

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CURRENT LIGHTING SOLUTIONS, LLC
D/B/A GE CURRENT

Petitioner,

v.

JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO., LTD.

Patent Owner.

Case No. IPR2023-00271

Patent No. 10,295,125

PATENT OWNER'S PRELIMINARY RESPONSE

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Ex. 2004	Proof of Service on Ruising in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2005	Order of Final Judgment in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
Ex. 2006	
Ex. 2007	Declaration of Miguel Bombach in Support of Patent Owner's Preliminary Response
Ex. 2008	Case Docket for <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2009	Scheduling Order in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2010	Defendant Current Lighting Solutions, LLC d/b/a GE Current's Preliminary Invalidity Contentions in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)
Ex. 2011	Docketing Statement in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 2023-1715 (Fed. Cir.)
Ex. 2012	Defendant's Opening Claim Construction Brief in <i>Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. Current Lighting Solutions, LLC</i> , Case No. 6:22-CV-00534-ADA-DTG (W.D. Tex.)

Ex. 2013	Proposed Joint Final Pretrial Order in <i>Jiaying Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. v. CH Lighting Technology Co., Ltd. Elliott Electric Supply, Inc. and Shaoxing Ruising Lighting Co. Ltd.</i> , Case No. 6:20-CV-00018-ADA (W.D. Tex.)
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I. INTRODUCTION

Current's Petition challenging the '125 Patent is time-barred because [REDACTED] Shaoxing Ruising Lighting Co., Ltd., was sued more than a year ago and found to infringe the same '125 Patent. Given the preexisting substantive legal relationship between the two entities, Ruising is a time-barred privy of Current. Moreover, given Ruising is a clear beneficiary of this proceeding that has a preexisting, established relationship with Current, Ruising is a time-barred real party in interest as well.

The Petition should also be denied because its obviousness theory suffers from substantive flaws. Apparently being aware of these flaws but not able to identify on any single good enough fix, Petitioner decides to adopt a figurehead approach—first, an oversimplification of the invention, followed by a shotgun-style attack that focuses on the oversimplified version of the invention and see which one sticks. For example, on claim 1 alone, the Petition tries a first Takahashi-Shimasaki combination, a second Guang-Shimasaki combination, a third Takahashi-Shimasaki-Jing combination, and then a fourth Guang-Shimasaki-Jing combination. *See* Pet. at 17-44, 50-65, 76-84. Yet, they are all different flavors of the same thing: they attempt to gloss over, but cannot hide, the flaws shared in these combinations that are fatal to the obviousness analysis.

Finally, institution should be denied under § 314(a) given the '125 patent is at issue in a litigation set to go to trial several months before this IPR proceeding would conclude. Notwithstanding the Director's Memo addressing *Sotera Wireless* stipulations and *Fintiv*, Petitioner elected not to present a *Sotera Wireless* stipulation here. In addition to the co-pending district court case, the validity of the '125 Patent is at issue in a pending *ex parte* reexamination and in Ruising's appeal from the district court case in which it was found to have willfully infringed the '125 patent. As a result, instituting a trial based on this Petition would be an inefficient use of the Board's resources under § 314(a) and *Fintiv*.

II. THE PETITION IS TIME-BARRED UNDER 35 U.S.C. § 315(B)

35 U.S.C. § 315(b) states that “[a]n *inter partes* review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.”

“It is ‘the IPR petitioner who bears the burden of persuasion to demonstrate that its petitions are not time-barred under § 315(b) based on a complaint served on a real party in interest more than a year earlier.’” *Ventex Co., Ltd. v. Columbia Sportswear N.A., Inc.*, IPR2017-00651, Paper 148 at 4 (PTAB Jan. 24, 2019) (precedential) (quoting *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed.

Cir. 2018) (alteration added). The petitioner also bears the burden of persuasion regarding privity. *Ventex*, Paper 148 at 4-5.

The present Petition is time-barred because Shaoxing Ruising Lighting Co., Ltd. (“Ruising”) was served with a complaint alleging infringement of the ’125 Patent more than one year before Petitioner filed the present Petition. EX2003 (complaint asserting ’125 Patent). Ruising was served on November 12, 2020. EX2004 (proof of service).¹ Petitioner filed the present Petition more than two years later on December 14, 2022.

