23 Patent No. 8,223,117 entitled "Method and Apparatus to Control Display
24 Brightness with Ambient Light Correction" (the '117 Patent). The '117 Patent
25 issued on July 17, 2012 to inventor Bruce R. Ferguson from the U.S. Patent
26 Application No. 12/336,990, filed on Dec. 17, 2008. A true and correct copy of the
27 '117 Patent is attached as **Exhibit C** to this Complaint.

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COUNT I

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

10. Polaris PowerLED incorporates by reference paragraphs 1-9 above.

11. 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.

12. VIZIO has directly infringed and continues to directly infringe the '087 patent by making, using, offering for sale, selling and/or importing into the United States televisions, including, for example, VIZIO's E-Series, M-Series, and P-Series TVs), and other consumer electronics display products. The devices listed in this paragraph are collectively referred to in this Count as the "Accused Products."

13. 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.

14. VIZIO 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, offering for sale, selling within the United States, and/or importing the Accused Products.

15. The Accused Products have "a multi-load time sharing driver comprising: a current source configured to provide a regulated current." The

1 Accused Products include, for example, a boost controller chip that is coupled to a
2 power supply via a LED connection port. The power supply, working with one or
3 more wide input boost controller chips, provides a regulated current.

4 16. The Accused Products have “a network of semiconductor switches
5 coupled in series.” For instance, the Accused Products include one or more LED
6 TV backlight controllers connected to multiple LED strings. Moreover, the LED
7 TV backlight controller in the Accused Products are coupled to one or more
8 semiconductor switches that are connected in series to other semiconductor
9 switches.

10 17. The Accused Products have “a plurality of light sources in a backlight
11 system, each light source associated with a semiconductor switch, wherein the
12 semiconductor switch selectively opens to allow the associated light source to
13 conduct the regulated current.” The light sources in the Accused Products are
14 connected, for example, to an LED TV backlight controller and power supply such
15 that semiconductor switches can be selectively opened to allow the associated light
16 source to conduct the regulated current. Each of the switches open to allow an
17 associated light source to conduct regulated current, and when not open, the
18 associated light source will not conduct the regulated current through the associated
19 light sources. For example, each switch may be a transistor which is controlled via
20 the gate terminal of the transistor. Each switch is coupled to a light source via the
21 source or drain terminals of the transistor. The switch will open or close depending
22 on the voltage at the gate of the associated switch, thereby controlling the
23 associated light source for that switch.

24 18. As a result of VIZIO’s infringement of the ’087 Patent, Polaris
25 PowerLED has suffered monetary damages and is entitled to no less than a
26 reasonable royalty for VIZIO’s use of the claimed inventions of the ’087 Patent,
27 together with interest and costs as determined by the Court. Polaris PowerLED will
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1 continue to suffer damages in the future unless VIZIO's infringing activities are
2 enjoined by this Court.

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

6 20. On information and belief, Defendant's past and continuing
7 infringement has been deliberate and willful, and this case is therefore an
8 exceptional case, which warrants award of treble damages and attorneys' fees to
9 Plaintiff pursuant to 35 U.S.C. § 285. By at least as early as May 2, 2018, VIZIO
10 had actual knowledge or should have known of the '087 Patent and that its
11 activities were infringing this patent. After receiving actual knowledge of the '087
12 Patent, Defendant has continued to make, use, sell, offer for sale, and/or import
13 infringing products into the United States despite knowing that there was a high
14 likelihood of infringement.

15 **COUNT II**

16 (INFRINGEMENT OF U.S. PATENT NO. 8,843,331)

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

18 22. A failure in one or more LEDs within a string in a display device,
19 including for instance televisions, create issues, including the presence of open or
20 short circuit condition and could result, for example, in reduced brightness or other
21 issues affecting the performance of the device.

22 23. Mr. Pierre Irissou, Mr. Stephane Legoff, Mr. Sam Ochi, and Mr.
23 Etienne Colmet-Daage invented a manner of detecting faults in an LED based
24 system and patented these innovations in the '331 Patent.

