UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

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

Plaintiffs/Counter-Defendants,

Case No. 12-11758
Honorable Gershwin A. Drain

v.

NICHIA CORPORATION, and
NICHIA AMERICA CORPORATION,

Defendants/Counter-Plaintiffs,

v.

EVERLIGHT AMERICAS, INC.

Defendant.

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**OPINION AND ORDER REGARDING CLAIM CONSTRUCTION**

## I. INTRODUCTION

This matter is before the court for claim construction relative to United States Patent No. 5,998,925 ("'925 Patent"), United States Patent No.7,531,960 ("'960 Patent"), and United States Patent No. 6,653,215 ("'215 Patent"). A *Markma*n hearing was held on August 13, 2013. *See Markman v. West View Instruments, Inc.*, 517 U.S. 370 (1996). The patents-in-suit relate to light emitting diode ("LED") devices and the parties are business competitors in the manufacture and supply of these products.

Everlight Electronics Co., Ltd. and Emcore Corporation filed the instant action seeking a declaratory judgment of non-infringement, invalidity, and unenforceability of Nichia Corporation's

patents, the '925 Patent and the '960 Patent, as well as alleging direct and indirect infringement of the '215" Patent,[1] against Nichia Corporation and its subsidiary, Nichia America Corporation (collectively "Nichia"). Nichia filed Counterclaims against Emcore Corporation, Everlight Electronics Co., and its subsidiary, Everlight Americas, Inc. (collectively "Everlight"), for direct and indirect infringement of the '925 and '960 Patents. Nichia also seeks a declaratory judgment of non-infringement and invalidity of the '215 Patent.

## II. TECHNOLOGY BACKGROUND

An LED is a semiconductor device that emits light when an electrical energy is applied and an electrical current flows through the semiconductor material. The '925 Patent, entitled LIGHT EMITTING DEVICE HAVING A NITRIDE COMPOUND SEMICONDUCTOR AND A PHOSPHOR CONTAINING A GARNET FLUORESCENT MATERIAL, focuses on the use of yttrium-aluminum-garnet ("YAG") phosphors in LEDs to create a wide range of white light. White light is created with a device, including a semiconductor-based light emitting component capable of emitting blue light and a resin with a phosphor that absorbs part of the blue light and emits a yellowish light. The two different colors or wavelengths of light are mixed and perceived by the human eye as white light. The '925 Patent's Abstract states:

> 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

[1] Emcore is the owner by assignment, and Everlight is the exclusive licensee of the '215 Patent.

for a long period of time.

Dkt. No. 99, Ex. A.

The '960 Patent, entitled LIGHT EMITTING DEVICE WITH BLUE LIGHT LED AND PHOSPHOR COMPONENTS, claims priority to the '925 Patent and concerns how the phosphor is distributed in the resin covering the semiconductor component. The '960 Abstract states:

> 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.

*Id.*, Ex. B. Thus, both the '925 and '960 Patents 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.

The '215 Patent, entitled CONTACT TO N-GAN WITH AU TERMINATION, is directed to forming a low-resistance ohmic contact to an LED semiconductor in order to prevent certain deleterious effects including heating, reduced efficiency and LED device failure. The '215 Patent's Abstract states:

> A contact for n-type III semiconductor such as GaN and related nitride-based semiconductors is formed by depositing Al, Ti, Pt and Au in that order on the n-type semiconductor and annealing the resulting stack, desirably at about 400-600°C. for about 1-10 minutes. The resulting contact provides low resistance, ohmic contact to the semiconductor and excellent bonding to gold leads.

*Id.*, Ex. C. The purpose of an ohmic contact is to transfer electrical current originating from a power supply (such as a battery) through the contact without excessive hindrance, into the semiconductor. Ohmic contacts are composed of a metal layer or layers, deposited on the semiconductor. An ohmic contact must have a low contact resistance, i.e., the contact allows

electric current to pass into and out of an LED with a minimum amount of resistance.

## III. CLAIM CONSTRUCTION

### A. Standard of Review

A determination of infringement requires a two-step analysis. *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F. 3d 1473, 1476 (Fed. Cir. 1998). "First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process." *Id.* Claim construction is an issue of law. *Markman*, 517 U.S.at 388-90. In interpreting claims, a court "should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F. 3d 1576, 1582 (Fed. Cir. 1996). Absent an express intent to impart a novel meaning, "terms in a claim are to be given their ordinary and accustomed meaning." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F. 3d 1243, 1249 (Fed. Cir. 1998). It is the claims that measure the invention. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F. 2d 1107, 1121 (Fed. Cir. 1985).

Although accorded less weight than intrinsic evidence, extrinsic evidence, such as expert testimony, dictionaries, and treatises, can also be helpful. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005). Therefore, extrinsic evidence "may be considered if the court deems it helpful," provided the court "attach[es] the appropriate weight" to extrinsic sources "in light of the statutes and policies that inform patent law." *Id.* at 1317-18, 1324.

Claim construction always begins with the language of the claim and asks "how a person of ordinary skill in the art understands a claim term." *Id.* A "person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. It is

"improper to read [a claim] term to encompass a broader definition" than the ordinary and customary meaning revealed by the context of the intrinsic record." *Nystrom v. Trex Co.*, 424 F.3d 1136, 1145 (Fed. Cir. 2005). Indeed, "[c]laims cannot be of broader scope than the invention set forth in the specification." *Id.*

The prosecution history "inform[s] the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Phillips*, 415 F.3d at 1317. The Federal Circuit has held:

> The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution Accordingly, where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender. Such a use of the prosecutions history ensures that claims are not construed one way in order to obtain their allowance and in a different way against accused infringers.

*Chimie v. PPG Indus.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005).

**B. '925 Patent's Disputed Terms**

1. "a garnet fluorescent material comprising 1) at least one element selected from the group consisting of Y, Lu, Sc, La, Gd and Sm, and 2) at least one element selected from the group consisting of Al, Ga and In, and being activated with cerium"

   "garnet florescent material 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"

| **Nichia's Proposed Constructions** |
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