NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

EVERLIGHT ELECTRONICS CO., LTD,
Plaintiff-Cross-Appellant

EMCORE CORPORATION,
Plaintiff

EVERLIGHT AMERICAS, INC.,
Counterclaim Defendant-Cross-Appellant

v.

NICHIA CORPORATION, NICHIA AMERICA CORPORATION,
Defendants-Appellants

2016-1577, 2016-1611

Appeals from the United States District Court for the Eastern District of Michigan in No. 4:12-cv-11758-GAD-MKM, Judge Gershwin A. Drain.

Decided: January 4, 2018

RAYMOND N. NIMROD, Quinn Emanuel Urquhart & Sullivan, LLP, New York, NY, argued for plaintiff-cross-appellant and counterclaim defendant-cross-appellant.

Also represented by RICHARD WOLTER ERWINE, ANASTASIA M. FERNANDS, MATTHEW A. TRAUPMAN.

KENNETH A. GALLO, Paul, Weiss, Rifkind, Wharton & Garrison LLP, Washington, DC, argued for defendants-appellants. Also represented by DIANE GAYLOR; DANIEL KLEIN, CATHERINE NYARADY, PETER SANDEL, New York, NY.

Before WALLACH, CHEN and HUGHES, *Circuit Judges.*

CHEN, *Circuit Judge*.

Everlight brought a declaratory judgment suit against Nichia seeking a determination of non-infringement, invalidity, or unenforceability of U.S. Patent Nos. 5,998,925 (the '925 patent) and 7,531,960 (the '960 patent) (together, the Patents-in-Suit). Nichia filed counterclaims for infringement against Everlight. In April 2015, a jury returned a verdict that claims 2, 3 and 5 of the '925 patent and claims 2, 14, and 19 of the '960 patent[1] were invalid due to obviousness. In June 2015, the district court held a bench trial and determined that Everlight failed to establish its inequitable conduct claim. *See Everlight Elecs. Co. v. Nichia Corp.*, 143 F. Supp. 3d 644, 646 (E.D. Mi. 2015); J.A. 65–66 (Final Judgment). Following the trials, Nichia moved for judgment as a matter of law (JMOL) of validity and/or a new trial, which the district court denied, holding that substantial evidence supported the jury verdict of invalidity. *See Everlight Elecs. Co. v. Nichia Corp.*, No. 12-cv-11758, 2016 WL 8232553, at *1 (E.D. Mi. Jan. 19, 2016); J.A. 34–35 (Final Judgment). Nichia appeals this ruling. Everlight cross-

[1] Nichia does not appeal the verdict with respect to claims 14 and 19 of the '960 patent. *See* Appellant's Br. 1–2.

appeals the ruling of no inequitable conduct. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1). Because the jury verdict is supported by substantial evidence, and because the district court did not err in denying Everlight's inequitable conduct claim, we *affirm* on all grounds.

DISCUSSION

I. The Jury Verdict of Invalidity

We review a denial of JMOL under the law of the regional circuit. *Comcast IP Holdings I LLC v. Sprint Commc'ns Co., L.P.*, 850 F.3d 1302, 1309 (Fed. Cir. 2017). "[The Sixth Circuit] review[s] de novo a district court's denial of a motion for judgment as a matter of law." *Imwalle v. Reliance Med. Prod., Inc.*, 515 F.3d 531, 543 (6th Cir. 2008). "This court reviews a jury's conclusions on obviousness de novo, and the underlying findings of fact, whether explicit or implicit in the verdict, for substantial evidence." *Pregis Corp. v. Kappos*, 700 F.3d 1348, 1354 (Fed. Cir. 2012). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

A patent claim is unpatentable when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a).[2] Obvi-

[2] Congress amended § 103 when it passed the Leahy-Smith America Invents Act ("AIA"). Pub. L. No. 112-29, § 3(c), 125 Stat. 284, 287 (2011). However, because the application that led to the Patents-in-Suit never contained (1) a claim having an effective filing date on or after March 16, 2013 or (2) a reference under 35 U.S.C.

ousness "is a question of law based on underlying findings of fact." *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). The underlying factual findings include (1) "the scope and content of the prior art," (2) "differences between the prior art and the claims at issue," (3) "the level of ordinary skill in the pertinent art," and (4) the presence of secondary considerations of nonobviousness such "as commercial success, long felt but unsolved needs, failure of others," and unexpected results. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966); *see United States v. Adams*, 383 U.S. 39, 50–52 (1966).

A. The '925 Patent

Both Patents-in-Suit are directed to the combination of a blue light-emitting diode (LED) and a blue-to-yellow phosphor—a chemical which absorbs one color of light and emits another—to produce a white LED. Claim 2 is representative of the '925 patent claims and can be written in independent form as follows:

> **2.** A light emitting device, comprising a light emitting component and a phosphor capable of absorbing a part of light emitted by the light emitting component and emitting light of wavelength different from that of the absorbed light;
>
> wherein said light emitting component comprises a nitride compound semiconductor represented by the formula: $In_iGa_jAl_kN$ where $0 \leq i$, $0 \leq j$, $0 \leq k$ and $i+j+k=1$; and
>
> wherein the phosphor used contains an yttrium-aluminum-garnet fluorescent material containing Y and Al.

§§ 120, 121, or 365(c) to any patent or application that ever contained such a claim, the pre-AIA § 103 applies. *See id.* § 3(n)(1), 125 Stat. at 293.

'925 patent col. 31, ll. 25–40. At the jury trial, Everlight presented Japanese Patent Application No. H05-152609 (Tadatsu) and U.S. Patent No. 6,600,175 (Baretz) to demonstrate that the use of phosphors with blue LEDs to alter the light profile emitted by the LED was known in the art. Tadatsu discloses use of a phosphor with a gallium nitride blue LED to achieve "conversion of a light of a number of wavelengths" or "color correction of blue LED." J.A. 19827–28. Baretz discloses a "monochromatic blue or UV" LED which is "down-converted to white light by packaging the diode with . . . inorganic fluorescers and phosphors in a polymeric matrix." J.A. 19759; *see also* J.A. 19768 col. 9, ll. 9–29 (disclosing use of phosphors to produce white light from a gallium nitride blue LED).

In conjunction, Everlight presented Mary V. Hoffman, *Improved color rendition in high pressure mercury vapor lamps*, 6 J. Illuminating Engineering Soc'y 89 (1977) (Hoffman), and U.S. Patent No. 4,727,283 (Philips) to demonstrate that the use of yttrium-aluminum-garnet (YAG) phosphors to downconvert blue light to yellow light was known in the context of mercury vapor lamps. Hoffman discloses use of a YAG phosphor to downconvert blue light with a wavelength of 436nm to yellow light with a wavelength of 560nm. J.A. 20408–09. Philips discloses use of a YAG phosphor to absorb "radiation having a wavelength between about 400 and 480 nm and convert it into radiation in a wide emission band . . . with a maximum [wavelength] at about 560 nm." J.A. 19785 col. 2, ll. 51–55. Based on the above references and expert testimony from both parties, the jury rendered its verdict of obviousness.

The district court determined that the jury verdict was supported by substantial evidence because (1) the prior art demonstrated that both gallium nitride blue LEDs and YAG phosphors were known in the art; (2) evidence was presented at trial that a person of ordinary skill in the art would have desired to combine a blue-

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