
IN THE
Supreme Court of the United States

NICHIA CORPORATION AND
NICHIA AMERICA CORPORATION,

Petitioners,

v.

EVERLIGHT ELECTRONICS CO., LTD., EMCORE
CORPORATION, AND EVERLIGHT AMERICAS, INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED
STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED FOR REVIEW

1. This Court has repeatedly held that whether a patent is invalid as obvious is a question of law, though it may depend on subsidiary factual findings. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418, 427 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Should an appellate court review the ultimate legal question of obviousness de novo, as the Seventh and Ninth Circuits have held and as the Federal Circuit held before 2012, or must the appellate court defer to a jury's conclusion even on the ultimate legal question, as the Federal Circuit has repeatedly held in patent cases since 2012?
2. Alternatively, if this Court were to conclude that obviousness presents a “mixed” question of law and fact, as the Federal Circuit now treats it, should this Court grant certiorari, vacate, and remand this case to determine whether appellate review of that “mixed” question should be de novo or deferential in light of *U.S. Bank National Association ex rel. CWC Capital Asset Management LLC v. Village at Lakeridge, LLC*, 138 S. Ct. 960, 967 (2018), a case decided after the Federal Circuit decision here?

PARTIES TO THE PROCEEDING

The Defendants-Appellants below, who are the Petitioners before this Court, are Nichia Corporation and Nichia America Corporation.

The Plaintiff-Cross-Appellant below, Everlight Electronics Co., Ltd., and Counterclaim Defendant-Cross-Appellant below, Everlight Americas, Inc., are the Respondents before this Court.

**RULE 29.6 CORPORATE
DISCLOSURE STATEMENT**

Pursuant to Rule 29.6, Petitioners Nichia Corporation and Nichia America Corporation state that no parent corporation nor any publicly held company owns 10 percent or more of the stock of Nichia Corporation or Nichia America Corporation.

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OPINIONS BELOW

The opinion of the United States Court of Appeals for the Federal Circuit is reported at 719 Fed. App'x 1008 and is reprinted at Pet.App.1a–17a. The order of the United States District Court for the Eastern District of Michigan denying Nichia's motion for judgment as a matter of law and/or a new trial is unreported, but is available at 2016 WL 8232553 and is reprinted at Pet.App.18a–61a. The order of the Federal Circuit denying rehearing is unreported and is located at Pet.App.62a–63a.

JURISDICTION

The judgment of the Court of Appeals was entered on January 4, 2018. The Court of Appeals denied a timely petition for rehearing en banc on March 23, 2018. This Court's jurisdiction rests on 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

The Patents and Copyright Clause of the United States Constitution, art. I, § 8, cl. 8, provides that Congress shall have the power:

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

35 U.S.C. § 103 provides, in pertinent part, that:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

INTRODUCTION

Since the founding of the Republic, United States courts have allocated responsibility between judge and jury based on whether the question at issue was one of law or fact. *Georgia v. Brailsford*, 3 U.S. (3 Dall.) 1, 4 (1794) (Jay, C.J.) (noting “the good old rule, that on questions of fact, it is the province of the jury, on questions of law, it is the province of the court to decide.”)

This Court has consistently held over the past two centuries that whether an invention is obvious is a question of law. *E.g.*, *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418, 427 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Consistent with that rule, before the creation of the Federal Circuit in 1982 the regional circuits held that judges, not juries, were responsible for resolving the ultimate legal question of whether an invention was obvious. Any jury verdict on that ultimate legal question was advisory. *See, e.g., Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1333 (7th Cir. 1983) (en

banc); *Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647, 651 (9th Cir. 1982) (en banc) (per curiam). Indeed, the Seventh Circuit refused to allow the jury to opine on the ultimate question of obviousness at all because it feared that the judge would improperly be swayed by the jury's opinion on that legal question.

The Federal Circuit initially followed the rule of this Court and its sister circuits. But since 2012 it has abandoned that approach. Instead, it now holds that obviousness is a “mixed question of law and fact” and that both district and appellate courts must defer to the jury's ultimate assessment of the legal question of obviousness. That approach is inconsistent with this Court's cases and conflicts with the approaches of the Seventh and Ninth Circuits as well as prior Federal Circuit decisions. This Court should grant certiorari to hold that courts in patent cases, like courts in other cases, do not owe deference to jury decisions on ultimate legal questions but only on subsidiary fact questions.

Alternatively, even if this Court were to shift course and endorse the Federal Circuit's new-found conclusion that obviousness presents a “mixed” question of law and fact, it should grant certiorari, vacate, and remand this case. The rules for deciding whether appellate review of that “mixed” question should be de novo or deferential changed in light of *U.S. Bank National Association ex rel. CWC Capital Asset Management LLC v. Village at Lakeridge, LLC*, 138 S. Ct. 960, 967 (2018). That case set out new standards for assessing deference to juries considering mixed questions of law and fact. In the wake of that case, which was decided after the Federal Circuit opinion here, the Federal Circuit has refused to defer to

the jury's verdict on the ultimate question in a copyright case. *Oracle Am., Inc. v. Google LLC*, 886 F.3d 1179, 1192 (Fed. Cir. 2018). The same result should obtain here. At a minimum, this Court should remand for consideration of the effect of *U.S. Bank*.

STATEMENT OF THE CASE

A. The Nichia Patents

Light-emitting diodes (“LEDs”) use electric current to produce light. They offer significant advantages over traditional incandescent light bulbs. Nichia Corporation (“Nichia”) is a longstanding industry leader in the research and production of LEDs. Nichia inventors have devoted years of effort to innovations relating to LEDs, and have secured dozens of patents for their inventions. Nichia inventors were, among other achievements, responsible for the development of the first bright blue LED ever produced.

One recurring challenge for LEDs is the efficient generation of a clear, white light. For some time, the assumption among LED producers was that generating white light required the combination of three other LED chips, reflecting red, green, and blue light. In theory, combining these three colors would yield one white light. In practice, however, the combination of separate LEDs in one housing posed problems for engineering, reliability, and cost-efficiency. The white light generated by these combinations was inconsistent, and the three separate lights posed size and maintenance challenges.

Nichia inventors working on this problem eventually arrived at an ingenious solution. Rather than combine three other colors into white, they relied on a single blue LED—immediately reducing the problems associated with multiple LEDs. To convert this single blue LED into a white light, they added a material known as yttrium aluminum garnet (“YAG”), a yellow phosphor with unique qualities. YAG phosphors had never before been used for this purpose. But the inventors discovered that a blue LED, used in tandem with yellow YAG, could generate white light that proved more reliable and cost-effective than any three-light solution. This innovation meant that generating white light no longer required engineers to solve the problems associated with combining three electronically generated colors in one housing.

Two Nichia patents associated with generating white light in this manner are at issue in this case. The first, U.S. Patent No. 5,998,925 (the “925 Patent”), allowed a commercial LED to generate well-rendered white light using only one colored LED light in combination with a YAG phosphor. The second, U.S. Patent No. 7,531,960 (the “960 Patent”), embodied this new invention in a reliable way, by disclosing an arrangement of the YAG phosphors in a way that concentrated the phosphors closer to the light-emitting LED chip, by adjusting the resin covering the LED chip. The ’925 and ’960 Patents (together, the “Nichia Patents”) are significant innovations. Where prior art had required three such LED lights to generate white light and still could not generate that white light reliably, the Nichia Patents afforded a useful solution to a longstanding problem.

B. The District Court Litigation

Everlight Electronics Co., Ltd. (“Everlight”) is an industry competitor of Nichia. In April 2012, Everlight filed suit against Nichia, seeking a declaratory judgment that Everlight had not infringed the Nichia Patents, and that those patents were invalid and unenforceable. Nichia, in response, brought counterclaims for infringement against Everlight.

Everlight’s theory at trial was that the Nichia Patents were obvious in light of this prior art. 35 U.S.C. § 103. Everlight relied most heavily on two pieces of prior art. The first, U.S. Patent No. 6,600,175 (hereinafter “Baretz”), disclosed the use of a single LED—emitting either blue or ultraviolet light—with three phosphors, one red, one green, and one blue, as a means to generate white light. Baretz relied on three phosphors to achieve the color-combining effects previously sought to be realized by three separate LEDs. Baretz, however, does not concern the use of a single phosphor, the use of a yellow phosphor, or the use of YAG. The second prior art, Japanese Patent application H05-152609 (hereinafter “Tadatsu”), was based on Nichia’s own work and disclosed the use of phosphors—but not YAG—with LEDs. However, instead of using YAG to make a blue LED emit a white light, Tadatsu focused on using non-YAG phosphors to *enhance* the luminosity of a blue LED.

In short, Everlight relied for its obviousness case on Baretz, which involved white LED light but no YAG phosphors, and Tadatsu, Nichia’s prior work that involved LEDs and phosphors, but not YAG phosphors or white light. But this was all they had: the prior art simply

did not disclose what the Nichia Patents embodied. Everlight's obviousness case rested entirely on showing that a reasonable person skilled in the art, aware of these separate research trends, would be motivated to combine them into a blue-LED, yellow-YAG invention, and would find it straightforward to do so.

To present and “explain” the prior art to the jury, Everlight relied on a single expert who testified to the ultimate legal conclusion of obviousness. This expert's testimony was false, as the Federal Circuit acknowledged. *Everlight Elecs. Co. v. Nichia Corp.*, 719 F. App'x 1008, 1012 n.4 (Fed. Cir. 2018) (“We recognize that Everlight's expert made arguably inaccurate statements at trial”). Most importantly, the expert testified—inaccurately—that a key piece of prior art, Baretz, disclosed the use of a yellow phosphor with a blue LED to make white light. There is no such disclosure in Baretz, which simply does not involve a yellow phosphor at all.

The jury delivered a verdict finding the asserted claims invalid on the basis that they were obvious in light of the prior art.

After the jury delivered its verdict, Everlight and Nichia both moved for judgment as a matter of law, and Nichia moved for a new trial. The district court denied both motions, ruling that there was substantial evidence to support the jury's verdict.

C. Federal Circuit Appeal

Everlight and Nichia both cross-appealed to the Federal Circuit from the denied motions for judgment

as a matter of law. The Federal Circuit affirmed in a 15-page unpublished decision. In that decision, the Federal Circuit took an extremely deferential approach to the trial below. The panel “recognize[d] that Everlight’s expert made arguably inaccurate statements at trial regarding whether Baretz and Tadatsu disclose a blue-to-yellow phosphor,” the ultimate issue in the case, but found that “other evidence before the jury was sufficient to support a finding of obviousness.” What that evidence was, the Federal Circuit did not identify. The Federal Circuit also noted that “Nichia had the opportunity to cross-examine Everlight’s expert” on his conclusion on the ultimate legal question, and described any attempt to assess the expert’s testimony for its truth or falsity or to evaluate the ultimate question of obviousness as an exercise in “reweigh[ing] the evidence presented to the jury.” In so doing, the Federal Circuit relied on the jury to “weigh” evidence that stated a legal conclusion, namely, whether the Nichia Patents were valid. And it deferred to the jury’s determination on that ultimate legal issue. The Federal Circuit did not conduct a de novo review of the ultimate legal question of obviousness or indeed provide any analysis on its own on that question beyond pointing to the underlying factual determination (namely, the false expert testimony).

D. Other Courts Have Upheld Counterpart Patents

The Federal Circuit’s ruling holding the Nichia Patents invalid is at odds with the treatment of the same invention in the German Federal Court of Justice (Bundesgerichtshof). That court rejected an obviousness challenge to Nichia’s European counterpart patent based on the same prior Nichia patent application presented to the jury here. *See* Takanori Abe, *Takanori Abe reviews*

the litigation in Germany over Nichia's patent for a white LED, MANAGING IP, Sept. 2017, at 1, 2 (reporting the decision).

REASONS FOR GRANTING THE PETITION

Obviousness is a question of law. It is the role of the court, not the jury, to answer legal questions. It has been so since the founding of the Republic. It has been so consistently in this Court. It was so in the regional circuits before the Federal Circuit was created. And it was so in the early days of the Federal Circuit. But since 2012, the Federal Circuit has abandoned that rule in obviousness cases, instead deferring to jury verdicts even on ultimate questions of law.

This Court's treatment of obviousness as a question of law to be resolved in the final analysis by the judge is not an aberration or an accident of history. Rather, it reflects the long-standing recognition that patents are public rights and that the public has an interest in the proper determination of their validity—a fact this Court reaffirmed just this year in *Oil States Energy Services, LLC v. Greene's Energy Group, LLC*, 138 S. Ct. 1365, 1373 (2018). Judges, not juries, are expected to set the proper balance between the interests of patentees and the public, and to do so on the record. They cannot do so if they blindly defer to a jury's determination of an ultimate legal issue.

This Court should grant certiorari to confirm that obviousness remains a question of law and restore to obviousness law the same rules of civil procedure that apply to any other legal question.

I. THE FEDERAL CIRCUIT’S DEFERENTIAL REVIEW OF A JURY VERDICT OF OBVIOUSNESS CONFLICTS DIRECTLY WITH SUPREME COURT PRECEDENT AND HISTORICAL PRACTICE.

A. Obviousness is a Question of Law under this Court’s Precedents.

To merit a patent, an invention cannot be obvious. *See Hotchkiss v. Greenwood*, 52 U.S. (511 How.) 248, 267 (1851) (“[U]nless more ingenuity and skill . . . were required . . . than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention.”). American courts have long treated “an exercise of the inventive faculty’ . . . as an absolute prerequisite to patentability.” *Dann v. Johnston*, 425 U.S. 219, 225 (1976) (quoting *McClain v. Ortmayer*, 141 U.S. 419, 427 (1891)). This requirement of invention, codified at 35 U.S.C. § 103 by the 1952 Patent Act, is now spoken of as a test of “obviousness.” But the essential inquiry has remained unchanged in this Court before *and* after the enactment of § 103. *Graham*, 383 U.S. at 17 (holding that § 103’s “revision was not intended by Congress to change the general level of patentable invention,” and was instead “intended merely as a codification of judicial precedents embracing the *Hotchkiss* condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.”).

Obviousness, being an essential condition for patentability, is a question of law. *KSR*, 550 U.S. at 427

(holding that “[t]he ultimate judgment of obviousness is a legal determination”). This approach is consistent with this Court’s treatment of patent validity generally as a question of law. *Cf. Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 (1976) (“The ultimate test of patent validity is one of law. . . .”); *Graham*, 383 U.S. at 17 (“the ultimate question of patent validity is one of law” even in light of subsidiary factual inquiries); *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 155 (1950) (Douglas, J., concurring); *Mahn v. Harwood*, 112 U.S. 354, 358 (1884) (describing the question of “whether the thing patented amounts to a patentable invention” as “a question of law”).

