

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

EVERLIGHT ELECTRONICS Co., LTD.,
and EMCORE CORPORATION,

Plaintiffs,

v.

NICHIA CORPORATION, and
NICHIA AMERICA CORPORATION

Defendants and
Counter-Plaintiffs,

v.

EVERLIGHT ELECTRONICS Co., LTD.,
EMCORE CORPORATION, and
EVERLIGHT AMERICAS, INC.,

Counter-Defendants.

Case No. 12-cv-11758

UNITED STATES DISTRICT COURT JUDGE
GERSHWIN A. DRAIN

UNITED STATES MAGISTRATE JUDGE
MONA K. MAJZOUB

**OPINION AND ORDER GRANTING JUDGMENT IN FAVOR OF
NICHIA ON EVERLIGHT'S INEQUITABLE CONDUCT CLAIMS**

I. INTRODUCTION

Everlight Electronics Co., Ltd. (“Everlight”), commenced this suit seeking a declaratory judgment of non-infringement, invalidity, and unenforceability of Nichia Corporation’s (“Nichia”), United States Patent No. 5,998,925 (the “925 Patent”) and United States Patent No. 7,531,960 (the “960 Patent”). The patents-in-suit relate to light emitting diode (“LED”) technology. The suit was brought pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201, 2202, and the patent laws of the United States, 35 U.S.C. § 1 *et seq.* Nichia filed counterclaims

against Everlight for direct and indirect infringement of the '925 and '960 Patents. The parties are business competitors in the manufacture and supply of white LEDs.

A jury trial was held in April of 2015. On April 22, 2015 the jury returned a verdict solely on the issues of validity and infringement. In light of the jury's findings the Court entered a judgment in favor of Everlight's claims that claims 2, 3 and 5 of the '925 Patent and claims 2, 14, and 19 of the '960 Patent are invalid. *See* Dkt. No. 524 at 1. Additionally, based on the jury's findings, the Court entered a judgment in favor of Everlight dismissing Nichia's counterclaims that claims 2, 3 and 5 of the '925 Patent and claims 2, 14, and 19 of the '960 Patent are infringed. *See id.* at 2. The jury verdict did not affect Everlight's declaratory judgment claims that the '925 Patent and the '960 Patent are unenforceable due to inequitable conduct. Instead, this Court conducted a bench trial on June 15, 2015, June 16, 2016, and June 18, 2015 (the "Bench Trial") to address Everlight's claims of inequitable conduct.

The Court heard testimony, considered the credibility of the witnesses, and conducted a thorough review of the record for both the jury and bench trials. After reviewing the record, the arguments of the parties, the evidence and exhibits, and the applicable law, the Court concludes that deceptive intent was not the single most reasonable inference to be drawn from the evidence. Accordingly, the Court rules against Everlight on its claim for unenforceability due to inequitable conduct with respect to both the '925 Patent and the '960 Patent. The Court's findings of fact and conclusions of law from the bench trial are set forth in detail below.

II. FINDINGS OF FACT

A. The Patents-in-Suit

The '925 Patent is entitled "Light Emitting Device Having a Nitride Compound Semiconductor and a Phosphor Containing a Garnet Fluorescent Material." The '925 Patent

names Yoshinori Shimizu, Kensho Sakano, Yasunobu Noguchi, and Toshio Moriguchi as inventors. The application for the '925 Patent was filed with the United States Patent and Trademark Office ("USPTO") on July 29, 1997 via United States Patent Application No. 08/902,725. The '925 Patent issued on December 7, 1999 to assignee Nichia Kagaku Kogyo Kabushiki Kaisha (d/b/a/ Nichia Corporation).

The '960 Patent is entitled "Light Emitting Device with Blue Light LED and Phosphor Components." The '960 Patent names Yoshinori Shimizu, Kensho Sakano, Yasunobu Noguchi, and Toshio Moriguchi as inventors. The application for the '960 Patent was filed with the USPTO on March 5, 2007 via United States Patent Application no. 11/682,014. The '960 Patent issued on May 12, 2009 to assignee Nichia Corporation.