A. Factual Background

1. The *Ruising* Litigation

In 2020, Patent Owner filed a patent infringement suit against Ruising and its affiliate CH Lighting Technology Co., Ltd. (“CH”). *Jiaxing Super Lighting Electric Appliance Co. Ltd. v. CH Lighting Technology Co. Ltd.*, No. 6:20-cv-00018-ADA (W.D. Tex.) (“*Ruising* litigation”). The ’125 patent was among the asserted patents. The case proceeded to trial in November 2021 and a jury returned a unanimous verdict finding that Ruising and CH willfully infringed the ’125 patent along with

¹ On November 11, 2020, Ruising filed a “Statement of Non-Opposition to Motion for Alternative Service” in which it consented to electronic service of process through its counsel. *Ruising* litigation, Dkt. 61.

two other patents. EX2005 (order of final judgment).

2. Petitioner's Preexisting Legal Relationship with Ruising

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B. Ruising is a Time-Barred Privy of Petitioner.

1. Legal Standard

The Board’s precedential decision in *Ventex* provides a helpful introduction to the concept of privity:

Privity “prevent[s] successive challenges to a patent by those who previously have had the opportunity to make such challenges in prior litigation.” [*WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1319 (Fed.

Cir. 2018) (citation omitted).] In *Taylor v. Sturgell*, 553 U.S. 880, 894–95 (2008), the Supreme Court provided a non-exhaustive list for examining whether the legal relationship between two parties establishes that one is the privy of the other: “(1) an agreement between the parties to be bound; (2) pre-existing substantive legal relationships between the parties; (3) adequate representation by the named party; (4) the nonparty’s control of the prior litigation; (5) where the non-party acts as a proxy for the named party to relitigate the same issues; and (6) where special statutory schemes foreclose successive litigation by the non-party (e.g., bankruptcy and probate).” [*Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1360 (Fed. Cir. 2018) (“*AIT*”)] (Reyna, J., concurring) (citing *Taylor*, 553 U.S. at 894–95).

Ventex Co., Ltd. v. Columbia Sportswear N.A., Inc., IPR2017-00651, Paper 148 at 11-12 (PTAB Jan. 24, 2019) (precedential).

“Analysis under any one of the factors can support a finding of privity.” *Id.* at 12 (citations omitted). For example, in *Ventex*, the Board found that “at least [*Taylor*] factors 2 and 5 support[ed its] conclusion that [Ventex’s customer] Seirus and Ventex [we]re privies.” *Id.*

2. Petitioner and Ruising are Privies Based At Least on *Taylor* Factors 2, 3, and 5.

(a) *Taylor* Factor 2

In *Ventex*, the Board reasoned that the second Taylor factor (pre-existing substantive legal relationships between the parties) supported a finding of privity. *Ventex*, Paper 148 at 12. The Board explained that “the parties had a preexisting substantive legal relationship in the form of two contracts, a Supplier Agreement with an obligation to indemnify and defend, and an Exclusive Manufacturing agreement.” *Id.*; *see also id.* at 7 (discussing agreements).

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED] Thus, as in *Ventex*, finding Petitioner and Ruising “in privity with one another comports with the goal of ‘tak[ing] into account the practical situation, and [extending privity] to parties, to transactions, and other activities *relating to the property in question.*’” *Ventex*, Paper 148 at 12-13 (quoting Trial Practice Guide, 77 Fed. Reg. at 48,759) (alterations and emphasis original).

The present facts are also similar to those in *Microsoft Corp. v. Science Applications International Corp.*, IPR2019-01311, Paper 35 (PTAB Jan. 27, 2020), another case in which the Board found privity based primarily on a preexisting contractual relationship. There, “Petitioner [Microsoft had] entered into a contract with the government to develop a system incorporating the allegedly infringing feature.” *Microsoft*, Paper 35 at 7. Patent Owner had brought a suit against the government in the Court of Federal Claims. *Id.* The Board found that “both Petitioner and the government share a common interest in canceling the allegedly infringed claims.” *Id.* at 8. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In *Microsoft*, the Board analyzed provisions of the agreement and determined that Microsoft and the government’s “preexisting relationship [wa]s not insignificant.” *Id.* at 8 (“According to Petitioner, ‘[i]f the RTA feature is found to infringe the [patents-at-issue], Microsoft may be compelled to violate its contractual obligations, negotiate with SAIC for authorization to comply with its contractual obligations, or undertake some other action.’”). [REDACTED]

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[REDACTED]

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[REDACTED] Accordingly, the preexisting legal

relationship between Petitioner and Ruising here is significant.

