

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HAAG-STREIT AG,
Petitioner,

v.

EIDOLON OPTICAL, LLC,
Patent Owner.

IPR2018-01311
Patent 6,547,394 B2

Before PATRICK R. SCANLON, SCOTT A. DANIELS, and
ERIC C. JESCHKE, *Administrative Patent Judges*.

JESCHKE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

ORDER
Dismissing Petitioner's Motion to Exclude
Dismissing Patent Owner's Motion to Exclude
37 C.F.R. § 42.64

I. INTRODUCTION

Petitioner, Haag Streit AG, challenges the patentability of claims 1, 5, 6, 8–10, 14–16, and 19 (the “challenged claims”) of U.S. Patent No. 6,547,394 B2 (Ex. 1001, “the ’394 patent”), which is assigned to Patent Owner, Eidolon Optical, LLC.¹ We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons below, we conclude that Petitioner has *not* proven, by a preponderance of the evidence, that any of claims 1, 5, 6, 8–10, 14–16, and 19 of the ’394 patent is unpatentable.

A. *Procedural History*

Petitioner filed a Petition seeking *inter partes* review of the challenged claims. Paper 2 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). We instituted a trial as to all the challenged claims. Paper 9 (“Decision on Institution” or “Dec. Inst.”).

During the trial, Patent Owner filed a Response (Paper 17, “PO Resp.”), Petitioner filed a Reply (Paper 25, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 28, “PO Sur-reply”). Petitioner and Patent Owner filed motions to exclude evidence (Papers 34 and 33, respectively), oppositions to the motions (Papers 36 (Petitioner) and 37 (Patent Owner)), and replies (Papers 39 (Petitioner) and 38 (Patent Owner)).

Petitioner relies on the declaration testimony of Dr. Jianzhong Jiao, Ph.D., filed with the Petition (Ex. 1002, “Jiao Pet. Decl.”) and the Reply (Ex. 1018, “Jiao Reply Decl.”). Patent Owner relies on the declaration testimony of Dr. Michael Lebby, Ph.D., filed with the Response. Ex. 2033

¹ All references to Exhibits 1001–1016 refer to the set of corrected Exhibits filed July 25, 2018.

(“Lebby Decl.”). Oral argument was held on October 9, 2019, and a copy of the transcript of that argument was entered into the record. Paper 43 (“Tr.”).

B. Related Proceedings

On the same day as the filing of the Petition in this proceeding, Petitioner filed an additional petition for *inter partes* review of claims 1, 5, 6, 8–10, 14–16, and 19 of the ’394 patent. *See Haag-Streit AG v. Eidolon Optical, LLC*, IPR2019-01309, Paper 1 (PTAB June 25, 2018) (Petition). We denied institution in that proceeding. IPR2019-01309, Paper 14 (PTAB Jan. 11, 2019) (Decision Denying Institution).

The parties identify active litigation in the U.S. District Court for the Southern District of Ohio involving the ’394 patent: *Eidolon Optical, LLC v. Haag-Streit AG*, No. 1:19-cv-00586 (S.D. Ohio), filed July 19, 2019. Paper 44 at 1–2; Paper 45 at 1. On October 7, 2019, a motion to stay the litigation was filed, seeking to stay the litigation until final resolution of this *inter partes* review proceeding. Paper 44 at 2. A ruling on the motion to stay is currently pending. *Id.*

C. The ’394 Patent

The ’394 patent relates to “a device which is used to illuminate a patient’s eye that has been administered with a fluorescent dye for the purpose of examining the eye for epithelial defects.” Ex. 1001, 1:48–51. According to the ’394 patent, “[t]he invention in its simplest form utilizes four components: a battery, an electrical resistor, an electrical switch and a blue light emitting diode.” *Id.* at 1:51–53.

Figure 1 is reproduced below:

FIG. 1

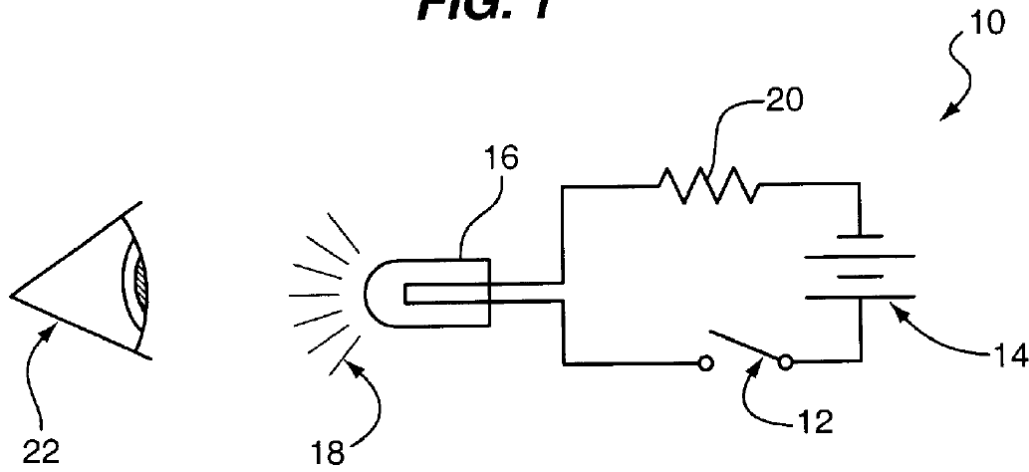


Figure 1 depicts “an electrical schematic of an ophthalmic illuminator utilizing a blue LED source, according to the invention.” Ex. 1001, 1:56–58. Describing Figure 1, the ’394 patent discloses that “when the switch 12 is closed[,] electrical energy from the battery 14 flows through the circuit 10 and causes the blue LED 16 to produce blue light 18.” *Id.* at 2:7–10.² The ’394 patent also discloses that “resistor 20 is used to limit the current that is applied to the LED 16 as per the manufacturer specification[,] which is typically 20 to 30 milli-amps.” *Id.* at 2:10–12.

According to the ’394 patent, the device depicted in Figure 1 “is superior to the current incandescent technology” for three reasons: (1) “the blue LED 16 emits more illumination in the desired blue spectrum (425 to 475 NM) than the filtered incandescent lamp[,] which results in more fluorescence of the fluorescein dyed eye 22 and thus . . . better sensitivity”; (2) “the blue LED 1[6] uses less power than a blue optically filtered

² Throughout this Decision, we omit any bolding of reference numerals in quotations from the ’394 patent, and we also omit any italicization of the names of the prior art references in quotations from the briefing.

incandescent or halogen bulb so that the battery power source 14 should last significantly longer”; and (3) “the invention is simpler to the prior art technology in that there is no need for a blue bandpass optical filter.”

Ex. 1001, 2:25–35.

D. Illustrative Claims

Of the challenged claims, claims 1 and 15 are independent. Claims 5, 6, 8–10, and 14 depend from claim 1, and claims 16 and 19 depend from claim 15.

Claim 1 is reproduced below:

1. An ophthalmic illuminator, comprising:
a battery;
an electrical resistor in circuit with the battery;
an electrical switch in circuit with the resistor;
at least one light emitting diode, in circuit with the switch, for generating blue light energy in response to activation of the switch; and
a fluorescein dye administered to a pat[i]ent’s eye, the dye being responsive to the energy to fluoresce.

Ex. 1001, 4:12–21.

Claim 15 is reproduced below (with paragraph breaks added):

15. A method for illuminating a patient’s eye for ophthalmic examination, comprising the steps of:
administering a fluorescein dye to the patient’s eye,
illuminating the eye with blue light energy generated from one or more light emitting diodes,

the dye being responsive to the blue light energy to fluoresce, and

viewing the patient's eye, and viewing the eye while the dye fluoresces.

Ex. 1001, 5:1–7.

E. Instituted Grounds of Unpatentability

We instituted *inter partes* review of the challenged claims based on the following grounds of unpatentability asserted by Petitioner:

Claims Challenged	35 U.S.C. § ³	Reference(s)
1, 5, 6, 8–10, 14, 19	103(a)	Longobardi ⁴ , Devonshire ⁵
15, 16	102(b)	Longobardi
1, 5, 6, 8–10, 14–16, 19	102(b)	Devonshire

II. DISCUSSION

A. The Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and

³ Because the claims at issue have an effective filing date prior to March 16, 2013 (the effective date of the applicable provisions of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”)), we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103 in this Decision.

⁴ EP 0554643 A1, published Aug. 11, 1993 (Ex. 1004, “Longobardi”).

⁵ GB 2077946 A, published Dec. 23, 1981 (Ex. 1005, “Devonshire”).

educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (internal quotation marks and citation omitted).

Petitioner identifies October 20, 1998—the filing date of U.S. Patent Application No. 09/175,796 (to which the ’394 patent claims priority (Ex. 1001, code (63))) (the “’796 application”)—as the relevant date for purposes of assessing the level of ordinary skill in the art. Pet. 7. According to Petitioner, a person having ordinary skill in

the art of the ’394 Patent as of October 20, 1998, would have had at least a bachelor of science or engineering degree in electrical or mechanical engineering, physics, optics, or a related field, and either an advanced degree (such as a masters) in such a subject or an equivalent amount of work experience, *i.e.* 2–3 years, in an area relating to ophthalmic instrument design and/or fabrication or a related technical field.

Pet. 8 (citing Jiao Pet. Decl. ¶ 31).

In the Decision on Institution, we adopted Petitioner’s proposed level of ordinary skill in the art, stating that it “appear[ed] consistent with the record at th[at] stage of the proceeding.” Dec. Inst. 6. Patent Owner does not address or dispute Petitioner’s proposed definition of the level of ordinary skill in the art. *See generally* PO Resp.; Sur-reply. Petitioner did not further address this issue in the Reply. *See generally* Pet. Reply. We continue to apply Petitioner’s proposed level of ordinary skill in the art in the analysis below.

B. Claim Construction

1. The Applicable Standard

Prior to institution, the parties disagreed on the proper claim construction standard to apply in this proceeding. Petitioner proposed construing any claim terms “using the ‘broadest reasonable interpretation’

standard currently applicable for *inter partes* review,” but stated that, if “the ‘plain and ordinary meaning’ standard was applicable, Petitioner would still propose the same constructions.” Pet. 8–9. Patent Owner, in contrast, stated that the ’394 patent “is set to expire on October 20, 2018” and that, because the patent “will expire before the *inter partes* proceeding can even be instituted, the *Phillips* standard, as opposed to the ‘broadest reasonable interpretation’ standard is proper.” Prelim. Resp. 7.

