

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

E. FRED SCHUBERT, )  
 )  
 Plaintiff, ) Civ. No. \_\_\_\_\_  
 )  
 v. ) **JURY TRIAL DEMANDED**  
 )  
 CREE, INC., )  
 )  
 Defendant. )  
 )

**COMPLAINT FOR PATENT INFRINGEMENT**

Professor E. Fred Schubert (“Professor Schubert” or “Plaintiff”) for his Complaint against Cree, Inc. (“Cree” or “Defendant”) alleges as follows:

**NATURE OF THE ACTION**

1. Professor Schubert brings this action under the patent laws of the United States to remedy Cree’s unlawful infringement of Professor Schubert’s patent rights relating to light-emitting diode (“LED”) technology.

2. Professor Schubert is a leading researcher and educator in the field of gallium nitride (“GaN”) optoelectronic semiconductor devices such as LEDs. GaN-based LEDs emit green, blue, violet, or ultraviolet light. GaN-based LEDs, particularly high-brightness blue GaN-based LEDs, can also be used to generate white light and are revolutionizing the lighting industry.

3. On information and belief, in many of today’s high-brightness GaN-based LEDs, including those made by Cree, crystallographic etching is used to roughen or texture one or more

surfaces of the LED, significantly increasing light extraction and thus brightness. Such crystallographic etching is the subject of the patent-in-suit, which Professor Schubert owns and of which he is an inventor.

4. On information and belief, Cree uses wet chemical crystallographic etching as part of its manufacturing process for its high-brightness GaN-based LEDs and thereby infringes one or more claims of the patent-in-suit.

#### PARTIES

5. Plaintiff Professor Schubert is an individual residing at 17 Eaton Road, Troy, New York. Professor Schubert is the Wellfleet Senior Constellation Professor, Future Chips at Rensselaer Polytechnic Institute (“RPI”) in Troy, New York. In addition, he is the Founding Director of the Smart Lighting Engineering Research Center at RPI that is funded by the National Science Foundation. He is also a Professor of Electrical Engineering at RPI.

6. Professor Schubert has made numerous significant contributions to the field of compound semiconductors, such as in regard to alloy broadening, delta-doping, resonant-cavity light emitting diodes, enhanced spontaneous emission in Er-doped Si/SiO<sub>2</sub> microcavities, photonic crystal light-emitting diodes, elimination of heterojunction band discontinuities, p-type superlattice doping in AlGa<sub>N</sub>, polarization-enhanced ohmic contacts, omni-directional reflectors for LEDs, perfect anti-reflection coatings, and crystallographic etching of GaN. He is an inventor or co-inventor of more than 30 U.S. patents and coauthored more than 300 publications. He authored the textbooks *Doping in III–V Semiconductors* (1992), *Delta Doping of Semiconductors* (1996), and *Light-Emitting Diodes* (1st edition 2003 and 2nd edition 2006). He is a Fellow of the APS, IEEE, OSA, and SPIE scientific societies and has received numerous awards.

7. On information and belief, Cree is a corporation organized and existing under the laws of North Carolina, with its principal place of business at 4600 Silicon Drive, Durham, North Carolina.

**JURISDICTION AND VENUE**

8. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

9. This Court has personal jurisdiction over Cree because Cree has, directly or through intermediaries, committed acts within Delaware giving rise to this action and/or has established minimum contacts with Delaware such that the exercise of jurisdiction would not offend traditional notions of fair play and justice. Furthermore, Cree has availed itself of this forum for purposes of litigating its patent disputes. For example, Cree has submitted to the jurisdiction of this Court by filing the patent infringement action styled *Cree, Inc. v. SemiLEDs Corp.*, Civ. No. 10-866-RGA (D. Del.), which Cree continues to litigate in this Court.

10. Venue is proper in this district under 28 U.S.C. §§ 1391 and 1400.

**PATENT-IN-SUIT**

11. On September 25, 2001, United States Patent No. 6,294,475 (“the ’475 patent”), entitled “Crystallographic Wet Chemical Etching of III-Nitride Material,” was duly and legally issued. Plaintiff is the owner by assignment of the ’475 patent.

12. A true copy of the ’475 patent is attached hereto as Exhibit A.

**COUNT I**

**INFRINGEMENT OF U.S. PATENT NO. 6,294,475**

13. Plaintiff incorporates by reference each and every allegation of paragraphs 1-12 of this Complaint, as though set forth here in their entirety.

14. Plaintiff is the sole owner of the entire right, title and interest in and to the '475 patent, including the right to sue and recover for any and all infringement thereof.

15. Cree makes, uses, offers to sell, sells, and/or imports products in the United States that infringe the '475 patent. For example, Cree is manufacturing, marketing, distributing, using, selling, and/or offering to sell infringing high-brightness GaN-based LEDs, including, without limitation, LEDs known as "EZBright LEDs."

16. Accused EZBright LEDs include, but are not limited to, the following examples of EZBright LEDs:

Series	Model Number
EZBright Gen II	EZ290 Gen II
EZBright Gen II	EZ400 Gen II
EZBright Gen II	EZ500 Gen II
EZBright Gen II	EZ600 Gen II
EZBright Gen II	EZ700 Gen II
EZBright Gen II	EZ900 Gen II
EZBright Gen II	EZ1000 Gen II
EZBright Gen II	EZ1400 Gen II

17. As a result of the infringement of the '475 patent, Plaintiff has been damaged, will be further damaged, and is entitled to be compensated for such damages, pursuant to 35 U.S.C. § 284, in an amount to be determined at trial, but no less than a reasonable royalty.

**WILLFUL INFRINGEMENT**

18. Defendant has had knowledge of the '475 patent since no later than on or about February 17, 2011, when Cree was notified of the patent. On information and belief, Cree purposefully continued its infringing activity despite knowledge of the '475 patent and despite an objectively high likelihood that its actions constituted infringement of one or more valid claims of the '475 patent (as Cree knew or should have known), warranting an award of increased damages and a finding that this case is "exceptional" pursuant to 35 U.S.C. §§ 284 and 285.

**JURY TRIAL DEMAND**

19. Professor Schubert demands a jury trial on all appropriate issues.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Professor Schubert respectfully requests that this Court enter:

1. A judgment in favor of Plaintiff that Defendant has infringed the '475 patent;
2. A preliminary and a permanent injunction enjoining Defendant and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert therewith from infringement of the '475 patent;
3. A judgment and order requiring Defendant to pay Plaintiff his damages, costs, expenses, and prejudgment and post-judgment interest for Defendant's infringement of the '475 patent as provided under 35 U.S.C. § 284;
4. An award to Plaintiff of treble damages resulting from the knowing, deliberate, and willful nature of Defendant's prohibited conduct, as provided under 35 U.S.C. § 284;
5. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff his reasonable attorneys' fees; and
6. Any and all other relief as the Court deems just and proper.

Dated: July 18, 2012

Respectfully submitted,

FARNAN LLP

/s/Michael J. Farnan

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