The Board’s decision in *PayPal, Inc. v. PersonalWeb Technologies, LLC*, also supports a finding of privity here. IPR2019-01111, Paper 27 (PTAB Nov. 22, 2019). In *PayPal*, the Board found that “[t]he evidence of record shows that the relationship between Amazon and these Petitioner Entities went beyond

typical transactions between supplier and buyer because there exists a substantive legal relationship between them that is defined by legal obligations and a sufficient degree of commonality in interest.” *Id.* at 20. The Board focused on Amazon’s indemnification obligations to the petitioners which pertained to an Amazon product implicated in the infringement lawsuits the patent owner had filed against the petitioners. *Id.* at 22 (“Tellingly, Petitioner Entities do not deny the existence of the indemnification agreements, nor contest that those indemnification agreements pertained to Amazon’s S3, one of the accused products.”). The Board noted that the Federal Circuit has indicated that indemnification agreements can support findings of privity.

As noted by the Federal Circuit, “an indemnification agreement . . . has alone been enough to find privity.” *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 839 (Fed. Cir. 1991); *AIT*, 897 F.3d at 1362 (Reyna, J. concurring) (Under *Taylor*, “non-party preclusion could apply between an indemnitor and an indemnitee.”) (citing *Intel Corp.*, 946 F.2d at 839).

Id. at 22.

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

Furthermore, in *PayPal*, the Board found that the petitioners and Amazon “continue[d] to share the same interest in their use of [the accused Amazon] S3 [technology]” because there was a pending appeal concerning a district court’s noninfringement finding. *PayPal*, Paper 27 at 23-24. Again, the same is true here. Ruising is appealing various issues from the district court case that determined its products infringe the ’125 patent, including the court’s denial of judgment as a matter of law that the asserted claims of the ’125 patent are invalid. EX2011 (appellants’ docketing statement in Case No. 2023-1715).

The Board rejected the petitioners’ arguments in *PayPal* “that Amazon [wa]s not a privy because [the petitioners] ha[d] additional interests related to non-Amazon products” accused of infringement by Patent Owner. *PayPal*, Paper 27 at 25.

The Federal Circuit has explained that, “in drafting § 315(b), Congress ‘chose language that bars petitions where proxies or privies would benefit from an instituted IPR, even where the petitioning party might separately have its own interest in initiating an IPR.’” *Power*

Integrations, Inc. v. Semiconductor Components Indus., LLC, 926 F.3d 1306, 1316 (Fed. Cir. 2019)] (second emphasis added) (quoting *AIT*, 897 F.3d at 1347). Thus, representing their own interests in addition to those of Amazon[] does not negate a finding [] privity. Similarly, Petitioner Entities' potential liability concerning the non-S3 products does not negate the shared interest in S3 or Amazon's indemnity obligations and defense related to their shared interest in S3.

PayPal, Paper 27 at 26. In the event Petitioner here tries to argue that its separate interests in invalidating the '125 patent somehow negate a finding of privity with Ruising, the argument should be rejected by the Board for the same reasons.

(b) Taylor Factor 3

In *PayPal*, the Board found that the petitioners' interests were adequately represented in the prior litigation by Amazon who shared the same interests. *PayPal*, Paper 27 at 34 (“[W]e conclude that Petitioner Entities have been adequately represented by Amazon, who has the same interest as at least one Petitioner Entity (e.g., PayPal) and who was a party to an earlier suit (i.e., the Texas Action), thereby providing an additional basis to conclude that there is privity between Amazon and Petitioner Entities in this proceeding pursuant to § 315(b).”). The Board also rejected the petitioners' arguments that their separate

interests negated a finding of privity based on the third *Taylor* factor. *Id.* at 32-34.