In the Decision on Institution, we agreed with Patent Owner that the ’394 patent had expired, and agreed that the district-court-type standard applies. Dec. Inst. 7 (citing *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1279 (Fed. Cir. 2017) (“The Board construes claims of an expired patent in accordance with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).”)).

In the Response, Patent Owner summarized our discussion from the Decision on Institution, and then applied the district-court-type standard. See PO Resp. 7–11. In its Reply, Petitioner did not expressly address the applicable claim construction standard, but did cite to *Phillips*. Pet. Reply 8, 9. Petitioner also did not address our discussion in the Decision on Institution that the ’394 patent had expired on October 20, 2018—i.e., twenty years after the filing of the ’796 application. See generally Pet. Reply; Dec. Inst. 7–8; see also Ex. 1001, code (63) (discussing the ’796 application), code (*) (stating that “the term of this patent is extended or adjusted under 35 U.S.C. [§] 154(b) by 0 days”). For purposes of this Decision only, we determine that the ’394 patent expired on October 20, 2018 (prior to the issuance date of the Decision on Institution in this proceeding).

In an *inter partes* review, the Board interprets the claims in an expired patent using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See Wasica Fin.*, 853 F.3d at 1279.⁶ Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

2. Claim Terms Addressed by the Parties

Petitioner proposes a construction for the claim term “ophthalmic illuminator.” Pet. 9. Patent Owner proposes constructions for “ophthalmic illuminator” as well as the following additional claim terms: (1) “light emitting diode . . . for generating blue light energy”; (2) “blue light energy generated from one or more light emitting diodes”; and (3) “electrical resistor.” PO Resp. 7–11. In the Reply, Petitioner addresses the four claim terms discussed by Patent Owner. *See* Pet. Reply 8–14.

⁶ The amended version of 37 C.F.R. § 42.100(b)—which applies the district-court-type standard for *both* expired and unexpired claims—did not go into effect until November 13, 2018, which was *after* the filing date of the Petition in this proceeding. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340 (discussing the “Effective Date” and “Applicability Date”) (Oct. 11, 2018) (now codified at 37 C.F.R. pt. 42).

Based on the full record developed at trial, we determine that we need not expressly construe the terms “ophthalmic illuminator” or “electrical resistor” to assess the patentability issues in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). We discuss the other two claim terms below.

3. “*light emitting diode . . . for generating blue light energy*”

Independent claim 1 recites at least one “light emitting diode . . . for generating blue light energy.” Ex. 1001, 4:17–18. In the Decision on Institution, we discussed why the evidence supports preliminarily construing this phrase to “include[] *only* ‘light emitting diode[s]’ that, in the context of the claimed invention, are *sufficient structure* for performing the function of ‘generating blue light energy.’” Dec. Inst. 9; *see id.* at 11 (construing this phrase “to require that, in the context of the claimed invention, the ‘light emitting diode’ is sufficient structure for ‘generating blue light energy’”). “In other words,” we explained, the phrase at issue “includes *only* instances in which, in the context of the claimed invention, the ‘light emitting diode’ *itself* ‘generat[es] blue light energy.’” *Id.* We stated that this phrase “does not include instances in which, in the context of the claimed invention, the ‘light emitting diode’ *requires* other *unclaimed* structures to perform the function of ‘generating blue light energy.’” *Id.* The parties agree with this construction.

In the Response, Patent Owner quotes some of our statements summarized above and discusses how “[s]uch construction is supported by

the Specification” of the ’394 patent. PO Resp. 8. Although Patent Owner misquotes our preliminary construction in asserting that the phrase at issue “should be construed to mean ‘the light emitting diode is *of* sufficient structure to generate blue light energy’” (*id.* (quoting Dec. Inst. 11, with added word shown with emphasis)), counsel for Patent Owner stated at the oral hearing that this statement was intended to agree with our preliminary construction. Tr. 36:9–18.

Petitioner also agrees with the preliminary construction of this phrase, but uses different language to express the same concept. Specifically, Petitioner states that this phrase “should be construed to mean ‘a light emitting diode, where the diode generates blue light energy.’” Pet. Reply 10. Petitioner adds, however, that “[t]his is the construction that the Patent Owner proposed in its initial response to the Petition and which the Board adopted for purposes of initiating this proceeding.” *Id.* Petitioner takes issue with the phrase “sufficient structure” in Patent Owner’s discussion, stating that “[t]here is nothing in the [’]394 patent or its prosecution history that addresses or mentions the phrase ‘sufficient structure’ of the blue LED.” *Id.* According to Petitioner, the Decision on Institution “found that the LED is the sufficient structure to generate blue light energy. The Board was not saying the LED had to include ‘sufficient structure,’ and it would be improper to read ‘sufficient structure’ into ‘light emitting diode . . . for generating blue light energy.’” *Id.* at 11.

Because the evidence continues to support the preliminary construction and because neither party advocates for a different construction, we maintain the scope of this phrase as provided in our Decision on Institution. See Dec. Inst. 9–11. For added clarity, however, we emphasize

the phrasing from our Decision on Institution providing that the phrase at issue “includes *only* instances in which, in the context of the claimed invention, the ‘light emitting diode’ *itself* ‘generat[es] blue light energy.’” Dec. Inst. 9.⁷ This phrasing of our construction continues to align with the positions of the parties. *See* PO Resp. 8–9 (quoting this phrasing and discussing how it is “supported by the Specification”); Pet. Reply 10 (arguing that the claim language at issue “should be construed to mean ‘a light emitting diode, where the diode generates blue light energy’”); PO Sur-reply 2 (arguing that, under the proper construction, “no other structure is needed other than that of an LED to create the blue light energy”).

For these reasons, we maintain our construction of “light emitting diode . . . for generating blue light energy” as requiring that the “light emitting diode” *itself* generates the “blue light energy.”

4. “*blue light energy generated from one or more light emitting diodes*”

Independent claim 15 recites “blue light energy generated from one or more light emitting diodes.” Ex. 1001, 5:4–5. In the Decision on Institution, we discussed why the evidence supports preliminarily construing this phrase “to require that, in the context of the claimed invention, the ‘one or more light emitting diodes’ are sufficient structure(s) to generate ‘blue light energy.’” Dec. Inst. 11. The parties agree with this construction.

In the Response, Patent Owner refers to its arguments addressing the claim language “light emitting diode . . . for generating blue light energy”

⁷ As indicated by the phrase “[i]n other words” (Dec. Inst. 9), we view this phrasing as equivalent in scope to the “sufficient structure” phrasing (*id.*) focused on in the briefing after institution (*see* PO Resp. 8–10; Pet. Reply 10–11; PO Sur-reply 2).

and asserts that the claim language at issue in this section “should be construed ‘to mean “one or more light emitting diodes are of sufficient structure to generate blue light energy.”’” PO Resp. 9–10 (quoting Dec. Inst. 11, with added word shown with emphasis). Counsel for Patent Owner stated at the oral hearing, however, that this statement was intended to agree with our preliminary construction. Tr. 36:9–18.

Petitioner also agrees with the preliminary construction of this phrase, but uses different language to express the same concept. Specifically, Petitioner states that this phrase “should be construed to mean ‘one or more light emitting diodes, where the diode generated blue light energy.’” Pet. Reply 11. Petitioner adds, however, that “[t]his is the construction that the Patent Owner originally proposed and that the Board adopted.” *Id.* at 11–12. Petitioner again takes issue with the phrase “sufficient structure” in Patent Owner’s discussion, stating that “[f]or the same reasons discussed earlier, there is no justification for reading ‘diodes are of sufficient structure’ into” this claim language. *Id.* at 12. According to Petitioner, “[a]ll that the Board held was that the LEDs are the sufficient structure for generating blue light energy. The Board did not hold that the LEDs had to have a ‘sufficient structure.’” *Id.*

Because the evidence continues to support the preliminary construction and because neither party advocates for a different construction, we maintain the scope of this claim language as provided in our Decision on Institution. See Dec. Inst. 11. For added clarity, however, we revise the phrasing from our Decision on Institution to construe “blue light energy generated from one or more light emitting diodes” to require that the “one or more light emitting diodes” *themselves* generate the “blue light energy.”

C. Asserted Obviousness of Claims 1, 5, 6, 8–10, 14, and 19 Based on Longobardi and Devonshire

Petitioner asserts that claims 1, 5, 6, 8–10, 14, and 19 of the '394 patent are unpatentable under 35 U.S.C. § 103(a) based on Longobardi and Devonshire. Pet. 3–4, 10–34; Pet. Reply 15–37. Patent Owner provides arguments specifically addressing this asserted ground. PO Resp. 20–46; PO Sur-reply 4–23. We begin our analysis with an overview of the asserted prior art and then address the parties' specific contentions.

1. Longobardi

Longobardi discloses “an apparatus for visualizing an object and/or recording images of said object under low lighting conditions.” Ex. 1004, 1:3–5. One disclosed application for the apparatus is for retinal or choroidal angiography. *Id.* at Abstract. Figure 1 of Longobardi is reproduced below:

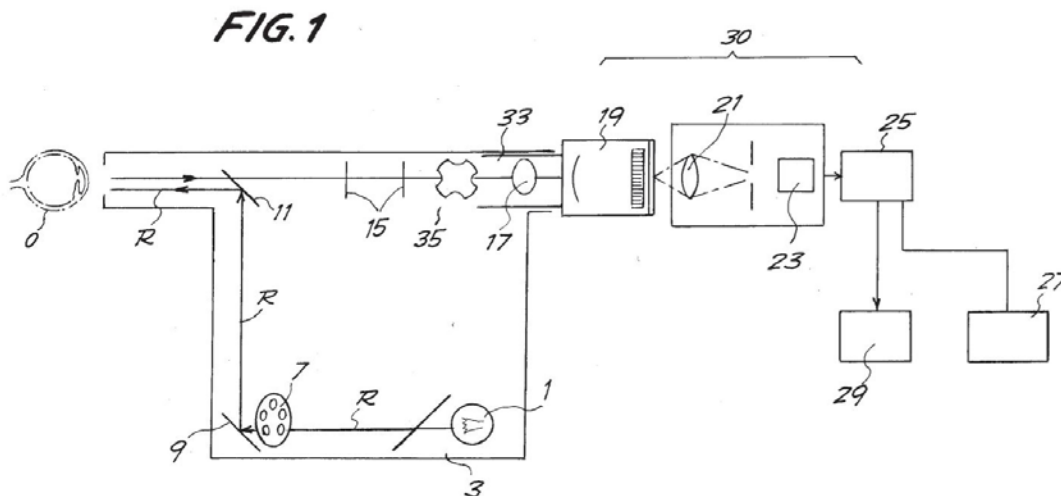


Figure 1 depicts “a diagram of a possible embodiment of the device for retinal angiography.” Ex. 1004, 8:4–5. More specifically, Figure 1 shows a device that

comprises a continuous light source 1 of low power, for example 20 W electric, housed in a main housing body 3. The alignment

source transmits a light beam R toward a filter carried by a filter support ring 7. The said filter support ring may be fitted with various interference filters to be used for various types of observation. In particular, filters with pass bands centered on the typical absorption and fluorescence wavelengths of the various tracers (fluorescein, indocyanine green) used for observation of the various layers of the fundus of the eye may be disposed on said ring. One of the filters carried by the ring 7 may be used both for alignment and for observation of the fluorescence phenomenon. After the filter support ring 7 there is disposed a pair of deflecting mirrors 9 (reflecting) and 11 (semitransparent), which deflect the beam toward the fundus of the patient's eye O.