B. Questions of Law Are for the Trial Judge, Not the Jury, to Resolve, and Are Reviewed Without Deference.

1. It is well-established that questions of law are for a judge, not a jury, to decide. *Georgia v. Brailsford*, 3 U.S. (3 Dall.) 1, 4 (1794) (Jay, C.J.) (noting “the good old rule, that on questions of fact, it is the province of the jury, on questions of law, it is the province of the court to decide.”); *Byrd v. Blue Ridge Rural Elec. Coop., Inc.*, 356 U.S. 525, 537 (1958) (describing the allocation of “trial functions between judge and jury” as an “essential characteristic” of the federal system and litigation in the federal courts); *Lawrence v. Allen*, 48 U.S. (7 How.) 785, 796–97 (1849) (contrasting a “proper fact for the jury to decide” with “a question of law, to be settled by the court”). That distinction carries over to appellate review. *E.g., Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744, 1748 (2014) (“Traditionally, decisions on questions of law are reviewable *de novo*, decisions

on questions of fact are reviewable for clear error, and decisions on matters of discretion are reviewable for abuse of discretion.”) (quoting *Pierce v. Underwood*, 487 U.S. 552, 558 (1988)) (internal quotation marks omitted).

Indeed, when legal questions are submitted to the jury because they are bound up with questions of fact, it is incumbent on the court to resolve the legal issues rather than permitting the jury to decide the ultimate legal question. *See, e.g., Stewart v. Sonneborn*, 98 U.S. 187, 194 (1897) (holding that for the legal question of probable cause, it was “the duty of the court . . . to submit to the jury its credibility, and what facts it proves, *with instructions that the facts found amount to proof of probable cause, or that they do not.*”) (emphasis added); *Harris v. Robinson*, 45 U.S. (4 How.) 336, 345 (1846) (“[T]he judge properly submitted to the jury whatever facts the parties chose to present; and it is usually the best course thus to submit complicated questions of law and fact, accompanying them, however, with due legal instructions as to the rules which ought to govern.”); James W. Moore et al., *MOORE’S MANUAL: FEDERAL PRACTICE AND PROCEDURE* § 22.08[1] (1983) (only the specific disputed facts, not the ultimate legal question, should be given to the jury under a special verdict).

2. The same principles apply to the question of obviousness. This Court in *KSR*, in the course of holding that obviousness presented a legal question, explicitly rejected the idea that conclusory expert testimony on the obviousness of an invention could create a triable factual dispute for the jury:

To the extent the [Federal Circuit] understood the *Graham* approach to exclude the possibility of summary judgment when an expert provides a conclusory affidavit addressing the question of obviousness, it misunderstood the role expert testimony plays in the analysis. In considering summary judgment on that question the district court can and should take into account expert testimony, which may resolve or keep open certain questions of fact. That is not the end of the issue, however. The ultimate judgment of obviousness is a legal determination.

Id. at 426–27.

That determination, this Court made clear, was to be made on the record by a court, not in a black-box jury verdict:

[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness Often, it will be necessary for ***a court*** to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. ***To facilitate review, this analysis should be made explicit.***

Id. at 418, 427 (emphases added). As this Court held in *Great Atlantic*:

[T]he question of validity of a patent is a question of law. . . . [I]t is the “standard of invention” that controls. That is present in every case where the validity of a patent is in issue. It is that question which the Court must decide. No “finding of fact” can be a substitute for it in any case. The question of invention goes back to the constitutional standard in every case. We speak with final authority on that constitutional issue. . . .

340 U.S. at 155–56.

To this end, this Court has recognized that even though “resolution of the obviousness issue necessarily entails several basic factual inquiries[,]” the ultimate “test” of patent validity is legal, not factual. *Sakraida*, 425 U.S. at 280. In some instances, if the dispute centers on one of those subsidiary fact questions, deference to the jury or the trial judge *on those fact disputes* is sound practice. *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809, 811 (1986) (holding that the appellate court in an obviousness case must defer to “the subsidiary determinations of the District Court, at the least”). But this Court has never conflated deference to subsidiary underlying factual findings with deference to the jury’s resolution of an ultimate legal question. No deference extends to legal rather than factual determinations, whether made by a jury or by the district judge. *See Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 114 (2011) (Breyer, J., concurring). For those legal questions, it is the opinion of the court, not the jury, that ultimately governs.

3. Indeed, even on factual issues a jury might not be necessary. For a hundred years prior to the creation of the Federal Circuit virtually all patent disputes were tried to judges, not juries. Mark A. Lemley, *Why Do Juries Decide If Patents Are Valid?*, 99 VA. L. REV. 1673, 1704 (2013). This Court strongly suggested this year that there was no right to a jury trial *at all* on the question of patent validity, rejecting a Seventh Amendment challenge to *inter partes* review. *Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365, 1379 (2018). But at a minimum, the ultimate legal question of obviousness has always been one for the court, not the jury.

C. The Validity of a Patent Is a Legal Question Because the Proper Scope of Patents Implicates the Public Interest.

The treatment of obviousness as a legal question is not an accident of history, but a deliberate choice bound up with patent policy. Patent validity presents a legal question because patents by their “very nature” are “affected with a public interest.” *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 816 (1945).

1. The public has an interest in ensuring that patents do not unduly restrict competition. To that end, the Court has repeatedly emphasized the importance of testing weak patents and protecting the public from monopolies based on invalid patents. *See, e.g., Microsoft Corp.*, 564 U.S. at 115 (Breyer, J., concurring) (describing measures designed to “increase the likelihood that discoveries or inventions will not receive legal protection where none is due”); *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 137 (2007) (holding that licensees have standing

to challenge patent validity or infringement without repudiating their licenses); *United States v. Glaxo Grp. Ltd.*, 410 U.S. 52, 57 (1973) (emphasizing the “public interest in free competition” in concluding that licensee in antitrust suit “may attack the validity of the patent under which he is licensed even though he has agreed not to do so in his license.”); *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 349–50 (1971) (allowing alleged infringer to claim estoppel where patent previously declared invalid). In *Lear, Inc. v. Adkins*, 395 U.S. 653, 671 (1969), this Court held that state law could not bar a licensee from challenging the validity of the patent it had licensed. *Lear*’s conclusion reflected an affirmative policy judgment that invalidating weak patents served the public good. The Court emphasized “the important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain.” *Id.* at 670. These and other decisions reflect the “paramount” public “interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct. . . .” *Precision Instrument Mfg.*, 324 U.S. at 816.

The public interest in the question of patent validity is not limited to protecting the public from the anti-competitive effects of invalid patents. There is an equally strong interest in protecting the pro-competitive effects of *valid* patents. Patents exist to promote the progress of the useful arts, U.S. Const. art. I, § 8, cl. 8, and the Founders recognized the importance of encouraging invention:

Certainly an inventor ought to be allowed a right to the benefit of his invention for some certain time. . . . Nobody wishes more than I do that ingenuity should receive a liberal encouragement.

V WRITINGS OF THOMAS JEFFERSON at 75–76, Letter to Oliver Evans (May 2, 1807) (H.A. Washington ed. 1854). As Abraham Lincoln put it, patents “added the fuel of interest to the fire of genius, in the discovery and production of new and useful things.” Abraham Lincoln, Second Lecture on Discoveries and Inventions, delivered to the Phi Alpha Society of Illinois College at Jacksonville, Illinois (Feb. 11, 1859), *in* 3 THE COLLECTED WORKS OF ABRAHAM LINCOLN at 357 (Roy P. Basler ed. 1953); *see also* *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013) (“the very point of patents” is “to promote creation.”).

The public’s interest in patents, then, is not simply to guard against improper patent grants. Rather, it is:

to guard against two extremes equally prejudicial; the one, that men of ability, who have employed their time for the service of the community, may not be deprived of their just merits, and the reward of their ingenuity and labour; the other, that the world may not be deprived of improvements, nor the progress of the arts be retarded.

Cary v Longman, 1 East 358, 362 n. (b), 102 Eng. Rep. 138, 140 n. (b) (K.B. 1801) (quoting *Sayre v Moore* (Hil. 1785) (Lord Mansfield, C.J.)).

Patents, then, are public, not private rights. *Oil States*, 138 S. Ct. at 1373 (“[T]he decision to grant a patent is a matter involving public rights—specifically, the grant of a public franchise.”) (emphasis omitted). The validity of that franchise is not merely a matter of commercial dispute between two parties about a question of fact. It is a question of fundamental and enduring interest to the public, because issuing patents “take[s] from the public rights of immense value, and bestow[s] them upon the patentee.” *Id.* (quoting *United States v. Am. Bell Tel. Co.*, 128 U.S. 315, 370 (1888)).

Determining whether patents are validly granted is, therefore, not simply a factual dispute affecting only the parties to the case. It is something that matters to the legal system as a whole. Indeed, the court’s responsibility to evaluate patent validity independently from the jury is so crucial that this Court has frequently treated patent validity as a jurisdictional question, susceptible to review even if not raised by the parties. *See Richards v. Chase Elevator Co.*, 158 U.S. 299, 301 (1895) (“We have repeatedly held that a patent may be declared invalid for want of novelty, though no such defense be set up in the answer.”); *Slawson v. Grand St., P.P. & F.R. Co.*, 107 U.S. 649, 652 (1883) (holding that the question of validity is always open to the consideration of the court whether raised as a defense or not); *Glue Co. v. Upton*, 97 U.S. 3, 4 (1877) (finding it unnecessary to decide the issue presented because the Court concluded on its own motion that the patent was invalid); *Brown v. Piper*, 91 U.S. 37, 43–44 (1875) (same). In *Hill v. Wooster*, the Court said:

The parties to the present suit appear to have been willing to ignore the question as to

patentability in the present case, and to have litigated merely the question of priority of invention, on the assumption that the invention was patentable. But neither the circuit court nor this court can overlook the question of patentability.

132 U.S. 693, 698 (1890).

The proper grant and scope of a patent, and whether the defendant has met the “high bar” of showing that it is invalid, *Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1928–29 (2015), is therefore not a question that a jury can answer sufficiently based solely on weighing evidence. Instead, like all legal questions, the court must retain a separate responsibility to ensure that the ultimate ruling comports with the balance struck by the patent system and to preserve the “need for uniformity in the construction of patent law.” *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627, 645 (1999). Judges must balance the rights of patentees and the public with the public interest in mind, and unlike a jury they must do so on the record.

This Court protects important public rights in part by ensuring that no single jury can deprive a party or the public of those rights by deciding the ultimate question of legal entitlement to those rights. Analogously, this Court has held in First Amendment cases that, notwithstanding Federal Rule of Civil Procedure 52(a), appellate courts must “make an independent examination of the whole record,” *Edwards v. South Carolina*, 372 U.S. 229, 235 (1963), so as to guard against “a forbidden intrusion on the field of free expression.” *Bose Corp. v. Consumers*

Union of United States, Inc., 466 U.S. 485, 499, 508 (1984) (quoting *New York Times Co. v. Sullivan*, 376 U.S. 254, 285 (1964)). “In cases where that line must be drawn, the rule is that we ‘examine for ourselves the statements in issue and the circumstances under which they were made to see . . . whether they are of a character which the principles of the First Amendment, as adopted by the Due Process Clause of the Fourteenth Amendment, protect.” *Bose*, 466 U.S. at 508 (quoting *Pennekamp v. Florida*, 328 U.S. 331, 335 (1946)).

[I]ndependent review is also supposed to make the rule clearer for future cases. Independent review should help confine the perimeters of any unprotected category within acceptably narrow limits in an effort to ensure that protected expression will not be inhibited. The content of many Free Speech Clause rules is not revealed simply by [the] literal text”; instead, the rules must be given meaning through the evolutionary process of common law adjudication. Therefore, appellate judges, as expositors of the Constitution, must independently decide whether the evidence in the record is sufficient to cross the constitutional threshold.

Eugene Volokh & Brett McDonnell, *Freedom of Speech and Appellate and Summary Judgment Review in Copyright Cases*, 107 Yale L.J. 2431, 2436 (1998) (footnotes and citations omitted).

Resolution of the ultimate question of patent validity by the court, and not the jury, also reflects due respect

for another co-equal branch, by presuming the validity of patents that have been “regularly issued” by the executive. *See, e.g., Radio Corp. of Am. v. Radio Eng’g Labs., Inc.*, 293 U.S. 1, 7 (1934). Ceding responsibility for determining ultimate patent validity to the jury is inconsistent with that approach.

D. Federal Courts Have Long Avoided Giving the Ultimate Question of Obviousness to the Jury.

These two indisputable conclusions—that obviousness is a question of law, and that questions of law are for the judge, not the jury, to resolve—mean that courts must take care in the way in which they consult juries in obviousness cases. Courts have endeavored to separate the ultimate legal question of obviousness from the subsidiary fact questions that are the province of the jury. Justice Breyer’s concurrence in *Microsoft* suggests the use of special verdict forms or interrogatories that resolve specific factual questions:

Courts can help to keep the application of today’s “clear and convincing” standard within its proper legal bounds by separating factual and legal aspects of an invalidity claim, say, by using instructions based on case-specific circumstances that help the jury make the distinction or by using interrogatories and special verdicts to make clear which specific factual findings underlie the jury’s conclusions. See Fed. Rules Civ. Proc. 49 and 51. By isolating the facts (determined with help of the “clear and convincing” standard), courts can thereby assure the proper interpretation or application

of the correct legal standard (without use of the “clear and convincing” standard). By preventing the “clear and convincing” standard from roaming outside its fact-related reservation, courts can increase the likelihood that discoveries or inventions will not receive legal protection where none is due.

Microsoft, 564 U.S. at 115 (Breyer, J., concurring); *cf. Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n.8 (1997) (observing that “in [doctrine of equivalents] cases that reach the jury, a special verdict and/or interrogatories on each claim element could be very useful in facilitating review, uniformity, and possibly postverdict judgments as a matter of law.”).

Consistent with this approach, the regional circuits that heard patent disputes before the creation of the Federal Circuit in 1982 were hesitant to give juries unfettered power to decide the legal question of obviousness. Instead of giving the validity question to the jury outright, which is impermissible for a question of law, circuits long took two approaches: allowing juries to issue advisory verdicts or employing special verdict forms to make the discrete findings on which the validity determination would rest.

Some circuits, including the Ninth, took the position that the ultimate question of validity was a question of law reserved for the judge, but that if there was a dispute of fact, juries could hear the validity issues at trial and render an advisory verdict that the court was free to disregard. *See, e.g., Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647, 651 (9th Cir. 1982) (en banc) (per curiam) (“[W]e hold that the court ultimately must decide

obviousness specifically as a matter of law, [and] we disapprove any language or procedure apparently to the contrary. . . .”); *Bergman v. Aluminum Lock Shingle Corp. of Am.*, 251 F.2d 801, 809 (9th Cir. 1957) (Pope, J., concurring) (“I think that [the court’s] opinion performs a particularly useful service in doing away with a frequent misapprehension that the question of the validity of a claim of a patent is solely one of fact.”).