Here, similar to *PayPal*, Ruising was a party to the *Ruising* litigation and shared Petitioner's interests in invalidating the '125 Patent. [REDACTED]

[REDACTED]

[REDACTED] Ruising moved for JMOL that the asserted claims of the '125 Patent were invalid and, as mentioned, Ruising is appealing the district court's denial of JMOL on that issue. *See* EX2011 (appellants' docketing statement from appeal).

(c) *Taylor* Factor 5

In *PayPal*, the Board analyzed the fifth *Taylor* factor and found "that Petitioner Entities [we]re representing Amazon's interests in th[e IPR] proceeding." *PayPal*, Paper 27 at 34. Given Amazon's indemnification obligations to the petitioners, the Board reasoned that it was Amazon that would "bear the cost" of a determination of infringement by the petitioners. *Id.* at 35 ("Petitioner Entities, then, are representing Amazon's continued interests, as well as their own, in the instant IPR proceeding, at least as to those interests pertain to S3 and the '310 patent. We, thus, conclude that Petitioner Entities are serving as proxies of Amazon.") (citing *Taylor*, 553 U.S. at 895).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

C. Ruising is Also a Time-Barred Real Party in Interest.

“Determining whether a non-party is a ‘real party in interest’ demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *AIT*, 897 F.3d at 1351. “[T]he terms ‘real party in interest’ and ‘privy’ were included in § 315 to serve two related purposes: (1) to ensure that third parties that have sufficiently close relationships with IPR petitioners would be bound by the outcome of instituted IPRs under § 315(e), the related IPR estoppel provision; and (2) to safeguard patent owners from having to defend their patents against belated administrative attacks by related parties via § 315(b).” *Id.* at 1350.

In *Ventex*, the Board found that Ventex’s customer, Seirus, who had been sued by the patent owner for infringement was a real party in interest. Ventex,

Paper 148 at 7-11. Ventex exclusively manufactured Heatwave fabric for Seirus and indemnified Seirus against legal claims related to that material. *Id.* at 7.

Seirus’ products that were accused of infringement incorporated the Heatwave fabric made by Ventex pursuant to the parties agreements. *Id.* Based on their agreements, the Board reasoned that “the parties had a mutual interest in the continuing commercial and financial success of each other.” *Id.* at 8; *see also id.*

at 10 (“Based on our review of the contractual relationship between the parties and the record as a whole, we conclude that Seirus will benefit from Ventex’s actions and Ventex represents Seirus’s interests in this action.”). The Board found that the parties’ agreements “incentivize[d] both parties to invalidate the claims of the [asserted patents].” *Id.* “In that sense,” the Board explained,

“Seirus is a clear beneficiary of Ventex’s efforts in this *inter partes* review, and it follows readily that Ventex represents Seirus’s interests in this proceeding.” *Id.*

And given Seirus was time-barred from filing an IPR itself, “the evidence suggests that Ventex filed this action, in part, to benefit Seirus.” *Id.* (citing *AIT*, 897 F.3d at 1353).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] And, as in *Ventex*, given Ruising is time-barred from filing an IPR itself, the evidence suggests that Petitioner filed this action, at least in part, to benefit Ruising. *Ventex*, Paper 148 at 8. That Petitioner may also have distinct interests in invalidating the '125 patent has no bearing on whether Ruising is an RPI. *Ventex*, Paper 148 at 9 (“That Ventex had interest in invalidating the claims in the [asserted] patents does not address whether Seirus is a real party in interest—‘it is not an either-or proposition.’”) (quoting *AIT*, 897 F.3d at 1353).

In *Ventex*, the Board found that Seirus would benefit substantially from a finding that the asserted patent was invalid because Seirus was accused of infringing the claims challenged in the IPR. *Ventex*, Paper 148 at 10. “Furthermore,” the Board explained, “it [was] clear that Ventex and Seirus had a specially structured, preexisting, and well established business relationship with one another, including indemnification and exclusivity arrangements.” *Id.* “In the [Board’s] view, those circumstances [we]re the type that, when adhering to the guidance articulated in AIT, give rise to a determination that Seirus should have been named a real party in interest.” *Id.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Accordingly, the record here shows that Ruising should have been named a real party in interest, and the Petition is time barred under § 315(b) on that basis.

III. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 314(a) / *FINTIV*

A. Legal Standard

The Board's precedential decision in *Apple, Inc. v. Fintiv, Inc.* identified six factors for consideration in determining whether to deny institution under § 314(a) where there is a parallel district court litigation:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;

4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential).

On June 21, 2022, the USPTO issued a Director's Memorandum, titled "Interim Procedure for Discretionary Denials in AIA Post Grant Proceedings with Parallel District Court Litigation" ("Director's Memo"). Among other things, the Director's Memo stated "Consistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB." Director's Memo at 3 (referencing *Sotera Wireless Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A)).

Petitioner has not presented any *Sotera Wireless* stipulation here and the *Fintiv* factors discussed below weigh in favor of a discretionary denial in view of the parallel district court litigation.

B. The Co-Pending District Court Litigation

On May 24, 2022, Patent Owner filed a complaint against Petitioner asserting infringement of several patents including the '125 Patent. EX2008 (docket report) at ECF 1.

A scheduling order was entered on December 12, 2022. EX2009 (scheduling order). Fact discovery opened on April 20, 2023 and is scheduled to close on November 15, 2023. *Id.* at 2, 3. Final infringement and invalidity contentions are due June 14, 2023. A jury trial is scheduled for April 2024—four months before any final written decision would be due in this proceeding. *Id.* at 4.

Claim construction briefing has been completed and a claim construction hearing is set for June 2, 2023. EX2008 (docket report) at ECF 74.

Petitioner moved to transfer the district court case to the Northern District of Ohio. Following venue discovery and a hearing, the transfer motion was denied on April 20, 2023. EX2008 (docket report) at ECF 69.

Petitioner has also filed a motion to dismiss certain claims in the litigation, and that motion has been fully briefed. *Id.* at ECF Nos. 14, 18, and 19.

C. Factor 1: The Court Has Not Stayed the District Court Case and Is Very Unlikely to Do So

Petitioner has not moved to stay the district court case in view of its IPR filings nor even indicated it intends to do so.² Even if Petitioner does so move, Judge Albright has typically denied motions to stay litigations based on instituted IPR proceedings. *See, e.g., Ravgen, Inc. v. Lab'y Corp. of Am. Holdings*, No. W-20-CV-00969-ADA, 2022 WL 4240937 (W.D. Tex. Aug. 16, 2022); *Sonrai Memory Ltd. v. LG Elecs. Inc.*, No. 6:21-CV-00168-ADA, 2022 WL 2307475 (W.D. Tex. June 27, 2022) (both denying post-institution motions to stay). Judge Albright is even less likely to stay the district court case given Petitioner has filed IPRs on just a subset of the patents-in-suit. Accordingly, *Fintiv* Factor 1 favors discretionary denial.

D. Factor 2: The District Court's Trial Date is Four Months Before the Expected Date of any Final Written Decision

Jury Trial is currently set for April 17, 2024. EX2009 (scheduling order) at 4. A final written decision in this case is unlikely to be due much before August

² Recently, on May 12, 2023, Petitioner did move to stay the district court case pending resolution of its objections to Magistrate Judge Gilliland's denial of Petitioner's transfer motion. EX2008 (docket report) at ECF 75.

17, 2024 (*i.e.*, one year and 3 months after the May 17, 2023 filing date of the present paper). Accordingly, *Fintiv* Factor 2 favors discretionary denial.

E. Factor 3: Both Parties And The Court Have Invested Substantial Effort Into This Case And Will Invest Even More Before an Institution Decision

The parties have already invested substantial effort into the district court case. The claim construction process is almost complete and the parties are already into fact discovery. Final infringement and invalidity contentions are due in less than a month on June 14, 2023—roughly two months before the Board is likely to issue an institution decision in this proceeding. Moreover, Patent Owner already prevailed on Petitioner’s transfer motion and Petitioner’s motion to dismiss has been fully briefed. Accordingly, *Fintiv* Factor 3 favors discretionary denial. *See Fintiv*, Paper 15 at 15 (reasoning that factor 3 favored discretionary denial based on efforts already invested into claim construction and invalidity conventions).