Ex. 1004, 8:15–34. Figure 1 also shows a light beam from the patient's eye traveling towards viewing section 30. *See id.* at 8:46–9:6. Longobardi provides additional discussion regarding the interference filters:

An interference filter with a suitably predetermined pass band is interposed between the light source and the fundus of the eye. For retinal fluoroscopic angiography, two filters are normally used: one transmits blue light between 465 and 490 nm, representing the absorption peak of the excitation of fluorescein; the other transmits between 525 and 530 nm, where the emission peak of fluorescein is located.

Ex. 1004, 4:7–15.

In Figure 1A, Longobardi discloses an alternate embodiment to the embodiment in Figure 1. Specifically, in the Figure 1A embodiment, a light source consisting of “a set of three light-emitting diodes (LEDs) 1A, 1B, 1C” replaces continuous light source 1, filter support ring 7, and mirror 9 from the Figure 1 embodiment. *See* Ex. 1004, 9:39–43; *see also id.* at 7:30–33 (disclosing that “the light source may be a light-emitting diode (LED), which emits radiation at a predetermined wavelength, instead of an incoherent light source”).

Figure 1A is reproduced below:

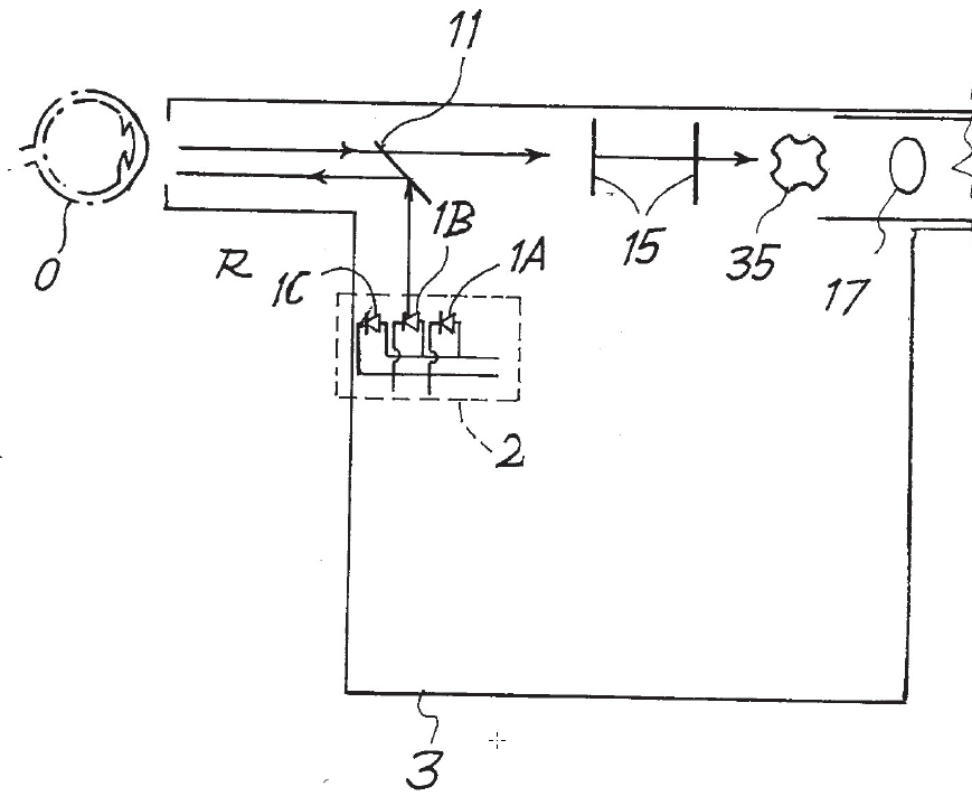


FIG. 1A

Figure 1A depicts “a diagram of a modified embodiment.” Ex. 1004, 8:6. In the Figure 1A embodiment, LEDs 1A, 1B, and 1C “are supported by a movable member 2 . . . in such a way that [the LEDs] can be aligned alternately with the mirror 11.” *Id.* at 9:43–47. Discussing the Figure 1A embodiment as compared to the Figure 1 embodiment, Longobardi discloses that, “[b]y using LEDs which emit at predetermined wavelengths, it is thus possible to avoid the use of interference filters, further simplifying the structure of the equipment.” *Id.* at 9:47–50. According to Longobardi, “[t]his is because each LED emits at one of the wavelengths usable for the examination of the fundus of the eye, and the selection of the correct

wavelength of the light source is made simply by positioning the correct LED in the optical path of the device.” *Id.* at 9:50–55.

2. Devonshire

Devonshire discloses an “indirect ophthalmoscope” to provide images of parts of the eye. Ex. 1005, 1:3–4, 1:30–35. Figure 1 of Devonshire is reproduced below:

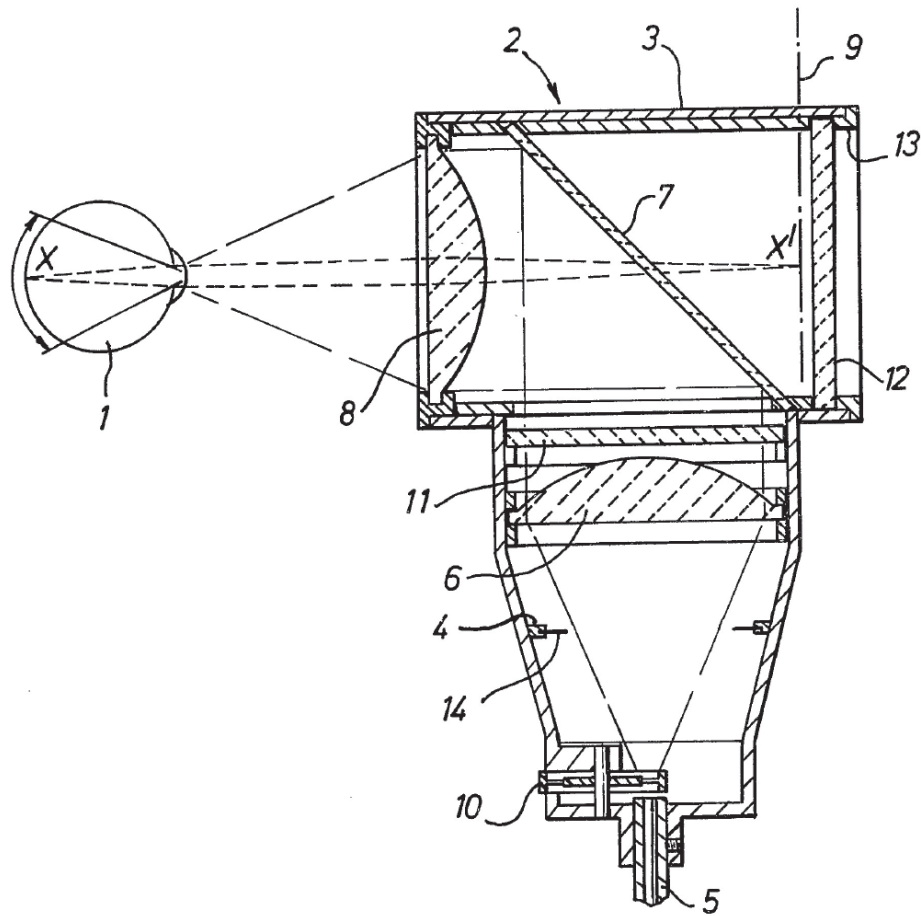


Figure 1 depicts, “in section, an indirect ophthalmoscope embodying” the invention of Devonshire. Ex. 1005, 1:72–74. Specifically, Figure 1 shows

a housing 2 which is generally T-shaped and comprises a cylindrical tube 3 mounted across the wider end of a tapered tube 4. The tube 4 has at its narrow end a fib[er] optic light guide 5 which illuminates a plano-convex lens 6 to form a parallel beam of light which is projected into the tube 3. In [tube 3] is a partly

reflecting and partly transmitting plate 7 mounted obliquely so as to reflect the incident light along the tube 3 onto a plano-convex lens 8 at one end of the tube 3. This lens forms an image of the fib[er] optic light source, of unit magnification, and this image in use is made to coincide with the iris of the patient's eye. The lens 8 also forms an image of the fundus of the eye thus illuminated, in a plane 9 at the opposite end of the tube 3.

Ex. 1005, 1:76–92. Devonshire also discloses that “[t]he tube 4 may be attached to or form part of hand grip which can contain a lamp bulb and battery, and optionally, a dimmer control.” *Id.* at 2:16–18.

In addition, Devonshire discloses that a “filter wheel 10 is mounted on the outer end of the light source tube 4, so that different filters . . . carried by the wheel can be moved into the path of the light from the fib[er] optic light guide 5.” Ex. 1005, 1:93–97. Devonshire discloses that “[t]he instrument can be used, with an appropriate accessory, for fluorescence angiography, with visible radiation (using for example fluorescein) . . . using suitable filters” and that “[t]he fluorescence excitation wavelength is selected by an appropriate filter in the filter wheel 10.” *Id.* at 3:66–75.

3. Analysis

a. Independent Claim 1

Petitioner contends that the proposed combination of Longobardi and Devonshire satisfies each limitation recited in claim 1. Pet. 11–21. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Below, we discuss the parties' positions with respect to the requirement, in claim 1, for “at least one light emitting diode . . . for generating blue light energy in response to activation of the switch” (“the ‘blue light energy’ limitation”). Ex. 1001, 4:17–19.