25 24. VIZIO has directly infringed and continues to directly infringe the
26 '331 patent by making, using, offering for sale, selling and/or importing into the
27 United States televisions, including, for example, VIZIO's D-Series, E-Series, M-
28 Series, and P-Series TVs, and/or other consumer electronics display products. The

1 devices listed in this paragraph are collectively referred to in this Count as the
2 “Accused Products.

3 25. Claim 1 of the ’331 Patent, for example, reads as follows:

4 1. A fault monitoring circuit for monitoring fault conditions in light
5 emitting diodes (“LEDs”), the circuit comprising:

6 a fault detection module in electrical communication with an LED
7 module comprising a plurality of LEDs, each of the plurality of LEDs
8 being electrically coupled with another of the plurality of LEDs to
9 form a series string of LEDs coupled between terminals of a power
10 source, the fault detection module comprising a plurality of detection
11 units, each detection unit having detector monitor terminals coupled
between an anode terminal and a cathode terminal of a respective one
LED of the series string of LEDs and adapted to:

12 detect a fault condition in the respective one of the plurality of
13 LEDs; and

14 output a fault indication based upon detection of the fault
15 condition; and

16 a fault monitoring module, in electrical communication with at least
17 one of the detection units and adapted to receive the fault indication
18 from the at least one of the detection units when a fault condition is
detected by the at least one of the detection units in the respective one
of the plurality of LEDs.

19 26. VIZIO has directly infringed, and continues to directly infringe one or
20 more claims of the ’331 patent, including at least claim 1 of the ’331 Patent,
21 literally and/or under the doctrine of equivalents, by or through making, using,
22 offering for sale, selling within the United States, and/or importing the Accused
23 Products.

24 27. The Accused Products have a fault monitoring circuit for monitoring
25 fault conditions in light emitting diodes (“LEDs”), the circuit comprising: a fault
26 detection module in electrical communication with an LED module comprising a
27 plurality of LEDs, each of the plurality of LEDs being electrically coupled with
28 another of the plurality of LEDs to form a series string of LEDs coupled between

1 terminals of a power source, the fault detection module comprising a plurality of
2 detection units, each detection unit having detector monitor terminals coupled
3 between an anode terminal and a cathode terminal of a respective one LED of the
4 series string of LEDs and adapted to: detect a fault condition in the respective one
5 of the plurality of LEDs; and

6 28. The Accused Products include a backlight controller and other
7 components that perform both open LED and short LED detection. For example,
8 open and short detection can be performed using a counter and other components
9 for detecting whether a corresponding LED is in an open or short condition.

10 29. The Accused Products output a fault indication based upon detection
11 of the fault condition and include a fault monitoring module, in electrical
12 communication with at least one of the detection units and adapted to receive the
13 fault indication from the at least one of the detection units when a fault condition is
14 detected by the at least one of the detection units in the respective one of the
15 plurality of LEDs. When a fault is detected, the Accused Products set a
16 corresponding fault pin and/or sets a value in a corresponding register for indicating
17 a fault condition due to detecting an open or short.

18 30. As a result of VIZIO's infringement of the '331 Patent, Polaris
19 PowerLED has suffered monetary damages and is entitled to no less than a
20 reasonable royalty for VIZIO's use of the claimed inventions of the '331 Patent,
21 together with interest and costs as determined by the Court. Polaris PowerLED will
22 continue to suffer damages in the future unless VIZIO's infringing activities are
23 enjoined by this Court.

24 31. Polaris PowerLED will be irreparably harmed unless a permanent
25 injunction is issued enjoining VIZIO and their agents, employees, representatives,
26 affiliates, and others acting in concert with VIZIO from infringing the '331 Patent.

27 32. On information and belief, Defendant's past and continuing
28 infringement has been deliberate and willful, and this case is therefore an

1 exceptional case, which warrants award of treble damages and attorneys' fees to
2 Plaintiff pursuant to 35 U.S.C. § 285. By at least as early as May 2, 2018, VIZIO
3 had actual knowledge or should have known of the '331 Patent and that its
4 activities were infringing this patent. After receiving actual knowledge of the '331
5 Patent, Defendant has continued to make, use, sell, offer for sale, and/or import
6 infringing products into the United States despite knowing that there was a high
7 likelihood of infringement.