F. Factor 4: Overlap Of Issues Raised In The Petition And District Court Case

Petitioner’s invalidity contentions in the district court case rely on the same prior art advanced in the Petition. EX2010 (invalidity contentions cover pleading) at 26-27 (listing Takahashi, Shimasaki, Guang, Kawashima, Takigami, and Jing as prior art for the ’125 patent). Accordingly, *Fintiv* Factor 4 favors discretionary denial. *See Fintiv*, Paper 15 at 15. As noted above, Petitioner opted

not to present a *Sotera Wireless* stipulation in its Petition. Petitioner apparently intends to pursue the same invalidity theories simultaneously before the PTAB and in district court. This is inefficient and increases the chance of inconsistent outcomes between the two fora.

G. Factor 5: Petitioner and the Defendant in the District Court Case Are the Same Party

Petitioner here is itself a defendant in the parallel district court proceeding. Accordingly, *Fintiv* Factor 5 favors discretionary denial. *See Fintiv*, Paper 15 at 15.

H. Factor 6: Fatal Flaws in the Petition Favor Discretionary Denial

Given the flaws in the Petitioner's obviousness arguments discussed below in Section V, the present Petition falls well short of the "compelling merits" standard required to avoid a discretionary denial based on *Fintiv* Factors 1-5. *See* Director's Memo at 4 (When determining whether there is a compelling unpatentability challenge, the Board evaluates whether the Petition presents challenges "in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.").

I. Additional Factors: The '125 Patent is At Issue in a Pending Appeal and in a Pending *Ex Parte* Reexamination.

The *Fintiv* factors are not exclusive and the Board can consider other evidence that bears on its discretion under § 314(a). *See, e.g., NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential) (reasoning that the Board may consider the advanced state of a related district court proceeding, among other considerations, as a “factor that weighs in favor of denying the Petition under § 314(a).”).

This proceeding and the *Current* litigation would not even be the only fora addressing invalidity challenges to the '125 patent. In addition to the co-pending district court case involving Petitioner, there is a pending appeal at the Federal Circuit filed by Petitioner's privy and RPI, Ruising, and Ruising's parent, CH. The docketing statement filed by Ruising and CH in the appeal suggests they intend to appeal the district court's denial of their JMOL motion for invalidity of the '125 patent and the court's granting of Patent Owner's JMOL motion of validity of the '125 patent. EX2011 (docketing statement) at 3-4 (issues 1 and 5). The Board has used its discretion under § 314(a) to deny institution of IPR petitions where an appeal of a related district court litigation is pending. *See, e.g., Comtech Mobile Datacom Corp. v. Vehicle IP, LLC*, IPR2018-00531, Paper 9 at 12 (PTAB July 20, 2018) (exercising discretion not to institute trial for a proceeding with a co-pending related litigation on appeal to the Federal Circuit).

In addition to the co-pending district court proceeding involving Petitioner and the co-pending appeal involving Ruising, there is also a co-pending *ex parte* reexamination proceeding challenging the validity of the '125 patent claims. *See* Reexam Appl. No. 90/015,003. Thus, if the present Petition is instituted, it will spawn the ***fourth co-pending proceeding*** addressing prior-art based invalidity challenges to the same patent. An additional IPR proceeding would be a highly inefficient use of the Board's limited resources, would be unfair to Patent Owner, and would further increase the risk of inconsistent outcomes between the various proceedings. *See* Director's Memo at 5 (recognizing that exercise of § 314(a) discretion "strikes a balance among the competing concerns of ***avoiding potentially conflicting outcomes, avoiding overburdening patent owners***, and strengthening the patent system by eliminating patents that are not robust and reliable") (emphasis added).

J. Conclusion

Similar to *Fintiv*, "the District Court case is ongoing, trial is scheduled to begin [four] months before [the Board] would reach a final decision in this proceeding, the District Court has expended effort resolving substantive issues in the case, the identical claims are challenged based on the same prior art in both the Petition and in the District Court, and the defendant in District Court and the Petitioner here are the same party." *Fintiv*, Paper 15 at 17. Given that the *Fintiv*

factors decidedly favor a discretionary denial, instituting a trial based on this Petition would be an inefficient use of the Board's resources. This is even more true in view of the co-pending Federal Circuit appeal of the *Ruising* litigation and the co-pending *ex parte* reexamination. Accordingly, the Board should deny institution under § 314(a).