Petitioner asserts that Longobardi discloses the “blue light energy” limitation. Pet. 19–21; Pet. Reply 18–32. Patent Owner disagrees. PO Resp. 21–32; PO Sur-reply 4–18. Both Petitioner and Patent Owner agree, however, that Longobardi does not *expressly* disclose the beginning portion of the “blue light energy” limitation—specifically, “at least one light emitting diode . . . for generating blue light energy”—as that portion has been construed above: an LED that *itself* generates “blue light energy”⁸ (see *supra* § II.B.3). See Tr. 14:22–15:1 (counsel for Petitioner acknowledging that Longobardi does not “explicitly disclose[a] blue LED”); PO Resp. 28 (“Although Longobardi details the use of three LEDs, it is silent on the color of energy that is emitted from them, and never discusses that any of the LEDs generate blue energy.” (citing Lebbly Decl. ¶ 60)).

Instead, Petitioner asserts that Longobardi *implicitly* discloses a blue LED. Tr. 15:2–5 (PTAB: “[I]s it your position that [Longobardi] implicitly teaches or teaches inherently the blue LED? [Counsel for Petitioner]: I guess I’m going to take the position it implicitly teaches it”); see Pet. Reply 15–22 (discussing “The Law On Implicit Disclosure” before arguing that “Longobardi Teaches The Use Of A Blue LED”). Patent Owner disagrees. PO Resp. 26 (arguing that Petitioner “do[es] not establish that the art implicitly teaches the claim limitation of an LED that itself produces blue light energy”). Thus, the issue before us is whether Petitioner has demonstrated that one of ordinary skill in the art would have understood

⁸ For brevity, and to align with usage by the parties, below, we will refer to an LED that *itself* generates “blue light energy” as a “blue LED” or “blue LEDs.” The language “in response to activation of the switch” in the “blue light energy” limitation is not at issue and will not be discussed further.

Longobardi as implicitly disclosing (i.e., suggesting) the presence of a blue LED. *See IXI IP, LLC v. Samsung Elecs. Co.*, 903 F.3d 1257, 1262–65 (Fed Cir. 2018) (analyzing an implicit disclosure theory in an appeal from the PTAB); *see also In re Burckel*, 592 F.2d 1175, 1179 (CCPA 1979) (“Under 35 U.S.C. § 103, a reference must be considered not only for what it expressly teaches, but also for what it fairly suggests.”); *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976) (“[T]he question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made.”). Before we address the specifics of the parties’ positions on this issue, we address two aspects of the analytical framework: (1) the applicable evidentiary standard and (2) the proper point in time for assessing the alleged implicit disclosures in Longobardi.

First, we address the evidentiary standard. Patent Owner, citing the decision of the United States Court of Appeals for the Federal Circuit in *IXI IP, LLC v. Samsung Electronics Co.*, 903 F.3d 1257 (Fed Cir. 2018), argues that “[a] finding of implicit disclosure must be both reasonable and *supported by substantial evidence.*” PO Sur-reply 4 (emphasis added) (citing *IXI IP*, 903 F.3d at 1259); *see also* PO Sur-reply 6–8, 13, 16 (referring to “substantial evidence”). We disagree with Patent Owner’s proposed evidentiary standard. In *inter partes* reviews, the evidentiary standard for propositions of unpatentability, including factual findings, is a preponderance of the evidence. 35 U.S.C. § 316(e) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”); 37 C.F.R. § 42.1(d) (2017) (“The default evidentiary standard is

a preponderance of the evidence.”). Then, if a decision in an *inter partes* review is appealed to the Federal Circuit, any factual finding will be reviewed for substantial evidence. *See, e.g., IXI IP*, 903 F.3d at 1262 (“We review the Board’s legal conclusions without deference and its factual findings for substantial evidence.” (citing *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015))). Thus, in this proceeding, we apply the preponderance of the evidence standard for factual findings.

On this same issue, Patent Owner takes the position that the evidentiary standard is “higher” because Petitioner relies on an implicit disclosure theory. *See* Tr. 27:26–28:2 (counsel for Patent Owner stating that “[P]etitioner is relying on implicit and that means their burden is higher here. They need to provide substantial evidence that that is the case and they simply have not done that.”). Patent Owner relies on the Federal Circuit’s decision in *Par Pharmaceutical, Inc. v. TWI Pharmaceuticals, Inc.*, 773 F.3d 1186 (Fed. Cir. 2014), for this allegedly “higher” standard, quoting this statement from that decision in its Patent Owner Response:

A party must, therefore, meet a high standard in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis—the limitation at issue necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art.

Par Pharm., 773 F.3d at 1195–96, *quoted, with emphasis added, at* PO Resp. 24. The decision in *Par Pharmaceutical*, however, dealt with *inherent* disclosures, whereas Petitioner’s position here is based on *implicit* disclosure. *See* Pet. Reply 17–18 (“Inherency and implicit disclosure . . . are not the same thing and the Patent Owner is merely trying to obfuscate by conflating the two doctrines.”). In addition, we understand the Federal

Circuit’s reference to a “high standard” in *Par Pharmaceutical* as indicating that the requirement to show *inherency* (again, not relied on by Petitioner here) is an exacting one, not as heightening the evidentiary standard used by the original fact finder. *See Par Pharm.*, 773 F.3d at 1195 (discussing how “our early precedent, and that of our predecessor court, established that the concept of inherency must be limited when applied to obviousness, and is present only when the limitation at issue is the ‘natural result’ of the combination of prior art elements” and how “[o]ur recent precedent does not diminish this conclusion” (quoting *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981))). For these reasons, we apply the preponderance of the evidence standard for the factual issue of whether or not Longobardi implicitly discloses the “blue light energy” limitation, and we do not apply any type of “heightened” standard, as argued by Patent Owner. To satisfy the preponderance of the evidence standard applicable here, the evidence must demonstrate that it is more likely than not that the alleged fact is true. *See Bosies v. Benedict*, 27 F.3d 539, 542 (Fed. Cir. 1994) (noting that the preponderance of the evidence standard “only requires the fact finder ‘to believe that the existence of a fact is more probable than its nonexistence’” (quoting *In re Winship*, 397 U.S. 358, 371 (1970))).

We turn now to the second aspect of the analytical framework for discussion: the proper point in time for assessing the alleged implicit disclosures in Longobardi. Although the parties agree that October 20, 1998—the filing date of the ’796 application to which the ’394 patent claims priority (*see* Ex. 1001, code (63))—is the proper date to assess the level of skill in the art (*see supra* § II.A), the parties *also* agree that the alleged implicit disclosures of Longobardi as to blue LEDs should be assessed as of

Longobardi's filing date of February 5, 1992 (Ex. 1004, code (22)). See Tr. 12:19–21 (PTAB: "So you agree then that the relevant date for whether or not these blue LEDs existed is 1992? [Counsel for Petitioner]: Yes."), 23:17–19 (PTAB: "And what is that relevant timeframe? [Counsel for Patent Owner]: Well, as my brethren said, 1992 is the relevant timeframe here.").

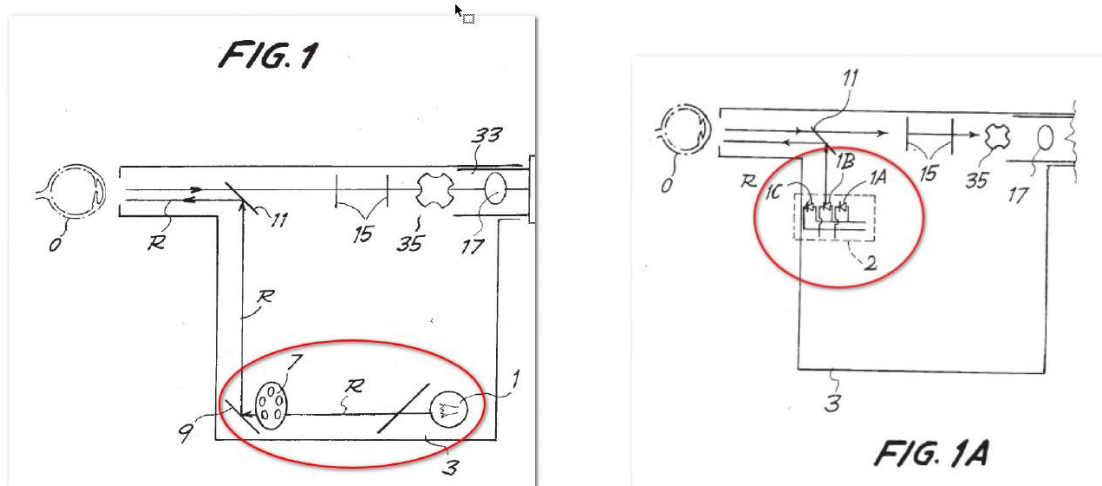
We agree that February 5, 1992, is the proper date for this issue. Here, Petitioner is not proposing to modify an embodiment disclosed in Longobardi with a *later-developed* blue LED to satisfy claim 1. See, e.g., Tr. 43:17–21 (counsel for Petitioner clarifying that Exhibit 1021, which includes a disclosure of "Cree's Super blue LEDs" is "not relied upon as a ground of unpatentability"). Instead, Petitioner takes the position that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of a blue LED with sufficient power output to cause sodium fluorescein to fluoresce (as required by claim 1). See, e.g., Pet. Reply 32 (arguing that one of ordinary skill in the art, "who is charged with knowledge of the prior art, including the output power of blue LEDs at the time of the invention, would have found that Longobardi teaches and suggests the use of a blue LED having sufficient power to cause sodium fluorescein to fluoresce" (citing Jiao Reply Decl. ¶ 21)), 22 ("Longobardi teaches making the same invention of Fig. 1 using LEDs, as shown in Fig. 1A, which expressly includes fluorescence wavelengths for sodium fluorescein, i.e., blue light."); see also Ex. 1001, 4:17–21 (claim 1, reciting, among other limitations, "at least one light emitting diode . . . for generating blue light energy . . . and a fluorescein dye administered to a pat[i]ent's eye, *the dye being responsive to the energy to fluoresce*" (emphasis added)).