Other circuits thought that even that went too far, because once a jury rendered a verdict on an issue the judge would be tempted to (improperly) defer to the jury’s decision rather than exercise independent judgment. Accordingly, the Seventh Circuit refused to let juries render even an advisory verdict on the ultimate question of validity and, instead, submitted particular fact questions to the jury for resolution. *Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1333 (7th Cir. 1983) (en banc).

Many district courts still follow one or both of these approaches. The Northern District of California Model Patent Jury Instructions, for example, offer two different possible verdict forms, one asking the jury for an advisory verdict on obviousness and the other asking only that the jury resolve the subsidiary questions of fact. United States District Court for the Northern District of California Model Patent Jury Instructions (updated Jan. 2018), http://www.cand.uscourts.gov/filelibrary/5/NDCAI_Model_Patent_Instructions_Jan-2018.pdf at 62-63 (last visited June 7, 2018). This is also the approach recommended by the Federal Judicial Center’s *Patent Case Management Judicial Guide*. Peter S. Menell et al., *Patent Case Management Judicial Guide* at 8-32 (3d ed. 2016). (recommending submitting the relevant

underlying factual questions to the jury in a special verdict form “with or without an advisory verdict on the legal question of obviousness,” but making clear that whether or not that special verdict form includes the advisory verdict the district judge must “determine the ultimate question of obviousness itself based on the jury’s factual determinations.”).

None of these courts deferred to the jury on the ultimate question of obviousness. To the contrary, even when a jury was called upon to resolve a disputed question of fact related to validity, the regional circuits were reluctant to let the jury have even an advisory role on an issue the judge was obligated to resolve. If a jury did rule on obviousness, it was “the court’s duty to instruct the jury that it should return one verdict if the facts are found one way and a different verdict if the facts are found otherwise. . . . In other words, the jury must be instructed that if it finds facts A, B, C, and D, it must render a certain verdict. Anything less than strict adherence to this procedure by a trial court constitutes an abdication of its active duty to retain ultimate control over the issue of obviousness.” *Roberts*, 723 F.2d at 1341 (citation omitted). Neither approach simply gives the jury the ultimate legal question of obviousness.

E. Despite these Precedents, the Federal Circuit Now Defers to Jury Verdicts on the Legal Question of Obviousness.

1. After the creation of the Federal Circuit, some early decisions of its panels suggested that the court would follow the Seventh Circuit’s approach, limiting the role of a jury to answering specific factual questions. In *Structural*

Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 709 (Fed. Cir. 1984), for example, the trial court had given the issues of novelty and non-obviousness to the jury. The Federal Circuit remanded for a new trial, chastising the district court for ignoring the teaching of *Graham* that obviousness was a question of law and suggesting that an appropriate solution would be to use special verdict forms that gave the jury only the specific factual questions at issue, not the underlying legal question of obviousness. *Id.* at 723–24. *Accord R.R. Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515 (Fed. Cir. 1984); *Stratoflex Corp. v. Aeroquip Corp.*, 713 F.2d 1530, 1535 (Fed. Cir. 1983); *Stevenson v. ITC*, 612 F.2d 546, 549 (C.C.P.A. 1979).

2. Recently, however, the Federal Circuit has broken with longstanding practice and precedent. It now treats obviousness not as a question of law, as this Court and its own precedents have repeatedly held, but as a “mixed question of law and fact.” *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1356 (Fed. Cir. 2012). *Kinetic Concepts* nowhere justifies this change in approach, nor could it: there was no relevant change in the law governing obviousness, and *KSR* had explicitly set forth that obviousness should be treated as a legal question. Nonetheless, since *Kinetic Concepts*, that new legal standard has been followed in multiple Federal Circuit opinions.¹ Even where the Federal Circuit retains

1. See, e.g., *Hologic, Inc. v. Smith & Nephew, Inc.*, 884 F.3d 1357 (Fed. Cir. 2018); *Novartis AG v. Torrent Pharm. Ltd.*, 853 F.3d 1316 (Fed. Cir. 2017); *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373 (Fed. Cir. 2016); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359 (Fed. Cir. 2016); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356 (Fed. Cir. 2016); *ABT Sys., LLC v. Emerson Elec.*

the language of the correct standard, moreover, it defers to the jury not just on subsidiary questions of fact but on the ultimate legal conclusion. *E.g.*, *Ultratec, Inc. v. Sorenson Commc'ns, Inc.*, No. 2017-1161, 2018 WL 2278246, at *2–*3 (Fed. Cir. May 18, 2018) (describing the ultimate question of obviousness as one of law, reviewed de novo, but affirming based solely on deference to the jury's conclusion that the invention would be obvious). The Federal Circuit's departure from this Court's and prior circuit precedent has become so ingrained that the Federal Circuit no longer even treats its change in the legal standard as worthy of a published opinion.²

The result is that the Federal Circuit now routinely defers to general jury verdicts of obviousness rather than treating them as merely advisory. The Federal Circuit has not only abandoned its own strong endorsement of special verdict forms in *Structural Rubber Products*; the Circuit now rewards parties for using general verdict forms. If a jury issues a verdict on obviousness, even one that is explicitly advisory, the Federal Circuit does not defer only to factual conclusions but to the ultimate conclusion

Co., 797 F.3d 1350 (Fed. Cir. 2015); *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327 (Fed. Cir. 2014); *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003 (Fed. Cir. 2012); *cf. Oracle Am., Inc. v. Google LLC*, 886 F.3d 1179 (Fed. Cir. 2018) (dicta in copyright case).

2. *See, e.g.*, *Cole Kepro Int'l, LLC v. VSR Indus., Inc.*, 695 F. App'x 566 (Fed. Cir. 2017); *Dragon Intellectual Prop., LLC v. Dish Network LLC*, 711 F. App'x 993 (Fed. Cir. 2017), *petition for cert. filed* (U.S. Mar. 30, 2018) (No. 17-1327); *In re Depomed, Inc.*, 680 F. App'x 947 (Fed. Cir. 2017), *cert. denied*, 86 U.S.W.L. (U.S. Apr. 30, 2018) (No. 17-114); *I/P Engine, Inc. v. AOL Inc.*, 576 F. App'x 982 (Fed. Cir. 2014).

rendered by the jury. Indeed, the Federal Circuit has gone so far as to disregard the jury's factual findings on a special verdict form when a jury is given one in favor of deference to the jury's *advisory* verdict on the ultimate legal question. *Kinetic Concepts*, 688 F.3d at 1357.

F. This Case Illustrates the Problems with the Federal Circuit's New Approach.

The Federal Circuit's deference to the jury here illustrates the problems with the Federal Circuit's new approach. Both the district court and the Panel, while nominally reciting the correct rule that obviousness is ultimately a question of law, *e.g.*, *Everlight Elecs. Co. v. Nichia Corp.*, 719 F. App'x 1008, 1010 (Fed. Cir. 2018), declined to independently evaluate whether the Nichia Patents were obvious. Instead, the court limited its review to whether "substantial evidence supports the jury verdict of invalidity." *Id.* at 1012. This error changed the result and led to the invalidation of patents governing important inventions—precisely the outcome Congress and this Court have long guarded against.

If the Federal Circuit panel had independently evaluated the legal conclusion of obviousness, it would have seen that the only evidence proffered by Everlight for several aspects of the obviousness analysis was expert testimony that was both inaccurate and improperly went to the ultimate legal conclusion. As the Panel recognized, Everlight's expert made false statements at trial. *Id.* at 1012 n.4. ("We recognize that Everlight's expert made arguably inaccurate statements at trial regarding whether Baretz and Tadatsu disclose a blue-to-yellow phosphor."). Those statements went to the ultimate question of whether

the prior art taught or suggested the invention. To take just one example, the expert expressly said that one prior art reference, Baretz, taught the invention outright when it unambiguously did not.³ Other examples abound. Nichia in its opening brief on appeal collected numerous inaccurate statements in the record made by the expert at trial, many relied on by the district court. The expert's opinion was conclusory—declaring that the combination would have been obvious because the prior art taught the actual invention—and inaccurate. Compounding the problem, the district court simply relied on what the expert said, directly, going so far as to cite to clearly inaccurate portions of the expert's testimony to justify the jury's verdict.

The Federal Circuit's response—that Nichia could have cross-examined the expert about his false statements—is insufficient. Cross-examination might suffice to

3. For example, pointing to column 7, lines 19–27 and column 8, lines 18–25 of U.S. Patent No. 6,600,175 (“Baretz Patent”), the expert testified:

[Q.] So to summarize, the Baretz patent discloses using what color LED.

A. Blue.

Q. With what color phosphor?

A. Yellow.

Q. To get what color LED?

A. White.

Appx17582:13–19, *see also* Appx17581:13–15. Those statements are unsupported and wrong. Nothing in the portions of Baretz Patent that the expert points to or even mentions a yellow phosphor.

highlight a fact dispute. But here the expert testified to a legal conclusion, that testimony was inaccurate, and both the district court and the Federal Circuit deferred to the jury's acceptance of that legal conclusion. That was error because evaluating the ultimate question of obviousness is the responsibility of the Court, not the jury. *See, e.g., KSR*, 550 U.S. at 418 (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

A black box jury verdict is not the sort of “explicit” decision the Supreme Court had in mind in *KSR*. That is why this Court has consistently referred to obviousness as a legal question necessitating independent evaluation by the district court and de novo review on appeal. But here, both the district court and the Federal Circuit deferred to a jury conclusion on an ultimate legal question that followed materially inaccurate testimony from Everlight's expert about that ultimate legal question. This Court should grant certiorari to reverse that error and make clear that obviousness is a question of law subject to independent judicial evaluation, as it was until 2012, not a mixed question of law and fact, as the Federal Circuit now seems to believe.

II. EVEN IF THE FEDERAL CIRCUIT’S TREATMENT OF PATENT VALIDITY AS A “MIXED QUESTION” WAS CORRECT, THE COURT SHOULD GRANT CERTIORARI, VACATE, AND REMAND TO DETERMINE THE APPROPRIATE STANDARD OF REVIEW FOR THAT MIXED QUESTION.

The Federal Circuit has departed from this Court’s consistent precedent in treating obviousness, not as a question of law, but as a mixed question of law and fact. But even if the Federal Circuit is correct to reclassify obviousness as a mixed question, as it has since *Kinetic Concepts*, that does not justify the deferential approach the Federal Circuit is taking to that question. Rather, the Federal Circuit’s approach to this mixed question of law and fact must be reevaluated in light of a recent decision by this Court.

1. The Federal Circuit’s opinion issued on January 4, 2018. On March 5, 2018, this Court issued its decision in *U.S. Bank National Association ex rel. CWC Capital Asset Management LLC v. Village at Lakeridge, LLC*, 138 S. Ct. 960 (2018). *U.S. Bank* concerned the appropriate standard of review for an issue frequently emerging in bankruptcy law, namely, whether a creditor qualifies as a “non-statutory insider.” Determining a creditor’s status as a “non-statutory insider” rests on three questions: “the first purely legal, the next purely factual, the last a combination of the other two.” *Id.* at 965. The Ninth Circuit, below, had reviewed the last “mixed” question under a deferential “clear error” standard. Before this Court, the parties disputed the appropriate standard of review for that final, “mixed” question.

“Mixed” questions by their nature involve applying law to facts. *E.g.*, *Hana Fin., Inc. v. Hana Bank*, 135 S. Ct. 907, 911 (2015) (describing the resolution of the “legal equivalents” test for purposes of trademark tacking as a “mixed question of law and fact,” where a legal standard is applied to underlying facts). It may not be immediately obvious, for any “mixed” question, whether review should be *de novo*, as befitting a question of law, or for clear error, as befitting a question of fact. And there can be no general answers, because “[m]ixed questions are not all alike.” *U.S. Bank*, 138 S. Ct. at 967.

To reach an answer, this Court engaged in its most detailed analysis to date of the principles underlying review of “mixed” questions. *See id.* at 965–69. The Court held that the answer to the appropriate standard of review turned on the underlying nature of the inquiry:

For all their differences, both parties rightly point us to the same query: What is the nature of the mixed question here and which kind of court (bankruptcy or appellate) is better suited to resolve it? Mixed questions are not all alike. As [petitioner] suggests, some require courts to expound on the law, particularly by amplifying or elaborating on a broad legal standard. When that is so—when applying the law involves developing auxiliary legal principles of use in other cases—appellate courts should typically review a decision *de novo*. But as [respondent] replies, other mixed questions immerse courts in case-specific factual issues—compelling them to marshal and weigh evidence, make credibility judgments, and otherwise address

what we have (emphatically if a tad redundantly) called “multifarious, fleeting, special, narrow facts that utterly resist generalization.” And when that is so, appellate courts should usually review a decision with deference. In short, the standard of review for a mixed question all depends—on whether answering it entails primarily legal or factual work.

Id. at 966–67 (citations omitted). Having set forth these guiding principles, the Court affirmed the “clear error” review employed by the Ninth Circuit because the inquiry “was about as factual sounding as any mixed question gets.” *Id.* at 968.

U.S. Bank gives important new guidance for how to determine the appropriate standard of review for mixed questions of law and fact. But that guidance was of no help to the Federal Circuit, which issued its decision before *U.S. Bank* was released.

2. The Federal Circuit has since 2012 been treating the underlying question of obviousness as a mixed question of law and fact; and the Federal Circuit has effectively employed the review appropriate for a mixed question that involves primarily “factual work” within the meaning of *U.S. Bank*. But it has never explained what type of “mixed” question obviousness is. *U.S. Bank* requires more.

As noted in Part I, we believe the Federal Circuit erred in ignoring prior precedent and reclassifying obviousness as a mixed question of law and fact. But even were this Court to acquiesce in the Federal Circuit’s re-characterization of obviousness as a mixed question, that

would not resolve the question of the proper legal standard to apply. The Federal Circuit, ruling before *U.S. Bank*, never gave any thought to whether the “mixed” question presented was mostly legal—requiring de novo review—or mostly factual—allowing clear error review. *See Oracle Am., Inc. v. Google LLC*, 886 F.3d 1179, 1192 (Fed. Cir. 2018) (citing *U.S. Bank* for the proposition that “[m]erely characterizing an issue as a mixed question of law and fact does not dictate the applicable standard of review”).

3. The correct approach in this situation is for this Court to grant certiorari, vacate the ruling, and remand for further consideration by the Federal Circuit (“GVR”). This Court has held that a GVR may be appropriate in response to a petition for certiorari when (1) there are “intervening developments, or recent developments that we have reason to believe the court below did not fully consider”; (2) those developments “reveal a reasonable probability that the decision below rests upon a premise that the lower court would reject if given the opportunity for further consideration”; and (3) “such a redetermination may determine the ultimate outcome of the litigation.” *Lawrence ex rel. Lawrence v. Chater*, 516 U.S. 163, 167 (1996). The Court also looks to the equities of the case to determine whether a GVR is appropriate. *Id.* at 168.