IV. THE '125 PATENT

A. Patent Overview

The '125 Patent, titled "LED Tube Lamp," issued on May 21, 2019 from a continuation application filed on February 24, 2017. The '125 Patent claims priority to several earlier-filed applications dating as far back as 2015. The '125 Patent has a large specification; it includes almost 100 columns of detailed description and over 60 figures on various embodiments of designs and features for improving such LED tube lamp products by addressing observed technical issues in many aspects including, by way of non-limiting examples, heat dissipation (18:60-19:22, 24:10-20), glass tube safety (13:45-15:33, 28:34-29:9), electrical shock prevention (41:46-42:6), various electrical circuitry improvements (42:7-18, 62:22-64:34), appearance of the tube product (15:1-33, 17:55-18:11), manufacturing cost (29:45-30:3), automated manufacturing process (16:51-20:50, 33:5-36:8), and durability (29:45-30:42). The '125 Patent was issued with 54 claims.

The claimed embodiments are results from the time and effort spent on recognition of the engineering goals as well as resolving the technical challenges in making the embodiments functional so as to enable Patent Owner to arrive at how these components fit together as claimed. However, Petitioner oversimplifies the '125 Patent by portraying the sole innovation as the protective layer having openings. Pet. at 1 (citing '125 Patent at 3:25-40). By selectively citing a few sentences out of the '125 Patent, Petitioner's gross generalization has taken Patent Owner's words out of the context.

The '125 Patent includes, but is much more than, "a protective layer having openings to accommodate the LED light sources and soldering pads." *Id.* For example, claim 1 of the '125 Patent includes features resulting from various underlying improvements—including a location and configuration of the LED light strip with respect to the lamp tube, a location and configuration of a protective layer that is disposed on the surface of the LED light strip, a power supply that is disposed in one or two end caps, and the relative spatial relationships of all the recited components as well as the manner how each component, as the case may be, interconnects with another in order to fit together as a whole as the LED tube lamp that is claimed.

The '125 Patent also provides a large amount of details for implementing the components in the improved LED light tube. Fig. 2 of the '125 Patent shows

an “exploded view schematically illustrating the LED tube lamp.” ’125 Patent at 5:9-10.

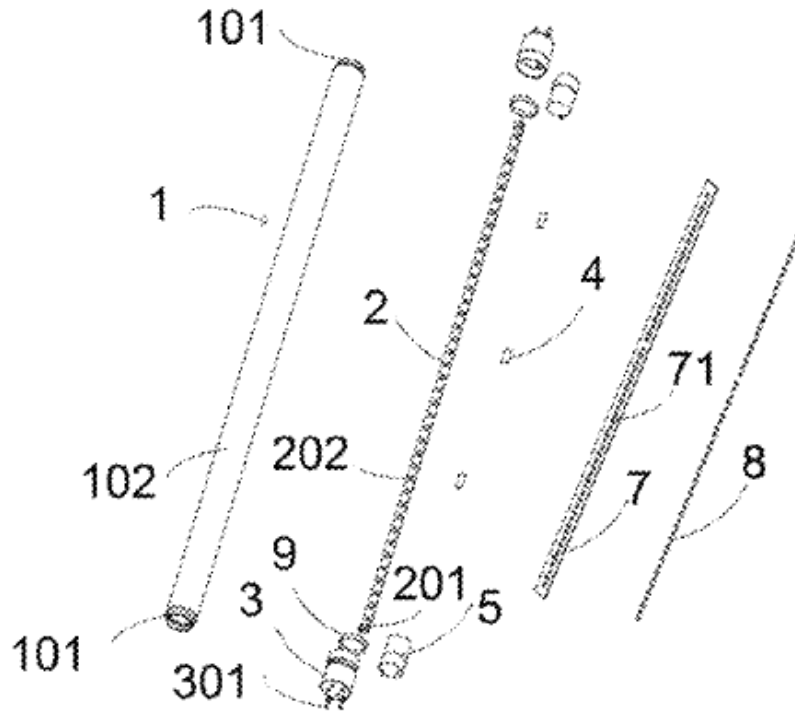


Fig. 2

Details are then provided on manufacturing the lamp tube such that the resulting product enjoys desirable qualities, e.g., structural strength, transparency, and scratch resistance. *Id.* at 13:61-14:67. A variety of end caps and methods for manufacturing and assembling them with the lamp tube are also provided. *Id.* at 15:1-45, 28:14-23. For example, Fig. 5 of the ’125 Patent shows details on how to make and assemble the end caps such that “the entire LED tube lamp may be smooth with respect to the outer appearance and may have a substantially uniform

tubular outer surface, such that the loading during transportation on the entire LED tube lamp is also uniform.” *Id.* 18:4-7. “The quality and the appearance of the product are therefore improved.” *Id.* at 15:32-33.