It stands to reason that, if blue LEDs with sufficient power output to cause sodium fluorescein to fluoresce *did not*, in fact, exist as of February 5, 1992, Longobardi could not suggest such technology to one of ordinary skill in the art. *See* Tr. 12:15–18 (counsel for Petitioner stating that Patent Owner is “saying if an LED in 1992 . . . didn’t have sufficient optical output power to make sodium fluorescein excite and fluoresce, then it can’t be inherent in Longobardi. I get that.”). For these reasons, one of the issues we discuss below is whether Petitioner has demonstrated, by a preponderance of the evidence, that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce existed as of February 5, 1992.

Having explained these aspects of the analytical framework, we now turn to Petitioner’s positions as to the disclosures in Longobardi. Petitioner highlights three disclosures in support of its arguments. First, Petitioner discusses column 8, lines 15–28. *See* Pet. Reply 19–20; Pet. 20. Petitioner contends that, with this disclosure, “Longobardi teaches that the first embodiment of the invention [(i.e., in Figure 1)] includes interference filters for use with sodium fluorescein” and, based on other disclosures showing that sodium fluorescein fluoresces in the presence of blue light of adequate power, “teaches blue light *generated by a filter* in connection with the invention itself.” Pet. Reply 19, 20 (emphasis added).

Second, Petitioner discusses column 9, lines 37–43 of Longobardi, which provides, in part: “In the embodiment in Fig. 1A (in which identical numbers indicate parts identical or corresponding to those of the embodiment in Fig. 1) the light source consists of a set of three light-emitting diodes (LEDs) 1A, 1B, 1C.” Ex. 1004, 9:39–43, *quoted at* Pet.

Reply 20. Petitioner then provides the following annotated versions of Figures 1 and 1A from Longobardi:



Pet. Reply 21. According to Longobardi, Figure 1 depicts “a diagram of a possible embodiment of the device for retinal angiography” and Figure 1A depicts “a diagram of a modified embodiment.” Ex. 1004, 8:4–6. In the annotated figures above, Petitioner added (1) a red oval around continuous light source 1, filter support ring 7, light beam R, and deflecting mirror 9 in Figure 1, and (2) another red oval around LEDs 1A, 1B, and 1C within movable member 2 in Figure 1A. Pet. Reply 21. According to Petitioner, the annotated figures “illustrate[] that the two are identical embodiments of the same invention with different light sources, the light source in Fig. 1A being a set of three light-emitting diodes (LEDs).” *Id.* at 20.

Third, Petitioner discusses column 9, lines 47–55 of Longobardi. See Pet. Reply 21–22; Pet. 19–20. According to Petitioner, with this passage, “Longobardi teaches substituting the light source in Fig. 1 with the LED light source in Fig. 1A, thereby eliminating interference filters, which in Fig. 1 included a filter for blue light used to excite the sodium fluorescein.” *Id.* at 21–22 (citing Ex. 1004, 8:20–28). After discussing these disclosures,

Petitioner concludes that “Longobardi teaches making the same invention of Fig. 1 using LEDs, as shown in Fig. 1A, which expressly includes fluorescence wavelengths for sodium fluorescein, i.e., blue light.” *Id.* at 22.

We are not persuaded by Petitioner’s argument that one of ordinary skill in the art would have understood Longobardi as implicitly disclosing the presence of a blue LED with sufficient power output to cause sodium fluorescein to fluoresce. Even assuming, for purposes of this Decision, that the first disclosure highlighted by Petitioner teaches (in the context of the Figure 1 embodiment) blue light *generated by a filter* to cause sodium fluorescein to fluoresce, we do not agree with Petitioner that the second disclosure identified above teaches that Figure 1 and Figure 1A depict “identical embodiments of the same invention with different light sources”—i.e., a continuous light source and filter providing blue light in the context of the Figure 1 embodiment and an LED generating blue light in the Figure 1A embodiment. *See* Pet. Reply 20.

Instead, we are persuaded by Patent Owner that “[t]he invention taught in Fig. 1A is more limited than the invention taught in Fig. 1.” PO Sur-reply 14. As argued by Patent Owner, “Fig. 1 is directed to a non-LED light source and does not teach that there is any limitation to the number of filters that can be employed (*id.* (citing Ex. 1004, 8:20–22)), whereas, “[i]n contrast, Longobardi expressly teaches that Fig. 1A is limited to only three LEDs (*id.* (citing Ex. 1004, 9:42–44, Fig. 1A)). Moreover, although Longobardi does, in a passage relied on by Petitioner, state that the Figure 1A embodiment includes several *structures* identical to those in Figure 1 (Ex. 1004, 9:39–43, *quoted at* Pet. Reply 20), Petitioner has not persuasively shown that one of ordinary skill in the art would have understood this to also

indicate that these embodiments share all the same *functionality*, including, for example, the presence of blue light to cause sodium fluorescein to fluoresce. *See, e.g.*, Ex. 1004, 8:20–28 (disclosing the use of tracers *other than* sodium fluorescein (e.g., indocyanine green) for use with the Figure 1 embodiment).

Another reason we are not persuaded by Petitioner’s argument that one of ordinary skill in the art would have understood Longobardi as implicitly disclosing the presence of a blue LED is that, as argued by Patent Owner, *none* of the declaration testimony of Dr. Jiao supports that position. *See* PO Sur-reply 5 (“Petitioner lacks evidence that Longobardi implicitly or inherently teaches an LED sufficient to generate blue light energy itself as required by claim 1. *Petitioner’s expert does not testify as to this fact.*” (emphasis added)), 7 (“Petitioner fails to provide any expert testimony . . . that Longobardi teaches a blue light energy created by the LED.”). Indeed, in the *entire section* of the Reply Brief discussing why Longobardi allegedly implicitly discloses a blue LED, Petitioner *never* cites to Dr. Jiao’s testimony as evidence of how one of ordinary skill in the art would have understood the highlighted passages. *See* Pet. Reply 18–22; *see also* PO Sur-reply 14 (“Petitioner’s attorney arguments that Longobardi implicitly discloses the limitation of at least one LED sufficient to generate blue light energy itself as required by claim 1 are unreasonable.”). “Attorney argument is not evidence.” *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017); *see also Elbit Sys. of Am., LLC v. Thales Visionix, Inc.*, 881 F.3d 1354, 1359 (Fed. Cir. 2018) (citing this aspect of *Icon Health* in the context of an appeal from an *inter partes* review).

In addition, the testimony in Dr. Jiao's Reply Declaration that is cited in Petitioner's Reply (in the part discussing the state of the art of blue LEDs "[i]n 1992" (Pet. Reply 26)) does not actually support Petitioner on the ultimate factual issue here. See Pet. Reply 26–32 (citing Jiao Reply. Decl. ¶¶ 11–21). Instead, most of Dr. Jiao's testimony in these paragraphs summarizes and addresses Dr. Lebby's position on the 1-milliwatt issue (discussing Exhibits 1021 and 1022). See Jiao Reply Decl. ¶¶ 11–20. After that discussion, Dr. Jiao concludes with a paragraph taking the position that one of ordinary skill in the art "at the time of the invention would have found that Longobardi teaches and suggests the use of a blue LED having sufficient power to cause sodium fluorescein to fluoresce." *Id.* ¶ 21. None of Dr. Jiao's testimony, however, actually addresses the state of the art of blue LEDs in 1992, which, as acknowledged by Petitioner, is the relevant point in time to assess the alleged implicit disclosures in Longobardi.

Moreover, in the original declaration filed with the Petition, Dr. Jiao states that one of ordinary skill in the art "would understand Longobardi's teaching of using fluorescein for imaging purposes necessarily means that *the instrument emits blue light*" (Jiao Pet. Decl. ¶ 78 (emphasis added)), but Dr. Jiao does not adequately support the view that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of *a blue LED*. See PO Sur-reply 5 (citing Jiao Pet. Decl. ¶¶ 77, 78, and 115, and arguing that Dr. Jiao "merely concludes that because Longobardi discloses the possibility of using blue light with a filter for an eye examination, which is not an LED, this means that all embodiments disclosed in Longobardi must emits blue light"); PO Resp. 30–31 (discussing Jiao Pet. Decl. ¶ 78 and stating: "Claim 1 of the '394 patent does

not claim that the ‘instrument emits blue light’ but that the light emitting diode generates blue light energy in response to the activation of a switch.”). As argued by Patent Owner, Dr. Jiao’s testimony on this issue “makes no reference to a blue LED.” PO Sur-reply 5; *see also* Jiao Pet. Decl. ¶¶ 74–79 (addressing the “blue light energy” limitation); *see generally* Jiao Reply Decl. (not addressing this issue).

Further supporting the determination that Petitioner has not adequately shown that one of ordinary skill in the art would have understood Longobardi as implicitly disclosing the presence of a blue LED, for the reasons below, we are also persuaded by Patent Owner’s argument that Petitioner has not adequately demonstrated that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *existed* as of February 5, 1992. Patent Owner contends that one of ordinary skill in the art “would not have thought the LED[s] in Longobardi were blue LED[s], given the state of development of blue LEDs at the time” because, “[a]t the time of Longobardi, 1992, an LED capable of generating blue light energy suitable for diagnostic medical applications such as retinal angiography simply did not exist.” PO Resp. 30 (citing Lebby Decl. ¶¶ 35, 61–62, 68, 70–72); *see* Tr. 30:23–24 (counsel for Patent Owner stating that “[P]etitioner has not put forth any evidence to show the blue LEDs at the time had sufficient power to fluoresce sodium fluorescein”), 34:7–10 (counsel for Patent Owner stating that Petitioner has “not provided anything to say that a blue LED that had the amount of power needed to excite sodium fluorescein was available or would have been known even to one of ordinary skill in the art”); *see also* PO Sur-reply 8 (arguing that “blue . . . LEDs were not invented or used for diagnostic medical use at the time of Longobardi”).