All three factors, as well as the equities, point in favor of a GVR. First, the decision in *U.S. Bank* supplies an analytical framework that the Federal Circuit did not have and requires an analytical step that the Federal Circuit did not take.

Second, the Federal Circuit, if given the opportunity to evaluate the nature of the question presented in the obviousness inquiry, would be reasonably likely to consider the question to be primarily legal. Congress intends for there to be “uniformity in the construction of patent law.” *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627, 645 (1999). The executive also must get the benefit of the presumption of validity for the patents it has “regularly issued.” *Radio Corp. of Am. v. Radio Eng’g Labs., Inc.*, 293 U.S. 1, 7 (1934). As this Court recently reiterated, nearly two centuries of precedents show that “the decision to grant a patent is a matter involving public rights—specifically, the grant of a public franchise.” *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1373 (2018) (emphasis omitted). The status of patents as public rights and the federal interest in patent uniformity render the question of patent validity one involving characteristically “legal” work. Review of a determination of patent validity should therefore be *de novo*, rather than deferential. *See U.S. Bank*, 138 S. Ct. at 967.

There are equally strong reasons to find that patent validity is *not* the type of mixed question appropriate for deferential review. (Or, as this Court put it, “we can arrive at the same point from the opposite direction.” *U.S. Bank*, 138 S. Ct. at 968.) Deference requires that the task engaged in by the court involve characteristically “factual” work. *See id.* at 967. But on the question of invalidity, there is often comparatively little “factual” work to conduct. To be sure, factual findings may be relevant to the analysis “where there are disputes about, say, when a product was first sold or whether a prior art reference had been published.” *See Microsoft Corp. v. i4i Ltd. P’ship*, 564

U.S. 91, 114 (2011) (Breyer, J., concurring). “Many claims of invalidity rest, however, not upon factual disputes, but upon how the law applies to facts as given.” *Id.*

Finally, reviewing the obviousness question under a de novo standard would affect the answer to that question, by showing that the Nichia Patents were in fact non-obvious. The result would likely be remand to the trial court for trial on infringement.

The equities of the case also favor further consideration by the lower court, to ensure that the key claims of two patents are not held invalid based solely on false expert testimony. Granting the GVR would conform to this Court’s guidance that a GVR order be used to “improve the fairness and accuracy of judicial outcomes while at the same time serving as a cautious and deferential alternative to summary reversal. . . .” *Chater*, 516 U.S. at 168.

If obviousness is now a mixed question of law and fact despite this Court’s long-standing precedent to the contrary, then the Federal Circuit should and must engage in the analysis described in *U.S. Bank*. Therefore, it would be appropriate for this Court to grant the petition for certiorari, vacate the Federal Circuit’s opinion, and remand in light of *U.S. Bank*, so that the Federal Circuit can do so.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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APPENDIX

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**APPENDIX A — OPINION OF THE UNITED
STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT, FILED JANUARY 4, 2018**

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2016-1577, 2016-1611

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.

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.

January 4, 2018, Decided

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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 patent¹ 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 U.S. Dist. LEXIS 192370, 2016 WL 8232553, at *1 (E.D. Mi. Jan. 19, 2016); J.A. 34–35 (Final Judgment). Nichia appeals this ruling. Everlight cross-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

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

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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. Prods.*, 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, 59 S. Ct. 206, 83 L. Ed. 126 (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 Obviousness

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

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“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, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966); see *United States v. Adams*, 383 U.S. 39, 50-52, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293 (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;

or after March 16, 2013 or (2) a reference under 35 U.S.C. §§ 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.

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wherein said light emitting component comprises a nitride compound semiconductor represented by the formula: $\text{In}^i\text{Ga}^j\text{Al}^k\text{N}$ 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.

'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

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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-to-yellow phosphor with a blue LED to produce a white LED; and (3) a reasonable jury could have found secondary considerations to fail to weigh in favor of patentability. *See Everlight*, 2016 WL 8232553, at *8–9. In particular, the court noted evidence presented at trial that blue LEDs were “well known in the art,” that “it was known that blue LEDs could be combined with phosphors to change the color of the light emitted by the LED,” that “it has been known for over 300 years that mixing blue and yellow light results in white light,” and that “YAG was used in conjunction with blue light sources, including cathode ray tubes, blue lasers and blue mercury vapor lamps, to make white light.” *Id.* at *9. Thus, the court concluded that substantial evidence supported the conclusion that all of the elements of claims 2, 3, and 5 of the ’925 patent were present in the prior art.

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As to motivation to combine, the district court noted that evidence was presented to the jury that (1) there was a large market demand for white LEDs; (2) the gallium nitride blue LED was a revolutionary breakthrough which was necessary to the development of a white LED; (3) testimony from both parties indicated that the invention of the blue LED naturally led to the use of a blue-to-yellow phosphor to produce a white LED; (4) there were a limited number of blue-to-yellow phosphors; and (5) YAG's properties were well-known to skilled artisans at the time of the alleged invention. *Id.* at *10. Thus, the district court found that a reasonable jury could have concluded that the alleged invention was no more than the "combination of familiar elements according to known methods" to "yield predictable results." *Id.* (citing *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007)).

On secondary considerations, the district court noted that although Nichia had presented evidence of commercial success, a reasonable jury could have found that evidence to be undermined by credible doubts raised at trial as to the nexus between the patented features and the success. *See Pregis*, 700 F.3d at 1356 ("The lack of nexus between the claimed subject matter and the commercial success or purportedly copied features . . . renders [] proffered objective evidence uninformative to the obviousness determination."). Furthermore, the court noted, Everlight had presented substantial evidence of simultaneous invention of the alleged invention by Osram, a competitor of Nichia. *Everlight*, 2016 WL 8232553, at *12–13 (citing *Geo. M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d

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1294, 1305 (Fed. Cir. 2010)). Thus, a reasonable jury could have found that secondary considerations did not weigh in favor of nonobviousness.

We agree with the district court that substantial evidence supports the jury verdict of invalidity. Every element of the claimed invention was separately present in the prior art, and the jury heard evidence that a person of ordinary skill at the time of invention would have desired to combine a blue-to-yellow phosphor with a blue LED to produce white light, and would have been aware of YAG as a useful blue-to-yellow phosphor. This evidence is sufficient for a reasonable jury to conclude that the asserted claims would have been obvious. As to secondary considerations, the jury heard evidence which weighed in both directions and evidence attacking the credibility of the various asserted secondary considerations. For example, the jury heard evidence of independent development by Osram of a white LED “within weeks of Nichia.” *Id.* at *12; *see* J.A. 17817–19, 20353–55. Furthermore, the jury heard evidence undermining whether Nichia’s evidence of commercial success and contemporary praise were actually due to the claimed invention and whether Nichia’s expert was unbiased. *See Everlight*, 2016 WL 8232553, at *12–13; *see also* J.A. 18019, 21808, 22447–49 (awards and licenses that cover products beyond the inventions in the Patents-in-Suit). A reasonable jury could have drawn a variety of conclusions regarding the strength and credibility of the evidence. We will not reweigh that evidence here. *See In re Inland Steel Co.*, 265 F.3d 1354, 1366 (Fed. Cir. 2001); *cf. Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009) (“Because the district court

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duly instructed the jury to consider and weigh evidence of secondary considerations, this court sees no reason to disturb the jury's determination that this important factual evidence did not outweigh its assessment of obviousness in light of the prior art.”).

Nichia argues before this court that a person of ordinary skill would not have been motivated to combine a blue LED with a YAG phosphor because (1) the disclosure of blue LEDs in the prior art focused on a so-called “three-color” solution in which multiple phosphors produced a combination of red, green, and blue light to achieve white light rather than the “two-color” solution of the '925 patent (i.e. blue + yellow), Appellant's Br. 30–33; (2) a person of ordinary skill would not have recognized useful properties of YAG phosphors such as moisture resistance, *id.* at 30–33, 47–48; and (3) the prior art discouraged use of YAG with a blue light source because of poor color rendering, *id.* at 43–47. We disagree on all points.

First, it is not necessary that the prior art teach a two-color solution in order for the jury verdict to be supported by substantial evidence.³ It is sufficient that the prior art recognize that blue LEDs can be combined with phosphors to produce varying light profiles,⁴ that

3. Although we do not reach this point, we recognize that both the district court and Everlight pointed to statements in the prior art which suggest a two-color solution. *See, e.g.*, J.A. 18524–27; J.A. 19759 col. 9, ll. 45–50, col. 10, l. 66 – col. 11, l. 6; *see also* '925 patent col. 1, l. 56 – col. 2, l. 7 (describing prior art).

4. We recognize that Everlight's expert made arguably inaccurate statements at trial regarding whether Baretz and Tadatsu

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combination with a blue-to-yellow phosphor would yield white light, and that a strong market demand existed for a white LED. *See Everlight*, 2016 WL 8232553, at *9 (“[I]t was known that blue LEDs could be combined with phosphors to change the color of light emitted by the LED.” (citing trial exhibits and transcript)), *id.* (“[I]t has been known for over 300 years that mixing blue and yellow light results in white light (citing trial transcript)), *id.* at *10 (“[It was an] undisputed fact that there was a large market demand for white LEDs. . . . Nichia’s expert conceded [that] the development of a commercially viable blue LED ‘gave everyone the inventive to move forward to create a simple blue plus yellow LED that emits white light.’” (quoting trial transcript)).

We further disagree that a person of ordinary skill needed to be aware of the moisture-resistant properties of YAG to satisfy the motivation to combine requirement. It is sufficient to support the jury verdict that a person of ordinary skill would desire to combine a blue-to-yellow phosphor with a blue LED and that YAG was one of a limited number of available blue-to-yellow phosphors. *See KSR*, 550 U.S. at 421 (“When there is a design need . . . to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art

disclose a blue-to-yellow phosphor. *See* J.A. 17581–82 (stating that Baretz discloses using blue light and yellow phosphor to achieve white light); *see also* J.A. 17600–08 (making similar statements with respect to Tadatsu). Because other evidence before the jury was sufficient to support a finding of obviousness, and because Nichia had the opportunity to cross-examine Everlight’s expert, we decline to reweigh the evidence presented to the jury.

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has good reason to pursue the known options within his or her technical grasp.”). Given that significant motivation to use a YAG phosphor, it does not matter that YAG may provide properties unappreciated at the time of invention which are superior to other blue-to-yellow phosphors; even if the prior art did not identify all of the problems identified by Nichia in the '925 patent's specification, we have never required a party to prove that all possible problems solved by an invention were known in the prior art. Proof of one motivation to combine, as shown here, is sufficient.⁵

We also disagree that the statements in the prior art that YAG phosphors provided poor color rendering taught away from the claimed invention.⁶ *See* Appellant's Br. 43 (quoting J.A. 19786 (stating YAG “is detrimental

5. Nichia also does not contest that Baretz sought to solve the problem of general degradation by elements such as heat and light, *see* Appellant's Br. 30-31; *see also* Baretz col. 5 ll. 2-8, col. 9 ll. 65-66 (discussing degradation), nor that YAG was known in the prior art to be resistant to at least intense light degradation, *see* Appellant's Br. 12 (“YAG had previously been used in cathode ray tubes but its resistance to light and moisture had not been appreciated because, unlike LEDs, cathode ray tubes are hermitically sealed against moisture.”). “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *KSR*, 550 U.S. 398, 420, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007) (emphasis added).

6. Nichia makes the same arguments for color rendering with respect to lack of reasonable expectation of success and unrecognized problem in the field as with the moisture resistant properties of YAG. *See* Appellant's Br. 47-48. For the reasons stated above, we find these arguments unpersuasive.

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to the colour rendition properties”), 20410 (“The emission contribution of YAG . . . would definitely result in a lower CRI [color rendering index].”). Teaching away is a question of fact and requires a showing that a skilled artisan “would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012). A person of ordinary skill desiring to create a white LED could plausibly look to the cited prior art references despite their statements on color rendition because they aided in the creation of a white LED, which was a highly desired goal. Without additional evidence, the jury could reasonably have found that the color rendition properties of the prior art would not have taught away from the creation of a white LED.

B. The '960 Patent

The '960 patent is directed to a similar LED/phosphor system as the '925 patent without the YAG phosphor limitation. Instead, the '960 patent teaches that the phosphor is concentrated near the surface of the LED chip to minimize environmental degradation. Claim 2 of the '960 patent, the only claim at issue in this appeal, can be written in independent form as follows:

2. A light emitting device which comprises;

a light emitting component having a gallium nitride based semiconductor; and

a resin containing at least one phosphor capable

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of absorbing a part of a first light of blue color emitting from the light emitting component and emitting a second light of wavelength different from that of the absorbed first light, said emission of the second light emitted from at least one fluorescent material and a light of an unabsorbed first light passes through said fluorescent material from said light emitting component, said unabsorbed first light and said second light are capable of overlapping each other to make white light;

wherein a concentration of the phosphor increases from the surface of a resin that contains the phosphor toward the light emitting component.

'960 patent col. 30, l. 65 – col. 31, l. 19. In addition to Baretz and Tadatsu, Everlight presented Japanese Patent Publication No. 52-40959 (JP-959) to demonstrate that the fabrication of resins with a phosphor gradient was known in the prior art. JP-959 describes a process for curing phosphor-infused resins in which gravity is allowed to concentrate the phosphor. Figure 1C of that reference shows that when the resin/chip combination is placed with the chip below the resin, the phosphor concentrates on the surface of the chip. The reference further teaches that the phosphor within the resin “settles downward” and “is concentrated.” J.A. 19881-82. Based on JP-959, Baretz, Tadatsu, and expert testimony from both parties, the jury rendered its verdict of obviousness.

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The district court determined that the jury verdict was supported by substantial evidence because JP-959 disclosed a phosphor gradient in Figure 1C and taught that the phosphor “settles downward” and “is concentrated.” With regard to motivation to combine, the district court found that the jury had heard evidence that Baretz discussed various configurations of the phosphor to avoid degradation, and that there were a limited number of ways to disperse the phosphor within the resin. *See Everlight*, 2016 WL 8232553, at *13.

On appeal, Nichia argues that JP-959 did not in fact disclose the gradient of claim 2 of the '960 patent because Figure 1C was only an intermediate step, and the goal of JP-959 was to concentrate the phosphor on the outer surface of the resin, rather than the inner surface. We agree with Nichia that a person of ordinary skill following the steps of the JP-959 reference to completion would not produce the '960 patent's claimed gradient. However, we conclude that a reasonable jury could find that an artisan of ordinary creativity would be drawn to use the teachings of the JP-959 patent, including that the phosphor “settles downward” and “is concentrated,” and the teachings of Baretz that the phosphor should be configured away from the surface to avoid degradation to produce the phosphor gradient of the '960 patent.