8 **COUNT III**

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

10 33. Polaris PowerLED incorporates by reference paragraphs 1-32 above.

11 34. Mr. Bruce Ferguson invented a novel manner of adjusting the
12 brightness of a display screen in response to ambient light, conserving power,
13 reducing eye strain, and significantly improving the experience of the user. His
14 inventions were a significant advance in the field of display technology, power
15 conservation and power control for electronics products, including televisions and
16 other devices. Mr. Ferguson patented these innovations in the '117 Patent.

17 35. VIZIO has directly infringed and continues to directly infringe the
18 '117 Patent by making, using, offering for sale, selling and/or importing into the
19 United States television products, including, for example, D-Series, E-Series, M-
20 Series, and P-Series TVs, and other consumer electronics display products. The
21 devices listed in this paragraph are collectively referred to as the "Accused
22 Products."

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

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

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

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

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

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

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

14 38. The Accused Products have “a brightness control circuit with selective
15 ambient light correction comprising: a first input configured to receive a user signal
16 indicative of a user selectable brightness setting,” including auto brightness control,
17 backlight and brightness circuitry, and associated user signals.

18 39. The Accused Products have “a light sensor configured to sense
19 ambient light and to output a sensing signal indicative of the ambient light level” as
20 shown below. The front portion of the Accused Products include an ambient light
21 sensor. The ambient light sensor is connected to the main board in the exemplary
22 VIZIO D-Series TV, for example.

23 40. The Accused Products have “a multiplier configured to selectively
24 generate a combined signal based on both the user signal and the sensing signal.”
25 The Accused Products include a multiplier implemented in software to generate a
26 combined signal based on the user signal, which includes the brightness setting
27 input by a user, and a sensing signal, including signaling from a light sensor.
28

1 41. The Accused Products have “a dark level bias configured to adjust the
2 combined signal to generate a brightness control signal that is used to control a
3 brightness level of a visible display such that the brightness control signal is
4 maintained above a predetermined level when the ambient light level decreases to
5 approximately zero.” The source code included in the Accused Products with
6 associated components that adjusts a signal that controls the brightness of the
7 Accused Products maintaining the brightness level of the display above a
8 predetermined level when the ambient brightness is approximately zero.

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

15 43. Polaris PowerLED will be irreparably harmed unless a permanent
16 injunction is issued enjoining VIZIO and their agents, employees, representatives,
17 affiliates, and others acting in concert with VIZIO from infringing the ’117 Patent.

18 44. On information and belief, Defendant’s past and continuing
19 infringement has been deliberate and willful, and this case is therefore an
20 exceptional case, which warrants award of treble damages and attorneys’ fees to
21 Plaintiff pursuant to 35 U.S.C. § 285. By at least as early as May 2, 2018, VIZIO
22 had actual knowledge or should have known of the ’117 Patent and that its
23 activities were infringing this patent. After receiving actual knowledge of the ’117
24 Patent, Defendant has continued to make, use, sell, offer for sale, and/or import
25 infringing products into the United States despite knowing that there was a high
26 likelihood of infringement.

PRAYER FOR RELIEF

1
2 45. WHEREFORE, Polaris PowerLED requests the following relief from
3 this Court:

4 (A) A judgment that each defendant is liable for infringement of one
5 or more claims of the '087, '331 and '117 Patents;

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

9 (C) Treble damages for willful infringement pursuant to 35 U.S.C.
10 § 284;

11 (D) Pre-judgment interest;

12 (E) Post-judgment interest;

13 (F) An order and judgment permanently enjoining VIZIO and its
14 officers, directors, agents, servants, employees, affiliates, attorneys, and all
15 others acting in privity or in concert with them, and their parents,
16 subsidiaries, divisions, successors and assigns from further acts of
17 infringement of the patents-in-suit;

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

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

JURY TRIAL DEMAND

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

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DATED: September 4, 2018

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