In the context of this argument, Patent Owner relies on the testimony of Dr. Lebby, who states, for example:

During the 1980s and early 1990s, Ophthalmoscopes utilized higher performing LED colors such as red, yellow, green and infrared LEDs. The wavelengths emitted from these LEDs allowed the human eye to be observed with reasonable clarity. *Blue LEDs were not used during this time period, as there was no effective blue LED available with reasonable optical output power.*

Lebby Decl. ¶ 35 (emphasis added), *cited at* PO Resp. 30. With this argument, made in the Patent Owner Response (and supported by expert testimony), we view the burden of production on this issue as shifting back to Petitioner to provide evidence that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *did*, in fact, exist as of February 5, 1992, to support the asserted understanding of one of ordinary skill in the art reading Longobardi. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015) (discussing how the burden of production “to argue or produce evidence” shifts on issues but that the “burden of persuasion to prove unpatentability by a preponderance of the evidence . . . never shift[s]” from the petitioner). The ultimate burden on this factual issue did not rest with Patent Owner to somehow prove that such blue LEDs *did not* exist at the pertinent time. *Id.*

In the Reply, Petitioner references alleged “blue LEDs that were commercially available by CREE, Inc. in 1992” and asserts that “Patent Owner’s arguments are wrong in that blue LEDs having sufficient output power to cause sodium fluorescein to fluoresce existed in 1992 at the time of Longobardi.” Pet. Reply 28, 32. When asked, during the oral hearing, for evidentiary support for these statements, Petitioner attempted to rely on

Exhibit 2024. *See* Tr. 13:14–14:18 (counsel for Petitioner generally discussing Exhibit 2024 as potential support). That exhibit, however, was not discussed or relied on in either of Petitioner’s briefs. *Id.* at 38:22–39:20 (counsel for Petitioner discussing Exhibit 2024, but also acknowledging that it was not cited in either brief). We will not further consider Petitioner’s untimely argument as to Exhibit 2024. *See Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (noting that the “Board was obligated to dismiss [the petitioner’s] untimely argument . . . raised for the first time during oral argument”); Patent Trial and Appeal Board Consolidated Trial Practice Guide (“TPG”) 85–86 (Nov. 2019) (discussing how, at the oral hearing, a party “may only present arguments relied upon in the papers previously submitted”), *available at* <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. Petitioner did not identify any other record support for the two assertions as to the alleged state of the art in 1992.

Rather than provide evidence that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *did exist* as of February 5, 1992, in its Reply, Petitioner focused on undermining one specific aspect of Patent Owner’s overall argument on this issue. As *part* of its argument summarized above, Patent Owner asserted that the *specific amount* of power necessary is greater than 1 milliwatt, and that the blue LEDs that did exist in 1992 could not produce outputs at that level. *See, e.g.,* Lebby Decl. ¶¶ 70–71, *cited at* PO Resp. 30; *see also* PO Sur-reply 9–10 (“Patent Owner’s expert corroborates his position that for a blue LED to be effective for commercial applications, the power output for a blue LED needs to be in excess of 1 mW.” (citing Lebby Decl. ¶¶ 55–58)).

Petitioner responded by first asserting that, “[d]uring his deposition, Dr. Lebby confirmed that he had no idea what level of light output power was required to have sodium fluorescein fluoresce.” Pet. Reply 27 (citing Ex. 1025, 128:3–16). Petitioner also highlighted deposition testimony indicating that Dr. Lebby had not verified that the blue LEDs available in 1992 *would not* have had sufficient output power to cause sodium fluorescein to fluoresce. *Id.* at 28–29 (discussing Ex. 1025, 131:25–132:11). Petitioner concluded that Dr. Lebby “has no basis to opine whether no basis whatsoever to opine on whether blue LEDs commercially available in 1992, at the time of Longobardi, were suitable for causing sodium fluorescein to react.” *Id.* at 29.

Petitioner also relied (in addition to Dr. Lebby’s testimony) on two exhibits filed with the Reply. Petitioner relied on Exhibit 1021 for the proposition that “[o]n or about October 20, 1997, the output power of CREE’s most powerful Silicon Carbide blue LEDs was between 500 μ W to 750 μ W, which is well below Dr. Lebby’s unsupported contention that ‘well in excess of 1 mW’ (1,000 μ W) is necessary.” Pet. Reply 30 (citing Ex. 1021, 9⁹; Jiao Reply Decl. ¶ 17). And Petitioner relied on Exhibit 1022 for the proposition that a power output of blue light of 160 μ W (i.e., 0.16 mW) is sufficient to cause sodium fluorescein to fluoresce. *Id.* at 31–32 (discussing Ex. 1022, 1–2¹⁰; Jiao Reply Decl. ¶¶ 18–20).

⁹ Although Petitioner cites Exhibit 1021 at page 2 (Pet. Reply 30), the relevant information appears on page 9.

¹⁰ Although Petitioner cites to the original page numbering in Exhibit 1022, we cite to the page numbers added by Petitioner.

As to the deposition testimony highlighted by Petitioner, as noted by Patent Owner, although Dr. Lebby did not know the specific amount of power output needed for an LED to cause sodium fluorescein to fluoresce, Dr. Jiao, Petitioner's expert, *also* did not know the amount. PO Sur-reply 7 (arguing that Dr. Jiao "[c]ould not testify as to the amount of power needed for a blue LED to cause sodium fluorescein to fluorescence" (citing Ex. 2034, 30:6–22)). Counsel for Petitioner acknowledged this point during the oral hearing. Tr. 38:5–7 ("There was a bunch of discussion about how Dr. Jiao didn't know how much output power was necessary to cause sodium fluorescein to fluoresce and *I don't dispute that* but neither did Dr. Lebby." (emphasis added)).

As discussed above, we view the burden of production on this issue as having shifted back to Petitioner to provide evidence in the Reply that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *did*, in fact, exist as of February 5, 1992, to support the asserted understanding of one of ordinary skill in the art reading Longobardi. Without knowing the amount of power necessary to cause sodium fluorescein to fluoresce, it is unclear how Petitioner could carry its burden on that issue. See PO Sur-reply 10 ("Petitioner criticizes Patent Owner's reliance on the 1mW output power . . . stating Patent Owner lacks evidence of the precise output power an LED that generates blue light energy needs to excite sodium fluorescein. The red herring in such an argument is that neither does Petitioner, and it is the Petitioner's burden to do so."), 6 ("Petitioner doesn't rely on any documentary evidence or testimony to establish the amount of power needed for a blue LED to excite sodium fluorescein, nor does it rely on any documentary evidence or testimony that

the performance of blue LEDs in 1992 would have excited sodium fluorescein.”).

Further, *even assuming* that Petitioner has drawn into question Patent Owner’s position as to the 1-milliwatt issue and *even assuming* that Petitioner is correct that *lower* power outputs are sufficient to cause sodium fluorescein to fluoresce (a finding that we need not and do not make), Petitioner has *still* not identified record evidence tending to show that a blue LED *with even those lower power outputs* existed as of February 5, 1992, to support the asserted understanding of one of ordinary skill in the art reading Longobardi. As argued by Patent Owner and acknowledged by Petitioner, Exhibit 1021 may establish the existence of blue LEDs as of 1997, but not as of 1992. *See* PO Sur-reply 11–12; Pet. Reply 30 (discussing the alleged state of the art as of “October 20, 1997”). Moreover, Petitioner acknowledges that Exhibit 1022 was, at the earliest, received in 1994 and published in 1996. *See* Tr. 39:24–26; *see also* Ex. 1022, 1 (“Originally received: October 6, 1994”), 3 (showing a publication date of “January 1996” at the top). Thus, Petitioner does not rely on Exhibit 1022 as reflecting the state of the art as of 1992. In addition, as argued by Patent Owner, Exhibit 1022 discloses the use of a *laser*, not a blue *LED*. *See* PO Sur-reply 10–11 (citing Ex. 1022, 2).

For the reasons above, Petitioner has not persuasively established the existence, as of February 5, 1992, of a blue LED having sufficient power output to cause sodium fluorescein to fluoresce, and has not shown by a preponderance of the evidence that Longobardi would have been understood by one of ordinary skill in the art as implicitly disclosing the “blue light energy” limitation. Accordingly, we determine, based on the complete

record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 1 would have been obvious based on Longobardi and Devonshire.

b. Dependent Claims 5, 6, 8–10, and 14

Claims 5, 6, 8–10, and 14 depend from claim 1. *See* Ex. 1001, 4:31–39, 4:47–52, 4:64–67. For the reasons discussed above as to claim 1 in the context of this asserted ground, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claims 5, 6, 8–10, and 14 would have been obvious based on Longobardi and Devonshire.

c. Dependent Claim 19

Claim 19 depends from independent claim 15, which Petitioner does not address in the context of this asserted ground. *See* Pet. 10–35. For claim 19 in the context of this asserted ground (based on Longobardi and Devonshire), Petitioner begins by referencing its arguments with respect to claim 15 in the context of the asserted ground of anticipation by Longobardi. *See* Pet. 23–34 (referencing Pet. 35–39). For the reasons discussed below as to claim 15 in the context of the asserted ground of anticipation by Longobardi (*see infra* § II.D.1), we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 19 would have been obvious based on Longobardi and Devonshire.

D. Asserted Anticipation of Claims 15 and 16 by Longobardi

Petitioner asserts that claims 15 and 16 of the '394 patent are anticipated under 35 U.S.C. § 102(b) by Longobardi. Pet. 4, 35–40; Pet. Reply 37. Patent Owner provides arguments specifically addressing this

asserted ground. PO Resp. 46–47; PO Sur-reply 23. In this asserted ground, Petitioner relies on Longobardi (summarized above (*see supra* § II.C.1)).

1. Independent Claim 15

Petitioner contends that Longobardi discloses each limitation recited in claim 15. Pet. 35–39. To support its arguments, Petitioner identifies certain passages in Longobardi and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Below, we discuss the parties’ positions with respect to the requirement, in claim 1, for “illuminating the eye with blue light energy generated from one or more light emitting diodes” (“the ‘illuminating’ limitation”). Ex. 1001, 5:3–5. As discussed above (*see supra* §§ II.B.3–4), we construe the beginning portion of the “blue light energy” limitation (i.e., “at least one light emitting diode . . . for generating blue light energy”) as similar in scope to the ending portion of the “illuminating” limitation (“blue light energy generated from one or more light emitting diodes”).

In the Petition, Petitioner asserts that Longobardi discloses the “illuminating” limitation. Pet. 37–38 (citing Jiao Pet. Decl. ¶¶ 146–151). More specifically, in that discussion, Petitioner essentially repeats the arguments addressing the “blue light energy” limitation in the context of the asserted ground based on Longobardi and Devonshire. *Compare* Pet. 37–38, *with id.* at 19–21. In its Response, Patent Owner refers to its arguments addressing the “blue light energy” limitation in the context of the asserted ground based on Longobardi and Devonshire. *See* PO Resp. 46–47 (referencing PO Resp. 21–32) (citing Lebby Decl. ¶¶ 93–110). In its Reply, Petitioner does the same. Pet. Reply 37 (“The Patent Owner’s only argument is that because Petitioner failed ‘to demonstrate that Longobardi

teaches the claim element of illuminating the eye with blue light energy generated from one or more light emitting diodes' that claims 15 and 16 are not anticipated by Longobardi. Because this is clearly not the case, as demonstrated above, claims 15 and 16 are anticipated by Longobardi.”).