Nichia also argues that a skilled artisan would not be motivated to combine Baretz and JP-959 because Baretz's teachings to avoid “degradation” are insufficient guidance and the specific problem which the phosphor gradient solved, degradation due to moisture, was not identified

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in the prior art. *See* Appellant’s Br. 57–59. We disagree. Baretz teaches that the phosphor should be deployed within the LED assembly in a way that it is “not subject to abrasion, or degradation,” and gives several examples of the ways in which it can be so deployed. J.A. 19768 col. 9, l. 51 – col. 10, l. 19. A reasonable jury could conclude that an artisan of ordinary creativity would assess the phosphor location according to the guidance of Baretz and deploy it near the surface of the LED chip according to the teachings of JP-959.⁷

II. Inequitable Conduct

We review the district court’s factual findings regarding inequitable conduct for clear error, and the ultimate decision as to inequitable conduct for abuse of discretion. *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008). “If the district court’s inequitable conduct determination rests on a clearly erroneous finding of materiality or intent, it constitutes an abuse of discretion and must be reversed.” *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1334 (Fed. Cir. 2011). Generally, “[t]o prove inequitable conduct, the accused infringer must provide evidence that the applicant (1) misrepresented or omitted material information, and

7. Nichia also reiterates its arguments regarding the jury’s alleged failure to weigh its secondary consideration evidence. We reject these arguments for the same reasons stated above for the ’960 patent. Because we conclude that the jury verdict of invalidity is supported by substantial evidence, we decline to address Everlight’s argument that the term “white light” in claim 2 of the ’960 patent is indefinite.

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(2) did so with specific intent to deceive the [U.S. Patent and Trademark Office].” *Id.* Intent must be shown by clear and convincing evidence, and must be “the single most reasonable inference able to be drawn from the evidence.” *Therasense Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc).

Everlight argued before the district court that statements in the ’960 patent specification submitted to the U.S. Patent and Trademark Office (USPTO) that the inventors achieved an LED with peak wavelengths “near 600 nm” were intentionally false. J.A. 60-61. The district court held that Everlight had not shown but-for materiality because it had not sufficiently questioned the inventors to establish a record that their statements to the USPTO were actually false. *Everlight*, 143 F. Supp. 3d at 658–59. The district court additionally concluded that Everlight had not shown specific intent to deceive the USPTO because the single most reasonable inference to be drawn from the evidence was that “the inventors *should have* been more careful in keeping a record of this information and documenting their findings.” *Id.* at 662 (emphasis in original).

We see no reversible error in the district court’s finding that a mere showing that documents should have been submitted to the USPTO but have been lost, without a showing of additional facts probative of intent to deceive, does not rise to the level of specific intent under this court’s precedent. *See Therasense.*, 649 F.3d at 1290 (“In a case involving nondisclosure of information, clear and convincing evidence must show that the applicant

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made a deliberate decision to withhold a known material reference.”) (emphasis in original). Because we agree that the requisite showing of specific intent is lacking, we need not reach the issue of but-for materiality. *See id.* (“To prevail on a claim of inequitable conduct, the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO.”).

CONCLUSION

We have considered all of the parties’ other arguments and find them unconvincing. For the foregoing reasons, the opinion of the district court is

AFFIRMED

Costs

No costs.

**APPENDIX B — OPINION AND ORDER OF THE
UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF MICHIGAN SOUTHERN
DIVISION, FILED JANUARY 19, 2016**

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

Civil Action No. 12-cv-11758

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, Defendant.

January 19, 2016, Decided;
January 19, 2016, Filed

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**OPINION AND ORDER DENYING DEFENDANTS’
MOTION FOR JUDGMENT AS A MATTER OF
LAW OF INFRINGEMENT [#525], DENYING
PLAINTIFFS’ MOTION FOR JUDGMENT AS A
MATTER OF LAW REGARDING ANTICIPATION
OF CLAIMS 2 AND 3 OF U.S. PATENT NO. 5,998,925
[#554], AND DENYING DEFENDANTS’ MOTION
FOR JUDGMENT AS A MATTER OF LAW OF
VALIDITY AND/OR FOR A NEW TRIAL [#556]**

I. INTRODUCTION

Everlight Electronics Co., Ltd. and Emcore Corporation (collectively, “Everlight”) commenced this suit seeking a declaratory judgment of non-infringement, invalidity, and unenforceability of United States Patent No. 5,998,925 (the “’925 Patent”) and United States Patent No. 7,531,960 (the “’960 Patent”), which patents were issued to Nichia Corporation and/or Nichia America Corporation (collectively, “Nichia”). The patents-in-suit relate to light emitting diode (“LED”) technology, and the parties are business competitors in the manufacture and supply of white LEDs. 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.

From April 7, 2015 to April 21, 2015, the first phase of the trial in this matter (“Phase I”) was conducted before a jury. On April 21, 2015 and April 22, 2015, the jury deliberated, and the jury’s verdict was announced on

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April 22, 2015. According to the Verdict Form for Phase I of this case (the “Verdict Form”), the jury unanimously determined that:

1. Everlight did not prove by clear and convincing evidence that claims 2 and 3 of the ‘925 patent are invalid due to anticipation;
2. Everlight proved by clear and convincing evidence that claims 2, 3 and 5 of the ‘925 patent are invalid due to obviousness;
3. Everlight did not prove by clear and convincing evidence that claims 2, 3 and 5 of the ‘925 patent are invalid due to lack of enablement;
4. Everlight proved by clear and convincing evidence that claims 2, 14 and 19 of the ‘960 patent are invalid due to obviousness; and
5. Everlight proved by clear and convincing evidence that claims 2, 14 and 19 of the ‘960 patent are invalid due to lack of enablement.

Further, because the jury determined that each of the six claims at issue were invalid for at least one reason, the jury did not have to (and the jury did not) proceed to consider or determine any of Nichia’s infringement claims against Everlight. 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,

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PgID 42974. 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* Dkt. No. 524, PgID 42975.

The jury was not tasked with addressing 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, 16 and 18, 2015 ("Phase II") to address Everlight's claims of inequitable conduct. On October 20, 2015, the Court ruled in favor of Nichia and against Everlight on Everlight's claim for unenforceability due to inequitable conduct with respect to both the '925 Patent and the '960 Patent. *See* Dkt. No. 601.

Presently before the Court are three motions:

- A. Nichia's Motion for Judgment as a Matter of Law ("JMOL") of Infringement [#525];
- B. Everlight's Motion for Judgment as a Matter of Law Regarding Anticipation of Claims 2 and 3 of the '925 Patent [#554]; and
- C. Nichia's Motion for Judgment as a Matter of Law of Validity and/or for a New Trial [#556].

These matters are fully briefed, and the Court finds that oral argument will not aid in their resolution. Accordingly, these matters will be resolved on the briefs submitted. *See*

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E.D. Mich. L.R. 7.1(f)(2). For the reasons that follow, all three motions are DENIED.

II. FACTUAL BACKGROUND

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 (collectively, "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:

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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

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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.

III. LAW & ANALYSIS

A. Standard of Review

1. Rule 50 Motion for Judgment as a Matter of Law

“Judgment as a matter of law is appropriate when ‘viewing the evidence in the light most favorable to the non-moving party, there is no genuine issue of material fact for the jury, and reasonable minds could come to but one conclusion in favor of the moving party.’” *Tisdale v. Fed. Express Corp.*, 415 F.3d 516, 527 (6th Cir. 2005) (internal citations omitted). In reviewing a Rule 50(b) motion, “the evidence should be viewed in the light most favorable to the party against whom the motion is made, and that party given the benefit of all reasonable inferences.” *Parker v. Gen. Extrusions, Inc.*, 491 F.3d 596, 602 (6th Cir. 2007) (citation omitted). However, while the evidence of record must generally be considered in the light most favorable to the nonmoving party, “when an expert opinion is not supported by sufficient facts to validate it in the eyes of

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the law . . . it cannot support a jury’s verdict.” *Brooke Gp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242, 113 S. Ct. 2578, 125 L. Ed. 2d 168 (1993). A Rule 50(b) motion should be granted only “if ‘reasonable minds could not come to a conclusion other than one favoring the movant.’” *Id.* (citation omitted).

2. New Trial

District courts have broad discretion whether to grant a new trial. *Am. Seating Co. v. USSC Group, Inc.*, 2006 U.S. Dist. LEXIS 60128, at **8-9 (W.D. Mich. Aug. 24, 2006); Fed. R. Civ. P. 59(a). Rule 59 encompasses a wide range of grounds, including errors of law and unfair prejudice to a litigant. *Am. Seating*, 2006 U.S. Dist. LEXIS 60128, at *9. A new trial is warranted on errors in the verdict form if the questions “mislead or confuse the jury, or if they inaccurately frame the issues to be resolved by the jury.” *Chirco v. Charter Oak Homes, Inc.*, 2008 U.S. Dist. LEXIS 29764, at **24-25 (E.D. Mich. Apr. 11, 2008).

B. Nichia’s Motion for JMOL of Infringement

In its Motion for JMOL of Infringement, Nichia moves the Court to amend its Judgment to hold that Everlight infringes the asserted claims of the patents-in-suit, *i.e.*, claims 2, 3, and 5 of the ‘925 Patent and claims 2, 14, and 19 of the ‘960 Patent (the “Asserted Claims”). Most significantly, Nichia asserts that the unrebutted testimony of its expert conclusively establishes Everlight’s infringement of the Asserted Claims. Therefore, Nichia argues, no reasonable jury could conclude that Everlight does not infringe those claims.

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The Court finds that Nichia’s Motion for JMOL of Infringement is governed by the principle that “a judgment of invalidity necessarily moots the issue of infringement.” *TypeRight Keyboard Corp. v. Microsoft Corp.*, 374 F.3d 1151, 1157 (Fed. Cir. 2004) (citing *Sandt Tech., Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1356 (Fed. Cir. 2001), and *Weatherchem Corp. v. J.L. Clark, Inc.*, 163 F.3d 1326, 1335 (Fed. Cir. 1998)). Thus, in a case such as this one, where a jury finds that the patents-in-suit are invalid, there is no need for the jury to reach the issue of infringement.

Nichia’s argues that “infringement and invalidity are fundamentally distinct issues that must be separately decided.” *Commil USA LLC v. Cisco Sys., _U.S._*, 135 S.Ct. 1920, 1929-30, 191 L. Ed. 2d 883 (2015) (“Validity and infringement are distinct issues, bearing different burdens, different presumptions, and different evidence.”); *Cardinal Chem. Co. v. Morton Int’l Inc.*, 508 U.S. 83, 113 S. Ct. 1967, 124 L. Ed. 2d 1 (1993). Neither *Cardinal Chem.* nor *Commil*, however, addresses the issue before the Court, *i.e.*, whether a finding of invalidity renders moot the issue of infringement. As the *TypeRight* court observed, the holding in *Cardinal Chem.* was that “a judgment of non-infringement does not necessarily moot validity issues on appeal.” *TypeRight*, 374 F.3d at 1157 (citing *Cardinal Chem.*, 508 U.S. at 98). In other words, the holding in *Cardinal Chem.* is the converse of what Nichia has asserted, and that holding was reached “because ‘a determination of infringement applies only to a specific accused product or process,’ whereas ‘invalidity operates as a complete defense to infringement for any

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product, forever.” *TypeRight*, 374 F.3d at 1157 (quoting *Weatherchem*, 163 F.3d at 1335-36). Accordingly, the Court rejects Nichia’s argument that the Court erred in not requiring that the jury decide the issue of infringement.

Nichia’s contention that *TypeRight* is inapposite to the issue at hand is also misplaced. The fact that *TypeRight* concerned the Federal Circuit’s dismissing a cross-appeal of the district court’s dismissal of a counterclaim for non-infringement does not make the ruling any less relevant in this case. In both instances, a finding of invalidity precludes a finding of infringement. As the Federal Circuit held in *Weatherchem*, a judgment “that claims are invalid eliminates, as a practical matter, the need to consider on [a motion for JMOL] whether those claims are infringed, even if the accused infringer has filed a counterclaim for a declaratory judgment of noninfringement.” *Weatherchem*, 163 F.3d at 1335. Moreover, as the *Commil* court recognized, “[t]o be sure, *if* at the end of the day, *an act that would have been an infringement or an inducement to infringe pertains to a patent that is shown to be invalid, there is no patent to be infringed.*” *Commil*, 135 S.Ct. at 1929 (emphasis added).

Therefore, as the jury in this case concluded that the patents-in-suit are invalid, there are no patents for the jury to find infringed. Accordingly, the Court denies Nichia’s Motion for JMOL of Infringement.

*Appendix B***C. Everlight's Motion for JMOL Regarding Anticipation of Claims 2 and 3 of the '925 Patent**

In its Motion for JMOL Regarding Anticipation, Everlight states:

In order to preserve its rights for appeal and pursuant to Rule 50(b), Everlight . . . moves the Court to enter judgment as a matter of law that claims 2 and 3 of [the '925 Patent] are anticipated under 35 U.S.C. § 102, and thus are invalid. At trial, Nichia . . . did not dispute that two . . . art references disclosed every element of claims 2 and 3 of the '925 [P]atent. Those references are S. Nakamura, *Present performance of InGaN based blue/green/yellow LEDs*, SPIE Vol. 3002 (Feb. 1997) ("Nakamura SPIE") (P-138) . . . and P. Schlotter, R. Schmidt, and J. Schneider, *Luminescence conversion of blue light emitting diodes*, Applied Physics A: Materials Science & Processing, Vol. 64, p. 417-418 (received Feb. 6, 1997; published Apr. 1, 1997) ("Schlotter") (P-137) Instead, Nichia argued that the references are not prior art because Nichia alleges that claims 2 and 3 are entitled to an earlier priority date. Nichia also made two subsidiary arguments: (1) that the Nakamura SPIE reference was the work of the inventors, and (2) that Schlotter was not an enabling reference. Nichia failed to carry its burden as to any of these arguments.

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Everlight argues, in part, as it did in its motion for summary judgment, that claims 2 and 3 of the '925 Patent cannot rely on any of the priority applications because they do not recite *in haec verba* (*i.e.*, verbatim) the words “a nitride compound semiconductor represented by the formula: $\text{In}_i\text{Ga}_j\text{Al}_k\text{N}$ where $0 \leq i$, $0 \leq j$, $0 \leq k$, and $i+j+k = 1$,” used in claim 1 of the '925 Patent to describe the blue LED semiconductor.¹ For the reasons set forth below, the Court is not persuaded that Everlight is entitled to judgment as a matter of law that claims 2 and 3 of the '925 Patent are invalid as anticipated.

“A determination that a patent is invalid as anticipated under 35 U.S.C. § 102 requires that a prior art reference disclose every limitation of the claimed invention, either explicitly or inherently.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1381 (Fed. Cir. 2007). As set forth in the jury instructions given by the Court,

Everlight has put at issue certain references alleged to be prior art to certain claims of the '925 Patent that are dated earlier than the filing date of the '925 Patent. To establish entitlement to the priority date of any of the foreign priority applications, Nichia must present evidence of entitlement to such priority. The ultimate burden of proving invalidity remains with Everlight.