Both the '925 Patent and the '960 Patent ("the patents-in-suit") relate to LEDs that implement a gallium-nitride-based semiconductor with a phosphor. The '925 Patent focuses on the use of yttrium-aluminum-garnet ("YAG") phosphors in LEDs to create a wide range of white light. The Abstract of the '925 Patent states as follows:

The white light emitting diode comprising a light emitting component using a semiconductor as a light emitting layer and a phosphor which absorbs a part of light emitted by the light emitting component and emits light of wavelength different from that of the absorbed light, wherein the light emitting layer of the light emitting component is a nitride compound semiconductor and the phosphor contains garnet fluorescent materials activated with cerium which contains at least one element selected from the group consisting of Y, Lu, Sc, La, Gd and Sm, and at least one element selected from the group consisting of Al, Ga and In and, and [sic] is subject to less deterioration of emission characteristic even when used with high luminance for a long period of time.

The Abstract of the '960 Patent claims priority to the '925 Patent and concerns how the phosphor is distributed in the resin covering the semiconductor component. The '960 Abstract states as follows:

A light emitting device includes a light emitting component; and a phosphor capable of absorbing a part of light emitted by the light emitting component and emitting light of a wavelength different from that of the absorbed light. A straight line connecting a point of chromaticity corresponding to a peak of the spectrum generated by the light emitting component and a point of chromaticity corresponding to a peak of the spectrum generated by the phosphor is disposed along with the black body radiation locus in the chromaticity diagram.

Thus, the patents-in-suit cover the use of particular phosphors in white LED technology enabling efficient, long-lasting, high luminance LEDs in a wide variety of applications including computer and cellular telephone displays.

When prosecuting the patents-in-suit, Messrs. Yoshinori Shimizu, Kensho Sakano, Yasunobu Noguchi, and Toshio Moriguchi (“the inventors”) signed a “Combined Declaration and Power of Attorney for Patent and Design Applications” (the Inventor Oath). The Inventor Oath states, and that the inventors affirmed, in relevant part:

As a below named inventor, I hereby declare that . . . I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:* LIGHT EMITTING DEVICE AND DISPLAY

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof, or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor’s certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of

America prior to this application by me or my legal representatives or assigns, except as follows. . . .

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

The Inventor Oath was signed on July 22, 1997. The Inventor Oath was submitted to the USPTO on July 29, 1997 via United States Patent Application No. 08/902,725, which led to the issuance of the patents-in-suit.

As it pertains to Everlight's claim of inequitable conduct, the inventors' affirmations supported four assertions in the patents-in-suit that are now under scrutiny. First, in the '925 Patent, the inventors submitted Example 12, which states that $Y_3 In_5 O_{12} :Ce$ ("YIG") was synthesized to make 100 pieces of LED. Specifically, Example 12 reads as follows:

The light emitting diode of Example 12 was made in the same manner as in Example 1 except for using phosphor represented by general formula $Y_3 In_5 O_{12} :Ce$. 100 pieces of the light emitting diode of Example 12 were made. Although the light emitting diode of Example 12 showed luminance lower than that of the light emitting diodes of Example 1, showed good weatherability comparable to that of Example 1 in life test.

As described above, the light emitting diode of the present invention can emit light of a desired color and is subject to less deterioration of emission efficiency and good weatherability even when used with high luminance for a long period of time. Therefore, application of the light emitting diode is not limited to electronic appliances but can open new applications including display for automobile, aircraft and buoys for harbors and ports, as well as outdoor use such as sign and illumination for expressways.

Second, the inventors submitted Example 8 in the '925 Patent, which states that $Gd_3 (Al_{0.5} Ga_{0.5})_5 O_{12}$ ("GGAG") was used to make 100 pieces of LED. Specifically, Example 8 states:

The light emitting diode of Example 8 was made in the same manner as in Example 1 except for using phosphor represented by general formula $Gd_3 (Al_{0.5}$

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