We agree with the parties that the analysis for whether Longobardi implicitly discloses the “illuminating” limitation in claim 15 is essentially the same as whether Longobardi implicitly discloses the “blue light energy” limitation in claim 1. *See, e.g.*, Tr. 6:13–16 (counsel for Petitioner beginning his presentation by stating, “I’m going to jump right in to what I think is the central issue which is the limitation of the first independent claim *which is kind of mirrored in Claim 15 as well*. At least one light emitting diode for generating blue light energy.” (emphasis added)).

For the reasons discussed above as to claim 1 in the context of the asserted ground of Longobardi and Devonshire, Petitioner has not shown by a preponderance of the evidence that Longobardi implicitly discloses the “illuminating” limitation. Accordingly, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 15 is anticipated by Longobardi.

2. Dependent Claim 16

Claim 16 depends from claim 15. *See* Ex. 1001, 5:8–10. For the reasons discussed above as to claim 15 in the context of this asserted ground, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 16 is anticipated by Longobardi.

E. Asserted Anticipation of Claims 1, 5, 6, 8–10, 14–16, and 19 by Devonshire

Petitioner asserts that claims 1, 5, 6, 8–10, 14–16, and 19 of the '394 patent are anticipated under 35 U.S.C. § 102(b) by Devonshire. Pet. 4, 40–59. Patent Owner provides arguments specifically addressing this asserted ground. PO Resp. 47–56. In this asserted ground, Petitioner relies on Devonshire (summarized above (*see supra* § II.C.2)).

1. Independent Claim 1

Petitioner contends that Devonshire discloses each limitation recited in claim 1. Pet. 41–47. To support its arguments, Petitioner identifies certain passages in Devonshire and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Below, we discuss the parties' positions with respect to the “blue light energy” limitation in claim 1.

Petitioner states that Devonshire “inherently discloses” the “blue light energy” limitation. Pet. 45 (citing Jiao Pet. Decl. ¶¶ 175–177). In support, Petitioner quotes portions of Devonshire that provide: “[t]he instrument can be used, with an appropriate accessory, for fluorescence angiography, with visible radiation (using for example fluorescein) . . . using suitable filters The fluorescence excitation wavelength is selected by an appropriate filter in the filter wheel 10” Ex. 1005, 3:65–75, *quoted at* Pet. 45–46. Petitioner argues, “[i]t is known by those skilled in the art that fluorescein dyes fluoresce when illuminated or irradiated with blue light” (citing Jiao Pet. Decl. ¶ 176) and that, “[a]ccordingly, one skilled in the art would understand Devonshire’s teaching to use fluorescein for imaging purposes would necessarily mean that the instrument emits blue light.” Pet. 46.

Patent Owner argues that Petitioner has not shown that Devonshire discloses the “blue light energy” limitation. PO Resp. 48–51. Specifically, Patent Owner contends that claim 1 “does not claim that the ‘instrument emits blue light’ but that the light emitting diode generates blue light energy itself.” *Id.* at 50. According to Patent Owner, “[i]n Devonshire, the blue light is generated not by an LED, but upon the light passing through an appropriate filter.” *Id.* (citing Lebby Decl. ¶ 112). Patent Owner argues that “Petitioner and Dr. Jiao offer no explanation as to why or how an instrument emitting blue light, as taught by Devonshire, meets the claim element of a LED generating blue light energy” because “[a]n LED that generates blue light energy as required by claim 1[] is not identical to the instrument emitting blue light as taught by Devonshire.” *Id.* at 49. According to Patent Owner, “[o]ther than stating that it would have been obvious to [one of ordinary skill in the art], the Petition fails to point to clear evidence that Devonshire teaches a light emitting diode that generates blue light energy.” *Id.* Petitioner did not address this asserted ground in the Reply.

To the extent that Petitioner maintains this asserted ground, we are persuaded by Patent Owner’s argument that Devonshire does not disclose the beginning portion of the “blue light energy” limitation—specifically, “at least one light emitting diode . . . for generating blue light energy”—as that portion has been construed above: an LED that *itself* generates “blue light energy” (*see supra* § II.B.3). The passage quoted by Petitioner (*see* Pet. 45–46) shows that (as argued by Patent Owner), for the LED in Devonshire to generate blue light, “a filter wheel *must* be used.” PO Resp. 50 (emphasis added) (citing Ex. 1005, 3:73–78). We also are persuaded by Patent Owner’s argument that the system in Devonshire—which uses an LED *and* a

filter to generate blue light—would not fall within the scope of the claim language at issue, which requires that that LED *itself* generated “blue light energy.” *See supra* § II.B.3; PO Resp. 50–51 (“Devonshire does not teach that the LED generates the blue light, as the blue light energy results from passing through a filter in Devonshire.” (citing Ex. 1001, 2:10–11)).

For the reasons above, Petitioner has not shown by a preponderance of the evidence that Devonshire discloses the “blue light energy” limitation. Accordingly, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 1 is anticipated by Devonshire.

2. Dependent Claims 5, 6, 8–10, and 14

Claims 5, 6, 8–10, and 14 depend from claim 1. *See* Ex. 1001, 4:31–39, 4:47–52, 4:64–67. For the reasons discussed above as to claim 1 in the context of this asserted ground, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claims 5, 6, 8–10, and 14 are anticipated by Devonshire.

3. Independent Claim 15

Petitioner contends that Devonshire discloses each limitation recited in claim 15. Pet. 55–58. To support its arguments, Petitioner identifies certain passages in Devonshire and explains the significance of each passage with respect to the corresponding claim limitation. *Id.*

In the Petition, Petitioner asserts that Devonshire discloses the “illuminating” limitation. Pet. 56–57 (citing Jiao Pet. Decl. ¶¶ 220–223). More specifically, in that discussion, Petitioner essentially repeats the arguments addressing the “blue light energy” limitation in claim 1 in the context of this asserted ground. *Compare* Pet. 56–57, *with id.* at 45–46. In

its Response, Patent Owner refers to its arguments addressing the “blue light energy” limitation in claim 1 in the context of this asserted ground. *See* PO Resp. 56–57 (referencing PO Resp. 48–51) (citing Lebby Decl. ¶¶ 95–97). Petitioner did not address this asserted ground in the Reply.

We agree with the parties that the analysis for whether Devonshire discloses the “illuminating” limitation in claim 15 is essentially the same as whether Devonshire discloses the “blue light energy” limitation in claim 1. For the reasons discussed above as to claim 1 in the context of this asserted ground, Petitioner has not shown by a preponderance of the evidence that Devonshire discloses the “illuminating” limitation. Accordingly, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claim 15 is anticipated by Devonshire.

4. Dependent Claims 16 and 19

Claims 16 and 19 depend from claim 15. *See* Ex. 1001, 5:8–10, 6:6–8. For the reasons discussed above as to claim 15 in the context of this asserted ground, we determine, based on the complete record, that Petitioner has not demonstrated by a preponderance of the evidence that claims 16 and 19 are anticipated by Devonshire.

F. Motions to Exclude Evidence

1. Petitioner’s Motion to Exclude Evidence

Petitioner moves to exclude: (1) Exhibits 2017, 2018, 2022, 2023, 2028, and 2030; (2) Exhibit 2014; and (3) portions of Dr. Lebby’s Declaration (Exhibit 2033). *See* Paper 34. We address each in turn below.

a. Exhibits 2017, 2018, 2022, 2023, 2028, and 2030

Petitioner argues that Exhibits 2017, 2018, 2022, 2023, 2028, and 2030 should be excluded as not properly authenticated. Paper 34 at 2–4. According to Petitioner, “Patent Owner relies on the Declaration of Alissa A. Digman, Esq. (Exhibit 2013), counsel for Patent Owner, to try to authenticate them,” but “[t]here is nothing in Ms. Digman’s declaration to indicate that she is a web master or someone else with personal knowledge of each of the websites.” *Id.* at 3.

Patent Owner responds that Petitioner’s “arguments fail because a webmaster is not required to authenticate this type of evidence, namely websites that at the time of production were currently available, and Ms. Digman has sufficient personal knowledge to establish that the documents are what they purport to be as required by FRE 901.” Paper 37 at 2 (referencing Ex. 2013). According to Patent Owner, “the Exhibits along with Ms. Digman’s Declarations sufficiently identify the source of the documents and provide the information necessary for anyone, including Petitioner and the Board, to verify that the print outs are true and accurate copies of what Patent Owner purports them to be.” *Id.* at 4.

We dismiss Petitioner’s motion as to these exhibits as moot because we do not rely on them in this Decision. *See* TPG 79–80.

b. Exhibit 2014

Petitioner argues that the entirety of Exhibit 2014 should be excluded as not properly authenticated. Paper 34 at 4–6. According to Petitioner, the declaration from counsel for Patent Owner is insufficient, Dr. Lebby does not authenticate the exhibit, and the exhibit is not self-authenticating. *Id.* at 4–5. If the exhibit is not excluded in its entirety as not properly

authenticated, Petitioner argues that this statement from that exhibit should be excluded as hearsay: “For LEDs to be useful for real world applications, the light output power needs to be well in excess of 1mW.” *Id.* at 5–6 (quoting Ex. 2014, 9).