1. In deciding Everlight's motion for summary judgment, the Court held that “the issues raised by Everlight are factually complex and not amenable to resolution on summary judgment.” Dkt. No. 437, Pg ID 35413.

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In deciding whether claims 2, 3, and 5 of the '925 Patent are entitled to the priority of any of the five Japanese priority applications, you must consider the descriptions of the priority applications from the viewpoint of a person having ordinary skill in the field of technology of the patent when the application was filed. Claims 2, 3, and 5 of the '925 Patent are entitled to the priority of a Japanese priority application if a person having ordinary skill reading the priority application would have recognized that it describes the full scope of the claimed invention as it is claimed in claims 2, 3 and 5 of the '925 Patent and that the inventors actually possessed that full scope by the filing date of the priority application.

Instruction No. 13. Thus, once Everlight came forth with evidence of a *prima facie* case of invalidity of anticipation, Nichia had “to come forward with evidence to the contrary,” *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1305 (Fed. Cir. 2008) (emphasis added), or evidence “that the prior art does not actually anticipate or, as was attempted in this case, that it is not prior art because the asserted claim is entitled to the benefit of a filing date prior to the alleged prior art.” *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008). Then, if Nichia did so, Everlight had the ultimate burden of proving invalidity because that burden remains with the party challenging the validity of the patent, *i.e.*, Everlight. *See, e.g., Id.*; Jury Instruction 13.²

2. As the Court stated when deciding which disputed jury instructions to give, *Technology Licensing Corp.* “modified” the

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There is no dispute that Everlight set forth a *prima facie* case of invalidity of anticipation. Everlight argues that Nichia has not satisfied its burden of coming forward with evidence to prove entitlement to claim priority of the '925 Patent. Claims for priority to an earlier-filed foreign patent application are governed by 35 U.S.C. § 119. Section 119 requires that each foreign application must satisfy the requirements of 35 U.S.C. § 112, which in turn requires that an application both enable a person of ordinary skill in the art to practice the invention and provide an adequate written description of the invention. *See, e.g., In re Ziegler*, 992 F.2d 1197, 1200 (Fed. Cir. 1993). Priority is a fact-based analysis. *Amkor Tech., Inc. v. ITC*, 692 F.3d 1250, 1254 (Fed. Cir. 2012) (priority determination is “based upon underlying factual determinations”). Thus, the priority inquiry focuses on the asserted claims as compared to the actual disclosures of the specification of the earlier foreign applications; expert testimony “cannot override the objective content of [the] documents.” *Anascope Ltd. v. Nintendo of America, Inc.*, 601 F.3d 1333, 1338 (Fed. Cir. 2008).

To satisfy the written description requirement, “the disclosure of the earlier application, the parent, must reasonably convey to one of skill in the art that the inventor possessed the later-claimed subject matter at the

PowerOasis case upon which Everlight relies. *See Nichia Resp.*, Ex. D, at 47-48 (“The *Technology Licensing Corp.* [decision] really modified *Power Oasis* to get to a point where Nichia’s instruction, I think, is more appropriate dealing with the burden of proof, than Everlight’s. So, I’m going to give Nichia’s proposed instruction on prior art and priority.”).

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time the parent application was filed.” *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1158 (Fed. Cir. 1998). This “requires that the written description [of the priority application] actually or inherently disclosed the claim element.” *PowerOasis, Inc.*, 522 F.3d at 1306. To be inherent, the claimed subject matter must be necessarily present in the disclosure even if it is not explicitly mentioned. *Id.*; *Motorola Mobility LLC v. ITC*, 737 F.3d 1345, 1350 (Fed. Cir. 2013) (“Inherency requires more than probabilities or possibilities”). Whether the priority applications satisfy the “written description” requirement is a question of fact. *Technology Licensing Corp.*, 545 F.3d at 1332. “[T]he primary consideration is *factual* and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure.” *Union Oil Co. v. Atlantic Richfield Co.*, 208 F.3d 989, 996 (Fed. Cir. 2000) (quotation omitted; emphasis in original).

The factual inquiry considers both what is expressly and inherently disclosed by the priority applications to a person of skill in the art at the time of filing the application. *EnOcean GmbH v. Face Intern. Corp.*, 742 F.3d 955, 960-62 (Fed. Cir. 2014); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1371-72 (Fed. Cir. 2011). Significantly, however, “[t]he written description requirement does not require the applicant to describe [in the priority application] exactly the subject matter claimed.” *Union Oil Co.*, 208 F.3d at 997 (citations and quotations omitted). *See also Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (“[T]he disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject

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matter at issue.”). *See also, Utter v. Hiraga*, 845 F.2d 993, 998 (Fed. Cir. 1988) (“A specification may, within the meaning of 35 U.S.C. § 112 para. 1, contain a written description of a broadly claimed invention without describing all species that [the] claim encompasses.”).

Nichia contends, and the Court agrees, that Nichia met its burden of “com[ing] forward with evidence to prove entitlement to claim priority to an earlier filing date” by presenting the following facts at trial concerning the relevant chronology prior to July 29, 1997, the date the ‘925 Patent was filed.

Date	Document	Description
July 29, 1996	JP8-198585	First Priority Application (JP1)
Sep. 13, 1996	Nikkei Newspaper	First public disclosure of invention
Nov. 29, 1996	Bando Paper	First publication of invention
Dec. 27, 1996	JP8-3559004	Fourth Priority Application (JP4)
Feb. 1997	Nakamura SPIE	Article describing work of Inventors
Mar. 31, 1997	JP8-081010	Fifth Priority Application (JP5)
Apr. 1, 1997	Schlotter Reference	Two-Page Disclosure

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As Nichia notes, its expert, Dr. Schubert, also gave detailed, limitation-by-limitation testimony as to why the claims were entitled to the priority dates for each of JP1, JP4, and JP5. Nichia Resp., Ex. A, at 42-59. Significantly, Dr. Schubert also ultimately concluded that each of claims 2, 3 and 5 “finds support in each of the Japanese priority applications” (JP1, JP4 and JP5). *Id.* at 60. The Court disagrees with Everlight’s claim that Prof. Schubert was not questioned based on the proper legal standard because he was asked his expert opinion concerning “support” in the Priority Applications. In fact, the priority/written description requirement is often articulated in this manner, as the Federal Circuit recognized in a case that Everlight cites as authority (albeit for another proposition). *See Anascape*, 601 F.3d at 1335 (internal quotations omitted) (“To obtain the benefit of the filing date of a parent application, the claims of the later-filed application must be supported by the written description in the parent”).

The Court also observes that it is undisputed that each of the first four priority applications identified at trial predated Nakamura SPIE, and all five priority applications predated Schlotter. Thus, as Nichia argues, the jury could have eliminated: (a) Nakamura SPIE as a prior art reference by concluding that JP1 and/or JP4 supported the claims (thus eliminating the need to even consider the evidence that Nakamura SPIE discloses the work of the inventors), and (b) Schlotter as a prior art reference by concluding that JP1, JP4 and/or JP5 supported the claims (thereby eliminating any need to consider whether Schlotter is enabling, as it must be to

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anticipate). Moreover, Dr. Schubert based his opinions on his knowledge of the art and the express disclosures of the applications. For example, Dr. Schubert testified that each of the priority applications at JP1, JP4, and JP5 independently provided written support for the semiconductor limitation. *Nichia Resp.*, Ex. A at 46-47, 51, 56. Thus, the Court finds that this is not a case where the testimony was conclusory and contradicted by the priority applications, as Everlight argues. Citing *Anascope Ltd. v. Nintendo of America, Inc.*, 601 F.3d 1333, 1339 (Fed. Cir. 2008) (citation omitted) (“Dr. Howe’s conclusion is not supported by any evidence at all, and cannot override the objective content of these documents.”).

Everlight also contends that Dr. Schubert’s testimony should be disregarded because his “testimony directly contradicted the Court’s claim construction, which renders the testimony irrelevant as a matter of law.” EL Mtn., Pg ID 44716 (citing *Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1224 n.2 (Fed. Cir. 2006)). The Court construed the semiconductor limitation as follows: “comprises a nitride compound semiconductor represented by the formula $\text{In}_i\text{Ga}_j\text{Al}_k\text{N}$, where i is greater than or equal to zero, j is greater than or equal to zero, and k is greater than or equal to zero and where i plus j plus k equals one.” Dkt. No. 129, Pg ID 7077-78. Everlight contends that Dr. Schubert’s testimony was wrong to reduce that term to a “gallium-nitride” semiconductor when he testified:

So I would say this lengthy formula is maybe a formal way of expressing the formula or the

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chemical formula, it's formal, it's comprehensive, it's complete, but a person may just say gallium nitride-based. And gallium nitride-based is more informal, it's more what people in the industry say. That's a difference, but it means the same thing.

EL Mtn., Pg ID 44717. Everlight's argument is undercut by its own expert's testimony, as Dr. Bretschneider likewise testified that "it's a gallium nitride-based semiconductor, that's how we talk about them in the industry." Nichia Resp., Pg ID 46463. Accordingly, the Court is not persuaded by Everlight's argument that Dr. Schubert "ignore[d] that the limitation in question is a specific formula covering a specific range of semiconductor compositions . . ." EL Mtn., Pg ID 44717.

For the reasons set forth above, particularly when drawing all reasonable inferences in favor of Nichia (as the Court must for purposes of this motion), the Court must presume the jury found that claims 2 and 3 are entitled to foreign priority; in fact, the Court must presume that the jury found that claims 2 and 3 are entitled to that priority as of July 29, 1996 (*i.e.*, the filing date of JP1). Based on that conclusion, neither the Nakamura SPIE reference nor the Schlotter reference could constitute prior art. As the Court must treat those references as not being prior art, the Court finds there is no basis for finding the '925 Patent invalid as anticipated. Accordingly, the Court denies Everlight's Motion for JMOL Regarding Anticipation of Claims 2 and 3.

*Appendix B***D. Nichia’s Motion for JMOL of Validity and/or for a New Trial**

A party challenging the validity of a patent has the burden of proving that the patent is invalid by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 131 S. Ct. 2238, 2240, 180 L. Ed. 2d 131 (2011).

At the outset, the Court notes that much of Nichia’s argument relies on a finding that Everlight failed to provide a person of skill in the art (“POSA”) to support Everlight’s obviousness defense. As discussed below, however, the Court concludes that substantial evidence in the record supports a finding that Dr. Bretschneider was a POSA, at least under the definition of POSA that Everlight proffered (through Dr. Bretschneider). *See, e.g.*, Dkt. No. 583, Pg ID 49691-82. Moreover, although Everlight did not cite to expert testimony to rebut several points made by Nichia, such failure does not alter the existence of substantial evidence to support Everlight’s obviousness defense. Finally, the Court also finds that much of Nichia’s motion is simply an attempt to reargue, and have the Court weigh, the evidence. Such an undertaking is not an appropriate avenue for this Court to pursue, however, because the Court does not have the authority to usurp the factual findings of the jury if such findings are supported by substantial evidence.

1. Obviousness as it Relates to Claims 2, 3 and 5 of the ‘925 Patent

Obviousness under 35 U.S.C. § 103 is a question of law based on underlying facts. *Graham v. John Deere Co. of*

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Kansas City, 383 U.S. 1, 17, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966). The underlying factual inquiries are: (1) the scope and content of the prior art, (2) the differences between the claimed invention and the prior art, (3) the level of ordinary skill in the art, and (4) objective indicia of nonobviousness, including such secondary considerations as commercial success, long felt but unsolved needs, and the failure of others. *Id.* at 17-18. *See also Insite Vision, Inc. v. Sandoz, Inc.*, 783 F.3d 853, 858 (Fed. Cir. 2015). “While factual issues may be decided by the jury, the judge remains the “ultimate arbiter on the question of obviousness.” *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515 (Fed. Cir. 1984). “When a jury has found a claim to be obvious, [the Federal Circuit] presumes the jury resolved all factual disputes in favor of the verdict.” *Pregis Corp. v. Kappos*, 700 F.3d 1348, 1354 (Fed. Cir. 2012) (citation omitted). And, while a court must defer to the jury’s factual findings when presented with a JMOL motion, the court must nonetheless review the factual findings for substantial evidentiary support and the ultimate conclusion on obviousness for legal correctness. *Railroad Dynamics*, 727 F.2d at 1513. Thus, courts “review[] 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.*, 700 F.3d at 1354 (citation omitted). For purposes of the instant motion, the key question for purposes of obviousness is whether it would have been obvious to combine a blue InGaN LED with a yellow YAG phosphor based on the disclosures in prior art. *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1363-64 (Fed. Cir. 2008) (citation omitted).

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Nichia moves the Court to amend its judgment finding claims 2, 3 and 5 of the '925 Patent and claims 2, 14 and 19 of the '960 Patent invalid as obvious for the following reasons:

- a. There is no evidence YAG was used in any LED, much less a blue LED; rather, it was only used in unrelated applications such as mercury vapor lighting;
- b. Dr. Bretschneider's reasons for combining disparate art were conclusory and unsupported;
- c. Dr. Bretschneider ignored that much of the prior art relied upon would discourage a POSA from combining the references, and Dr. Bretschneider was not a POSA; and
- d. Dr. Bretschneider's conclusory testimony on secondary considerations failed to rebut the presumption of nonobviousness.

Nichia contends that none of the prior art relied on by Everlight taught the use of YAG in an LED, blue or otherwise. Nichia also argues that the literature relied upon by Dr. Bretschneider: (1) related to the use of YAG in mercury vapor lamps to adjust tone or temperature of already white light (the '283 Philips patent and the Hoffman article), (2) described the discovery and characterization of YAG but did not disclose its use in LEDs (the two Blasse & Bril articles), and (3) did not show a gradient of phosphor, as Dr. Bretschneider suggested (the '959 application).

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Everlight counters that the jury's findings that Claims 2, 3 and 5 of the '925 Patent were obvious are supported by substantial evidence. Everlight contends, in particular, that: (a) both blue InGaN LEDs and YAG phosphors were well-known in the prior art, and (b) a POSA would have been motivated to use a blue InGaN LED with a yellow YAG phosphor to make white light.

a. Impact of Using YAG with LEDs

Nichia argues that Everlight: (1) introduced no evidence that YAG was used in any LED, much less a blue LED, and (2) instead introduced only evidence that YAG was used in unrelated applications such as mercury vapor lighting. Everlight acknowledges that it did not produce evidence that YAG was used in an LED, but as Everlight argues, whether YAG was used in combination with an LED is relevant to invalidity for anticipation, not invalidity for obviousness. *Cohesive Techs.*, 543 F.3d at 1364 (citation omitted) (“[t]he tests for anticipation and obviousness are different”). Everlight did, however, present substantial evidence that both YAG phosphors and blue InGaN LEDs were well known. For example, it offered evidence to show that, prior to 1996, YAG was used in conjunction with blue light sources, including cathode ray tubes, blue lasers and blue mercury vapor lamps, to make white light. EL Resp. at 5, Ex. B at 53-54; Ex. D at 1:39-42; Ex. E at 150; Ex. F at 2:42-60; Ex. G at 89.

Moreover, contrary to Nichia's contention that such prior art was obscure, Everlight introduced evidence that such art was authored by researchers at Philips and

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General Electric, two of the largest lighting companies in the world, and Bell Labs, the largest private research company in the United States. EL Resp., Ex. H at 28. Likewise, substantial evidence was presented that: (a) blue LEDs became well known in the art prior to 1996 (in fact, as early as 1993), EL Resp., Ex. I and J; (b) it was known that blue LEDs could be combined with phosphors to change the color of light emitted by the LED, EL Resp., Ex. I, J, and K at 80-81; and (c) it has been known for over 300 years that mixing blue and yellow light results in white light. EL Resp., Ex. L at 118. Furthermore, in response to Nichia's argument that a POSA would not look to art in the field of fluorescent/mercury vapor lamps to find YAG phosphor for use with the new blue LEDs, Everlight introduced evidence that YAG phosphors would not have been used with blue LEDs prior to 1996 because there were no commercially viable blue LEDs at that time. Thus, the evidence offered by Everlight in support of its argument showed the reasonableness of using YAG phosphors with other blue light sources when attempting to make white light before blue LEDs became commercially viable in 1996. As such, the Court is constrained to conclude that the jury was not persuaded by Nichia's position that YAG would not have been known to a POSA at the time of the invention.

For the reasons set forth above, the Court concludes that the absence of prior art that taught the use of YAG in LEDs does not support a finding that the prior art could not teach the creation of white light LEDs by using blue LEDs and YAG phosphors.

*Appendix B***b. Combination of Disparate Art/Prior Art Would Not Discourage a POSA**

Nichia next argues that Everlight’s evidence regarding motivation for a POSA to combine the prior art references was conclusory, contradicts the evidence in the record, and cannot support a finding of obviousness with respect to any of the Asserted Claims. “A party seeking to invalidate a patent on obviousness grounds must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *InTouch Techs. Inc. v. VGo Communs., Inc.* 751 F.3d 1327, 1347 (Fed. Cir. 2014) (citation omitted) (reversing a JMOL of invalidity due to obviousness because, among other deficiencies, the expert’s opinions on motivation to combine were vague and conclusory). Merely demonstrating that each of the claim elements was known in the prior art is insufficient to support a finding of obviousness. *See KSR*, 550 U.S. at 418.

A “reason for combining disparate prior art references is a critical component of an obviousness analysis; ‘this analysis should be made explicit.’” *InTouch Techs.*, 751 F.3d at 1351 (quoting *KSR*, 550 U.S. at 418 (arguments need to provide an “articulated reasoning with some rational underpinning” to make the asserted combinations)). *See also ActiveVideo Networks, Inc. v. Verizon Communs.*, 694 F.3d 1312, 1327-28 (Fed. Cir. 2012) (affirming JMOL of nonobviousness due to conclusory, factually unsupported

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expert testimony); *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373-74 (Fed. Cir. 2008) (affirming exclusion of vague and conclusory expert testimony regarding obviousness and motivation to combine). Nonetheless, determining whether a motivation to combine exists requires “an expansive and flexible approach,” *KSR*, 550 U.S. at 415, that must “take account of the inferences and creative steps that a person of ordinary skill in the art would employ . . . [because] . . . [c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 418, 420.

Specifically, Nichia contends that Dr. Bretschneider:

1. Relied on Baretz *vis a vis* mercury vapor lamps but such lamps emit light primarily in the UV region, not blue light, and YAG was not mentioned (re: claims 2, 3 and 5 of the ‘925 Patent).
2. Conclusorily stated that a POSA would look to combine Tadatsu with the Blasse & Brill articles, Hoffman or Philips (an opinion Nichia asserts was founded on the false premise that Tadatsu discloses making white light from blue LEDs) (re: claims 2, 3 and 5 of the ‘925 Patent).
3. Used an overly simplistic “snow globe” comparison regarding the concentration gradient with respect to claim 2 of the ‘960 Patent (and claim 14 of the same patent as it related to the prior

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art of sieving *vis a vis* controlled particle size distribution), explaining the “how” but not “why” for creating a concentration distribution in a finished LED component.

4. Failed to explain that Baretz and Tadatsu discourage the use of phosphors such as YAG (which is inorganic, unlike the organic phosphors Nichia states that Baretz teaches are most advantageous and desirable) or why a POSA would ignore the teachings of Tadatsu, who teaches the use of LEDs emitting UV light.
5. Erroneously relied on Philips and Hoffman as it relates to the creation of white light because they describe the use of YAG to modify already existing white light.
6. Should not have been motivated to combine LED art such as Baretz or Tadatsu with the YAG art Dr. Bretschneider identified because, as Dr. Craford testified, Dr. Craford would not look to the fields of CRTs or mercury vapor lamps, which were the predominant fields in which YAG-type phosphors were used at the time of the invention, in his LED work.

Everlight counters that it did introduce evidence that a POSA would have been motivated to combine teachings regarding YAG and blue LEDs at that time. First, as discussed in Section III.D.1.a. above, evidence was introduced at trial regarding YAG research involving

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the combination of yellow light with blue light to make white light. More importantly, the Court finds that the following admitted evidence allowed the jury to find that a POSA would have the motivation to combine teachings regarding YAG and blue LEDs at the relevant time: (1) the undisputed fact that there was a large market demand for white LEDs; (2) in or about 1993, the blue InGaN LED was a revolutionary breakthrough that ended a 20-year effort to develop a commercially viable blue LED (EL Resp. Ex. I and J); (3) as Nichia's expert conceded, the development of a commercially viable blue LED "gave everyone the incentive to move forward to create a simple blue plus yellow LED that emits white light" (EL Resp., Ex. A, at 151-52); (4) there were a limited number of yellow phosphors that could be used with a blue LED to make white light (EL Resp., Ex. A at 138-39) and Nichia does not dispute that YAG was one of those limited potential phosphors; and (5) YAG's properties, including excitation by blue light sources and resistance to harsh operating conditions, were well known, thereby making YAG an obvious choice for combination with blue LEDs (EL Resp., Ex. G at 91). Further, as Dr. Schubert stated, once the blue LED was developed, development of the white LED was "unstoppable." EL Resp., Ex. A at 153. Therefore, the Court finds that it was possible for the jury to conclude, as Everlight argues, that "[t]he combination of familiar elements according to known methods' did 'no more than yield predictable results.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007). Or, as stated in *KSR*, "[w]hen . . . there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." *KSR*, 550 U.S. at 421.

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The Court also finds that evidence at trial allowed the jury to conclude that a POSA would pursue and find that a combination of a blue InGaN chip and a yellow YAG phosphor did not yield unpredictable results but actually converted blue light in the LEDs in the same manner as in other blue light sources. *Id.* at 417 (“if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person’s skill.”). The Baretz patent filed March 26, 1996, is an example of the prior art references that provide explicit teachings to use a blue LED with a yellow phosphor to make white light. *See* EL Resp., Ex. I. Though Baretz relied on mercury vapor lamps and inorganic phosphors to make white light, *id.* at Pg ID 46166, Baretz also disclosed mixing a blue LED with a yellow inorganic phosphor. *Id.* at Pg ID46168 (stating that “an LED operative to emit, for example, monochromatic blue . . . is packaged along with . . . inorganic fluorescers and phosphors . . . which appear as white light.”).

Further, in support of showing that claim 5 requires two phosphors, Everlight notes that Blasse taught the use of multiple YAG phosphors, EL Resp., Ex. C, and Baretz teaches “mixtures” of the phosphor components. EL Resp., Ex. I at Pg ID 46169. Nichia also erroneously argues that Baretz did not teach the use of inorganic phosphors such as YAG. The Baretz patent clearly stated that a blue LED “is packaged along with fluorescent organic and/or inorganic fluorescers and phosphors.” EL Resp., Ex. I at 46168 (emphasis added). In addition, in

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1977, Hoffman taught that YAG is strongly excited by “436-nm Hg radiation,” *i.e.*, blue light from a mercury vapor lamp. EL Resp., Ex. G at 91. Similarly, Nichia’s reliance on Dr. Craford’s testimony as the definitive and/or only possible finding of obviousness is misplaced. Dr. Craford testimony does not alter the fact that the jury was presented with substantial evidence that supplied a factual basis for finding invalidity due to obviousness, particularly as it related to motivation to combine a blue LED with a YAG phosphor.

For the reasons set forth above, the Court concludes that: (1) there was substantial evidence introduced to support Dr. Bretschneider’s reasons for combining disparate art, and (2) Nichia has not established as a matter of law that the prior art would discourage a POSA from combining the references.

c. Dr. Bretschneider as a POSA

Nichia also contests the relevancy of Dr. Bretschneider’s testimony because he was not, Nichia argues, a POSA at the time of conception and does not have the ability to testify about what the knowledge of a POSA was in 1996. Relying on *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1377-78 (Fed. Cir. 2012); *Disney Enters., Inc. v. Kappos*, 923 F.Supp.2d 788, 799 (E.D. Va. 2013) (finding an expert must be a POSA or acquire such knowledge through later diligence). Nichia’s concedes that “Nichia and Everlight presented different definitions of a POSA” (Nichia Mtn., Ex. A at 42-44 and Ex. D at 37), but Nichia argues that Dr. Bretschneider was not a POSA in 1996 under either

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proposal, nor did he offer any testimony regarding later efforts to acquire the knowledge of a POSA as of 1996.

The Court disagrees. Through Dr. Bretschneider, Everlight offered evidence that a POSA is “a person with a Bachelors degree in engineering, chemistry or physics, with four to five years experience working in the LED field, or an advanced degree, such as a Masters or Ph.D. in engineering, physics or chemistry, with little to no experience working with LEDs.” EL Resp., Ex. K at 37. Dr. Bretschneider testified that he met this definition in 1996 because he had a bachelor’s degree in chemical engineering and had been working in the LED field for over seven years. EL Resp., Ex. H at 35, 126, Ex. Q. Nichia contends that, even under Everlight’s definition of POSA, a person must have “industry” experience. As Dr. Bretschneider testified, however, a POSA needed to have “experience working in the field,” not “industrial experience or commercial experience.” EL Resp., Ex. H. at 70, 126. The Court thus finds it was within the province of the jury to determine whether Nichia’s or Everlight’s definition of POSA was appropriate. Further, if the jury accepted Everlight’s definition of POSA, it was within the province of the jury to determine whether a POSA needed “experience working in the field” or “industry” experience. For these reasons, the Court finds that there was substantial evidence presented from which the jury could find that Dr. Bretschneider was a POSA in 1996.

The Court also finds that a jury could have rejected Nichia’s claim that Dr. Bretschneider did not acquire the knowledge of a POSA through diligence because Everlight

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offered substantial evidence to the contrary. *Kappos*, 923 F.Supp. 2d at 799. Specifically, Dr. Bretschneider testified that he had studied over 150 prior art references and applied his knowledge of all of those references to the claims at issue. EL Resp., Ex. H at 50, 56.

d. Secondary Considerations

Nichia relentlessly argues that Everlight failed to rebut Nichia's substantial evidence of secondary indicia of nonobviousness, specifically commercial success. As the Federal Circuit has recognized, secondary considerations must be considered and "evidence of secondary considerations may often be the most probative and cogent evidence in the record." *Eurand, Inc. v. Mylan Pharms., Inc.*, 676 F.3d 1063, 1075-76 (Fed. Cir. 2012) (citations omitted) (emphasis added). Nichia asserts that, because it submitted evidence of secondary considerations, Everlight had the burden to prove by clear and convincing evidence that the patent is invalid in spite of such considerations. *Id.* In Nichia's words, it "introduced an overwhelming amount of evidence of secondary considerations of non-obviousness [at trial,] including the testimony of three fact witnesses (two of whom were third parties) and two experts" with respect to commercial success, long felt unmet need, failure of others, unexpected results, praise, and copying. Nichia also frequently asserts that Everlight fails to offer evidence regarding secondary considerations and relies only on conclusory statements from its expert and attorney argument on cross-examination.

In support of its position that the patents-in-suit enjoyed great commercial success, Nichia contends that

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it showed, through the testimony of Dr. Craford and Dr. Schubert, that sales of white LEDs made from a blue LED and YAG phosphor “achieved large success from the very beginning.”³ Nichia also contends that it submitted significant evidence of: (a) praise through Dr. Doxsee and licenses taken by competitors, namely the licenses to Citizen Electronics, Osram, Philips Lumileds, and others, (b) testimony of Dr. Schubert regarding long felt unmet need, and (c) the unexpected results that led to white LEDs since “[i]t was a use of phosphor outside the conventional domain of application and . . . operation.” Nichia asserts it has established a prima facie case of nexus because its products that are commercially successful also practice the protected invention and are coextensive with it. Citing *Crocs, Inc. v. ITC*, 598 F.3d 1294, 1310-11 (Fed. Cir. 2010).

Everlight counters that Nichia ignores two critical matters when arguing that secondary considerations dictate a finding of nonobviousness. First, and most significantly, the jury was presented with evidence regarding Osram’s near simultaneous development of white LEDs made with YAG phosphor. As stated by Everlight, the “evidence showed Osram independently developed white LEDs using YAG within weeks of Nichia.”

3. Nichia contends that its evidence of commercial success from the beginning shows the fallacy in Everlight’s theory that huge success over time was caused by improvements and, as such, is entitled to judgment as a matter of law. As discussed below, however, the Court finds that Everlight did introduce evidence to support its theory that the huge success over time was the result of improvements. Therefore, that issue also was one for the jury to decide and not one for the Court to decide as a matter of law.

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EL Resp., Pg ID 45919. *See also* EL Resp., Ex N (showing article was received February 6, 1997) and Ex. O (patent application date of September 20, 1996); Ex. H at 16-17, 132-34; Ex. A at 99. The Court finds that such documents, standing alone, may constitute substantial evidence to support a finding of invalidity due to obviousness. *See Geo. M. Martin Co. v. Alliance Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1305 (Fed. Cir. 2010) (“Independently made, simultaneous inventions, made ‘within a comparatively short space of time,’ are persuasive evidence that the claimed apparatus ‘was [obvious]’”).