Patent Owner responds that the original declaration by counsel and supplemental evidence provided adequate authentication for Exhibit 2014. Paper 37 at 4–6 (discussing Exs. 2013, 2036, 2037). Patent Owner also argues that “[u]se of an article is not hearsay if the article is being offered as to what it describes to an ordinary artisan, and not for proving the truth of the matters asserted in the document.” *Id.* at 6 (citing *Biomarin Pharm. Inc., v. Genzyme Therapeutic Prods. Ltd.*, IPR2013-00537, Paper 79 at 25 (PTAB Feb. 23, 2015)). According to Patent Owner, its “Response relies on Exhibit 2014 for what it describes to an ordinary artisan, and not for the truth of the matter asserted.” *Id.*

As discussed above (*see supra* § II.C.3.a), to resolve the dispute between the parties here, we need not make a determination one way or the other regarding Patent Owner’s assertion as to the *specific amount* of power necessary to cause sodium fluorescein to fluoresce. Instead, the outcome here follows from the determination that Petitioner (who has the overall burden of persuasion as to unpatentability) has not persuasively established the existence, as of February 5, 1992, of a blue LED having sufficient power output to cause sodium fluorescein to fluoresce. Accordingly, we dismiss Petitioner’s motion as to Exhibit 2014 as moot because we need not rely on that exhibit (or the specific statement highlighted by Petitioner) in this Decision. *See* TPG 79–80.

c. Portions of Exhibit 2033

Petitioner asserts that portions of Dr. Lebby's Declaration (Exhibit 2033) should be excluded on multiple grounds. Paper 34 at 6–10. First, Petitioner highlights paragraph 71, which Petitioner contends Patent Owner relies on “to establish, in part, that in 1992 blue LEDs could not be used for real world applications, such as in medical devices, as the light output needs to be well in excess of 1 mW.” *Id.* at 6 (citing Ex. 2033 ¶ 71). According to Petitioner, “[t]his testimony lacks personal knowledge and is based on inadmissible hearsay in an unauthenticated document (Exhibit 2014) that has not been properly authenticated.” *Id.* Second, Petitioner argues that, in paragraph 56, Dr. Lebby improperly relies on the alleged hearsay statement from Exhibit 2014 previously referenced—“For LEDs to be useful for real world applications, the light output power needs to be well in excess of 1 mW”—for “the truth of the matter asserted.” Paper 34 at 7 (citing Ex. 2033 ¶ 56). Third, Petitioner argues that, in paragraphs 55, 57, and 105 of his Declaration, Dr. Lebby expands on this “single sentence of inadmissible hearsay from an unauthenticated document.” *Id.* at 7–8. According to Petitioner, Dr. Lebby “has no personal knowledge whatsoever as to the truth of the matter asserted in the cited sentence from Exhibit 2014.” *Id.* at 8.

Patent Owner responds that the highlighted portions of Dr. Lebby's Declaration should be not excluded because they do not rely exclusively on Exhibit 2014, and because, for the reasons argued by Patent Owner, Exhibit 2014 should not be excluded. Paper 37 at 7–8. Patent Owner asserts that “personal knowledge is not a requirement for expert testimony.” *Id.* at 9.

As discussed above (*see supra* §§ II.C.3.a, II.F.1.a), to resolve the dispute between the parties here, we need not make a determination

regarding Patent Owner's assertion as to the *specific amount* of power necessary to cause sodium fluorescein to fluoresce. Accordingly, we dismiss Petitioner's motion as to the highlighted portions of Exhibit 2033 as moot because we do not rely on them in this Decision. *See* TPG 79–80.

2. Patent Owner's Motion to Exclude Evidence

We now turn to Patent Owner's motion, in which Patent Owner seeks to exclude: (1) Exhibit 1021 and paragraph 17 of Dr. Jiao's Reply Declaration (Exhibit 1018); (2) Exhibit 1022 and paragraphs 18–20 of Dr. Jiao's Reply Declaration; and (3) Exhibits 1041–1043.¹¹ *See* Paper 33. We address each in turn below.

a. Exhibit 1021 and Paragraph 17 of Exhibit 1018

Patent Owner argues that Exhibit 1021 should be excluded as not properly authenticated, as inadmissible hearsay, and as irrelevant, and that paragraph 17 in Dr. Jiao's Reply Declaration (which relate to Exhibit 1021) should be excluded as well. Paper 33 at 3–9. As to authentication, Patent Owner argues that, with the single paragraph in the declaration by counsel, Petitioner has not provided adequate background to authenticate Exhibit 1021. *Id.* at 3–4 (discussing Ex. 1017 ¶ 4). Patent Owner also argues that Exhibit 1021 is inadmissible hearsay because “Petitioner relies on Exhibit 1021, an out of court statement, to attempt to prove that in 1997 CREE offered a blue LED with a specific output power.” *Id.* at 6. Patent Owner asserts that Dr. Jiao relies on Exhibit 1021 for a similar proposition. *Id.* (citing Ex. 1018 ¶ 17). Finally, Patent Owner argues that Exhibit 1021 is

¹¹ Patent Owner originally sought to exclude Exhibits 1017–1024 as untimely. Paper 33 at 2–3. Patent Owner later withdrew that portion of its motion. Paper 38 at 1.

irrelevant because “there is no evidence that Exhibit 1021 is relevant to the state of the art at the relevant time periods.” *Id.* at 8.

Petitioner responds that certain supplemental evidence provided to Patent Owner “is more than sufficient to support a finding that Exhibit 1021 is what it purports to be.” Paper 36 at 4 (discussing Exs. 1041, 1042). Petitioner also argues that Exhibit 1021 is not hearsay and, even if it was, falls under two exceptions. *Id.* at 6 (discussing FRE 803(17) and 803(6)). Finally, Petitioner asserts that Exhibit 1021 is “highly relevant and directly rebut[s] arguments raised by Patent Owner in its Response” in that it “illustrate[s] that the state of the art prior to the ‘394 patent was less than 1 mW.” *Id.* at 7.

As discussed above (*see supra* §§ II.C.3.a, II.F.1.a), to resolve the dispute between the parties here, we need not make a determination regarding Patent Owner’s assertion as to the *specific amount* of power necessary to cause sodium fluorescein to fluoresce. Accordingly, we dismiss Patent Owner’s motion as to Exhibit 1021 and paragraph 17 of Dr. Jiao’s Reply Declaration (Exhibit 1018) as moot because we do not rely on them in this Decision. *See* TPG 79–80.

b. Exhibit 1022 and Paragraphs 18–20 of Exhibit 1018

Patent Owner argues that Exhibit 1022 should be excluded as inadmissible hearsay and as irrelevant, and that paragraphs 18–20 in Dr. Jiao’s Reply Declaration (which relate to Exhibit 1022) should be excluded as well. Paper 33 at 9–12. Patent Owner argues that Exhibit 1022 is inadmissible hearsay because “Petitioner relies on Exhibit 1022, an out of court statement, to attempt to prove that in 1994 the output power of blue light needed to cause sodium fluorescein to fluoresce was in the micro-Watt

level.” *Id.* at 9 (citing Ex. 1018 ¶¶ 18–20); *see also id.* at 9–10 (discussing Ex. 1018 ¶¶ 18–19). Patent Owner argues that Exhibit 1022 is irrelevant because “there is no evidence that Exhibit 1022 is relevant to the state of the art at the relevant time periods.” *Id.* at 11.

Petitioner responds that “[e]ven if [Exhibit 1022] were hearsay, it is admissible pursuant to FRE 807(a)” and, according to Petitioner, the requirement under FRE 807(b) has been met. Paper 36 at 8–11 (discussing the four conditions under FRE 807(a) and asserting Exhibit 1043 satisfies FRE 807(b)). Petitioner asserts that Exhibit 1022 is relevant because it “illustrates the state of the art as to the amount of blue light output power necessary to excite sodium fluorescein, and directly rebuts Patent Owner’s argument that a blue LED in 1992 had to have an output power of at least 1 mW.” *Id.* at 11–12.

As discussed above (*see supra* §§ II.C.3.a, II.F.1.a), to resolve the dispute between the parties here, we need not make a determination regarding Patent Owner’s assertion as to the *specific amount* of power necessary to cause sodium fluorescein to fluoresce. Accordingly, we dismiss Patent Owner’s motion as to Exhibit 1022 and paragraphs 18–20 of Dr. Jiao’s Reply Declaration (Exhibit 1018) as moot because we do not rely on them in this Decision. *See* TPG 79–80.

c. Exhibits 1041–1043

Patent Owner argues that certain supplemental evidence (originally only served, but later filed as Exhibits 1041–1043) provided to support the admissibility of Exhibits 1021 and 1022 should be excluded under FRE 403 and as untimely. Paper 33 at 12–14 (discussing supplemental evidence); Paper 38 at 1–3 (discussing Exhibits 1041–1043).

Petitioner responds that “[t]he supplemental evidence complained of is strictly directed towards authenticating the exhibits [(i.e., Exhibits 1021 and 1022)] after it became clear that Patent Owner intended to make issues of them on this basis.” Paper 36 at 13. According to Petitioner, “[t]here is no unfair prejudice to Patent Owner” because “[i]t was aware of the exhibits and simply chose not to investigate them.” *Id.* at 13–14. Petitioner also contends that

[e]ven if the additional supplemental evidence, which only went towards authenticity, was somehow prejudicial, any prejudice was not *substantially outweighed* by its admission, all of which is entirely in rebuttal to the false and unsupported central contention of Patent Owner and its expert that a blue LED had to have at least 1 mW of output power, something Petitioner has clearly proven as false and unsupported.

Id. at 14.

As discussed above (*see supra* §§ II.C.3.a, II.F.1.a), to resolve the dispute between the parties here, we need not make a determination regarding Patent Owner’s assertion as to the *specific amount* of power necessary to cause sodium fluorescein to fluoresce. Accordingly, we dismiss Patent Owner’s motion as to Exhibits 1041–1043 as moot because we do not rely on them in this Decision. *See* TPG 79–80.

III. CONCLUSION

Upon consideration of the Petition, Response, Reply, Sur-reply and the evidence of record, we determine that Petitioner (1) has *not* proven by a preponderance of the evidence that claims 1, 5, 6, 8–10, 14, 19 of the ’394 patent would have been obvious based on Longobardi and Devonshire, (2) has *not* proven by a preponderance of the evidence that claims 15 and 16 of

the '394 patent are anticipated by Longobardi, and (3) has *not* proven by a preponderance of the evidence that claims 1, 5, 6, 8–10, 14–16, 19 of the '394 patent are anticipated by Devonshire. We dismiss as moot Petitioner's and Patent Owner's motions to exclude evidence.

IV. ORDER

For the reasons above, it is:

ORDERED that Petitioner has not proven by a preponderance of the evidence that any of claims 1, 5, 6, 8–10, 14–16, and 19 of the '394 patent are unpatentable;

FURTHER ORDERED that Petitioner's and Patent Owner's Motions to Exclude Evidence (Papers 34, 33) are dismissed as moot; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claims	35 U.S.C. §	Reference(s)	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 5, 6, 8–10, 14, 19	103(a)	Longobardi, Devonshire		1, 5, 6, 8–10, 14, 19
15, 16	102(b)	Longobardi		15, 16
1, 5, 6, 8–10, 14–16, 19	102(b)	Devonshire		1, 5, 6, 8–10, 14–16, 19
Overall Outcome				1, 5, 6, 8–10, 14–16, 19

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