Second, although Nichia presumed that the jury accepted Nichia’s secondary considerations evidence, such a presumption is erroneous for purposes of this motion—a motion filed by Nichia. The correct presumption is that the jury found in Everlight’s favor with respect to each of the secondary considerations, namely the showing of the critical nexus between any secondary considerations and the claimed invention. *Pregis*, 700 F.3d at 1354. The Court finds that evidence was introduced that, before white LEDs were commercially viable, substantial gains in efficiency transpired. *See, e.g.*, EL Resp., Ex. K at 150-52. In fact, Nichia’s sales data reflects as much; specifically, evidence was offered that: (1) Nichia’s sales increased from were \$2-3 million in U.S. and \$16 million worldwide in 1998 to \$180 million in the U.S. and \$2 billion worldwide in 2012, and (2) Nichia’s annual sales growth rate was 36% in the U.S. and 42% world worldwide through 2012. Nichia’s Mtn. at 15, n.13. Thus, although the evidence can be interpreted as demonstrating that Nichia enjoyed great commercial success from the beginning, the

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evidence could also be interpreted as showing that sales increased as the products became more efficient based on the substantial increase in sales.

The Court also finds that evidence was introduced that undermined and/or contradicted some of the praise relied on by Nichia. Most notably, Nichia's expert, Dr. Craford, was not even aware that one award existed and another award, the 2004 award for a "Warm White LED," was not even given in recognition of the claimed invention of blue LED and YAG phosphor alone. Rather, the 2004 award recognized an invention that also required "newly developed red phosphor" to function. EL Resp., Ex. M at 62, Ex. W. Likewise, substantial evidence was presented that supports the conclusion that the licenses granted by Nichia should not be given any weight as a secondary consideration of nonobviousness. For example, according to Nichia's witness, Dr. Doxsee, at least three of the six licenses Nichia identified were the result of settlement agreements, each of which could have "easily" saved the licensee as much as ten million dollars in litigation costs. EL Resp., Ex. M at 44. Such evidence could be interpreted as showing that the licenses were executed primarily to avoid litigation costs. Evidence also was introduced that Dr. Craford works for Philips, a company that paid nothing to Nichia for the technology and agreed to cooperate and share patents with Nichia. EL Resp., Ex. M at 86-87, Ex. S at 20. Once again, the fact that the evidence could be interpreted in the manner Nichia desires is irrelevant because there is substantial evidence to support a competing interpretation.

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Therefore, for the reasons set forth above, the Court finds that substantial evidence existed to allow the jury to find that secondary considerations favored Everlight rather than Nichia.

e. Conclusion

For the foregoing reasons, the Court concludes that substantial evidence supported the jury's finding that claims 2, 3 and 5 of the '925 Patent are invalid due to obviousness. Accordingly, the Court denies Nichia's Motion for JMOL of Validity for nonobviousness as it relates to claims 2, 3 and 5 of the '925 Patent.

2. Obviousness as it Relates to Claims 2, 14 and 19 of the '960 Patent

As Everlight points out, the '960 Patent is not limited to a YAG phosphor; rather, it claims a blue LED with any yellow-emitting phosphor—with limitations regarding the concentration of the phosphor (claim 2) and the particle size distribution of the phosphor (claims 14 and 19). The Court notes that Nichia's motion devotes little attention to the '960 Patent, specifically. As to the issue of particle size distribution, Nichia's expert stated that sieving was the only means for controlling particle size distribution under that patent. EL Resp., Ex. A at 14-15. At trial, however, Everlight submitted evidence that controlling particle size through sieving was well known in the prior art, something that is not challenged in Nichia's motion. EL Resp., Ex. AA at Pg ID 46350, Ex. BB at Pg ID 46357, Ex. CC at Pg ID 46363, Ex. DD at Pg ID 46374, Ex. EE at Pg ID 46381.

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Nichia also argues that, as to claim 2 of the '960 Patent, the JP-959 Patent does not show a phosphor gradient. At trial, however, Everlight presented evidence that: (1) Figure 1C of the JP-959 Patent discloses the exact phosphor gradient claimed by the '960 patent, and (2) the text of that patent "states that the phosphor is dispersed in the resin and the phosphor 'settles downward' and 'is concentrated.'" EL Resp., Ex. FF at Pg ID 46384-85, 46388.

With respect to motivation to combine, Nichia's arguments regarding the '960 Patent are the same as for the '925 Patent, except that Nichia argues that "[n]one of the prior art used by Everlight at trial provides any motivation for creating a concentration distribution." At trial, however, Dr. Bretschneider testified that "Baretz gives you some clear indications that you need to look at your phosphor and know how it behaves and then decide where you put the phosphor. And the '959 patent gives you some very clear, easy ways to make that happen." EL Resp., Ex. K at 115. One of those ways is to locate the phosphor either close to the LED chip or near the surface of the resin. EL Resp., Ex. I at Pg ID 46169. Further, as noted above, the evidence revealed only three choices for the distribution of phosphor: (1) a uniform phosphor distribution, (2) a phosphor concentration near the chip, and (3) a phosphor concentration near the top surface of the resin.

Nichia's arguments for the balance of the *Graham* factors regarding the '960 Patent are the same as for the '925 Patent. For the reasons discussed in Section III.D.1.,

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the Court finds that those factors do not aid in Nichia's request for relief from judgment of invalidity of claims 2, 14 and 19 of the '960 Patent due to obviousness.

For the reasons stated above, the Court finds that substantial evidence supported the jury's finding that claims 2, 14 and 19 of the '960 Patent are invalid due to obviousness. Accordingly, the Court denies Nichia's Motion for JMOL of Validity for nonobviousness as it relates to claims 2, 14 19 of the '960 Patent.

3. Enablement of Claims 14 and 19 of the '960 Patent

Nichia also moves the Court to enter judgment as a matter of law with respect to Everlight's defense that claims 14 and 19 of the '960 Patent are invalid due to a lack of enablement. Nichia argues that Everlight did not present any evidence of the peak wavelength of Mr. Noguchi's samples but instead misled the Court and the jury with "dominant wavelength" and x,y values, which Nichia argues were not peak wavelength. Nichia Reply, Pg ID 49685. Nichia also contends that Everlight failed to prove that no method described in the '960 Patent or known to a POSA could achieve the claimed range without undue experimentation.

a. The Law

Enablement is a question of law based on underlying facts, and Everlight must prove its defense of lack of enablement by clear and convincing evidence. *See AK Steel*

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Corp. v. Sollac, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003); *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1070 (Fed. Cir. 2005).⁴ 35 U.S.C. § 112 requires that the specification of a patent teach those skilled in the art how to make and use ***the full scope of the claimed invention*** without ‘undue experimentation.’” *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993) (emphasis added). “Although the ultimate determination of whether one skilled in the art could make and use the claimed invention without undue experimentation is a legal one, it is based on underlying findings of fact.” *Warner-Lambert Co. v. Teva Pharms. USA, Inc.*, 418 F.3d 1326, 1336-37 (Fed. Cir. 2005). Where a patent claims a range, the failure to enable one end of a claimed range can result in a finding of nonenablement. *Sollac*, 344 F.3d at 1244. With respect to ranges, however, only “reasonable enablement of the scope of the range” is required. *Id.* Moreover, a claim is not necessarily invalid if some of the claimed combinations are inoperative. *Atlas Powder Co. v. E. I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1576-77 (Fed. Cir. 1984); *see also In re Cook*, 439 F.2d 730, 58 C.C.P.A. 1049, 1056 (C.C.P.A. 1971); *In re Dinh-Nguyen*, 492 F.2d 856, 858-59 (C.C.P.A. 1974).⁵

4. As with obviousness, the evidence concerning enablement must be from the perspective of a POSA. *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014); *Wright Asphalt Prods. Co., LLC v. Pelican Ref. Co., LLC*, 2012 U.S. Dist. LEXIS 73901, *27 (S.D. Tex. May 29, 2012) (witness who is not a POSA cannot provide competent testimony as to enablement).

5. The law of the Federal Circuit’s predecessor, the Court of Customs and Patent Appeals (C.C.P.A.), was expressly adopted by the Federal Circuit in *South Corp. v. United States*, 690 F.2d 1368, 1370 (Fed. Cir. 1982) (*en banc*).

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The Court echoed this law in its jury instructions, wherein it stated that a claimed range is deemed enabled if “at the time of the original filing[, such range is reasonably enabled] without having to conduct undue experimentation.” Instruction No. 12; *Sollac*, 344 F.3d at 1238-39. But, “[a] claim is not necessarily invalid for failure to meet the enablement requirement merely because some of the claimed combinations or parts of the ranges are inoperative.” Instruction No. 12. However, a jury’s verdict of no enablement should be upheld “as long as the factual showing is sufficient to justify the jury’s conclusion on the highly factual issue of whether, under all the circumstances, more than routine experimentation was needed to make the invention work.” *Northpoint Tech., Ltd. v. MDS Am., Inc.*, 413 F.3d 1301, 1310 (Fed. Cir. 2005).

b. Analysis

Nichia asserts that claims 14 and 19 of the ‘960 Patent are enabled as a matter of law and that the Court should amend its judgment finding that claims 14 and 19 of the ‘960 Patent were invalid as not enabled. Nichia argues there is no evidence of lack of enablement of the “peak wavelength” claim limitation. Nichia further argues Everlight offered no evidence to support its contention that the inventors did not enable a peak wavelength as high as “around . . . 600nm,” nor did Everlight prove that various data points from Mr. Noguchi’s notebook on a chromacity diagram show the peak wavelength of the phosphors or how such data points prove non-enablement of the peak wavelength range from 510 nm to 600 nm.

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Nichia then argues that Everlight also failed to address the undue experimentation requirement correctly, first by suggesting that the entire range of wavelengths must be enabled and, second, by failing to offer evidence regarding the eight *Wands* factors. *See In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

The Court finds, however, that Everlight presented evidence at trial that the '960 Patent does not enable the making of phosphors with peak wavelengths above 580 nm and up to 600 nm without undue experimentation. Significantly, Dr. Schubert admitted that the peak wavelength for Example 5 of the '960 Patent was 580 nm, EL Resp., Ex. A at 78, 83, 86-87, and Nichia's experiments using GD substitution showed as much. As such, claims 14 and 19 are invalid because they don't enable one end of the claimed range. *See, e.g., Sollac*, 344 F.3d at 1244; *In re Wright*, 999 F.2d at 1561. As the *Sollac* court stated:

However, as part of the *quid pro quo* of the patent bargain, the applicant's specification must enable one of ordinary skill in the art to practice the full scope of the claimed invention. *Wright*, 999 F.2d at 1561. That is not to say that the specification itself must necessarily describe how to make and use every possible variant of the claimed invention, for the artisan's knowledge of the prior art and routine experimentation can often fill gaps, interpolate between embodiments, and perhaps even extrapolate beyond the disclosed embodiments, depending upon the predictability of the art.

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See Genentech, Inc. V. Novo Nordisk A/S, 108 F.3d 1361, 1366 (Fed. Cir. 1997) (“[A] specification need not disclose what is well known in the art.”); *see also Wands*, 858 F.2d at 736-37 (“Enablement is not precluded by some experimentation, such as routine screening.”). ***But it does mean that, when a range is claimed, there must be reasonable enablement of the scope of the range.***

Sollac, 344 F.3d at 1244 (emphasis added). As discussed above, Everlight introduced evidence that there was not reasonable enablement of the upper end of the range.

As to the *Wands* factors, the record reflects that Dr. Bretschneider discussed the undue experimentation factors when testifying about this limitation. EL Resp., Ex. H at 17-22. Although that discussion may not have been extensive, the fact remains that Dr. Bretschneider did address the *Wands* factors. Everlight also introduced evidence that the inventors failed in attempting to make the phosphors within the claimed range. *Id.* at Ex. HH at 2, Ex. GG at 42. The inventor’s failed attempts to make embodiments of the invention constitutes “strong evidence that the patent specification lacks enablement.” *Ormco Corp. Align Tech., Inc.*, 498 F.3d 1307, 1318-19 (Fed. Cir. 2007).

Therefore, for the reasons stated above, the Court concludes that there was substantial evidence in the record from which the jury could have found a lack of enablement with respect to claims 14 and 19 of the ‘960

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Patent. Accordingly, the Court denies Nichia's Motion for JMOL of Validity based on enablement as it relates to claims 14 and 19 of the '960 Patent.

4. New Trial

Nichia alternatively moves the Court to grant a new trial on invalidity because the Verdict Form was prejudicial against Nichia for two reasons: (a) invalidity and infringement were tied together on the Verdict Form, and (b) the Verdict Form inappropriately motivated the jury to find invalidity to avoid having to make infringement findings on approximately 3,100 items. Plaintiff also seeks a new trial on any infringement issue that the Court denied judgment in favor of Nichia as a matter of law. The Court notes that neither of those two arguments suggest that the questions on the Verdict Form tended to "mislead or confuse the jury, or . . . inaccurately frame[d] the issues to be resolved by the jury." *Chirco*, 2008 U.S. Dist. LEXIS 29764, at **24-25.

In addition, prior to the Court reading the jury instructions and giving the jury the Verdict Form, the Court addressed and rejected Nichia's contention that the Verdict Form inappropriately motivated the jury to find invalidity to avoid having to make infringement findings on approximately 3,100 items. For the same reasons set forth by the Court on the record on April 20, 2015, *see* EL Resp., Ex. S at 98-103, the Court is not persuaded by Nichia's argument in pursuit of a new trial. Finally, as the Court concluded in Section III.B. above, Nichia's contention that it was improper to preclude the jury from

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making a finding on infringement once the jury concluded the patents were invalid is not supported by applicable law. Therefore, the Court rejects Nichia's argument that it was prejudiced by invalidity and infringement being tied together on the Verdict Form.

Accordingly, for the reasons set forth above, the Court denies Nichia's motion for a new trial.

IV. CONCLUSION

For the reasons stated above,

- A. Nichia's Motion for Judgment as a Matter of Law of Infringement [#525] is DENIED;
- B. Everlight's Motion for Judgment as a Matter of Law Regarding Anticipation of Claims 2 and 3 of the '925 Patent [#554] is DENIED; and
- C. Nichia's Motion for Judgment as a Matter of Law of Validity and/or for a New Trial [#556] is DENIED.

SO ORDERED.

Dated: January 19, 2016

/s/ Gershwin A. Drain
GERSHWIN A. DRAIN
UNITED STATES DISTRICT
JUDGE

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**APPENDIX C — DENIAL OF PETITION FOR
REHEARING *EN BANC* OF THE UNITED STATES
COURT OF APPEALS FOR THE FEDERAL
CIRCUIT, DATED MARCH 23, 2018**

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2016-1577, 2016-1611

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,

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.

ON PETITION FOR REHEARING *EN BANC*

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Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK,
MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN,
HUGHES, and STOLL, *Circuit Judges*.

PER CURIAM.

ORDER

Appellants Nichia Corporation and Nichia America Corporation filed a petition for rehearing *en banc*. The petition was first referred as a petition for rehearing to the panel that heard the appeals, and thereafter the petition for rehearing *en banc* was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing *en banc* is denied.

The mandate of the court will issue on March 30, 2018.

FOR THE COURT

March 23, 2018
Date

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court