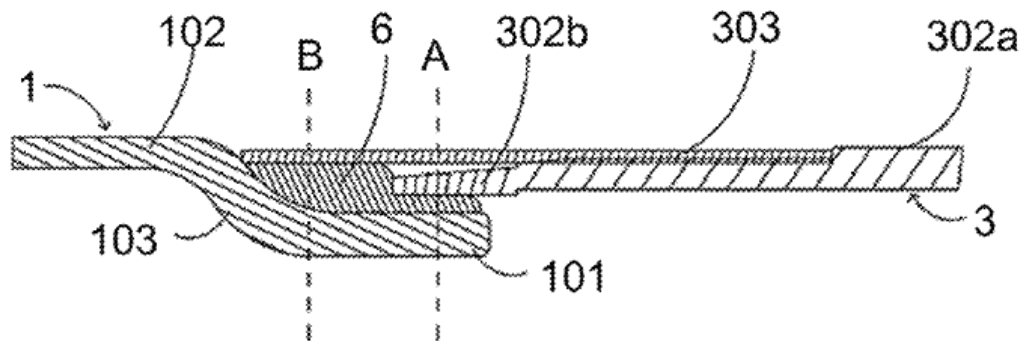
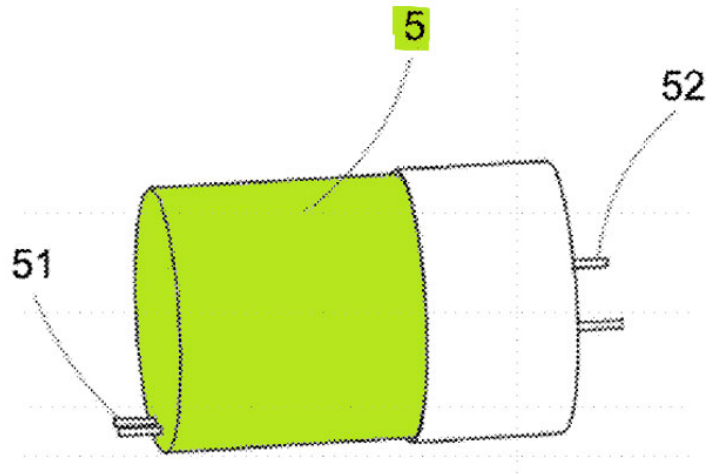


Fig. 5

The '125 Patent describes power supplies which may be located in the end caps of the LED tube lamp. *E.g., id.* at 30:60-64 (“When only one end of the lamp tube 1 is strengthened by a glass tempering process, it may be preferable that the power supply 5 is a single integrated unit and installed in the end cap 3 corresponding to the strengthened end of the lamp tube 1.”); *id.* at 31:12-18 (“Referring to FIGS. 2 and 38, in one embodiment of the present invention, the power supply 5 is provided with a male plug 51 at one end and a metal pin 52 at the other end, one end of the LED light strip 2 is correspondingly provided with a female plug 201, and the end cap 3 is provided with a hollow conductive pin 301 to be connected with an outer electrical power source.”).

**Fig. 38**

Id. at Fig. 38. *See also generally id.* at 30:50-38:15; Figs. 24, 35, 36, 39, and 49A.

The '125 Patent further discloses that the LED light strip 2 “fixed by [an] adhesive sheet 4 to an inner circumferential surface of the lamp tube 1, so as to increase the light illumination angle of the LED tube lamp and broaden the viewing angle to be greater than 330 degrees.” *Id.* at 28:24-28; *see also id.* at 27:19-29; Fig. 2.

The '125 Patent further discloses “a circuit protective layer” disposed on a surface of LED light strip 2. *Id.* at 26:60-27:5; 29:45-57 (“the outer surface of the wiring layer 2 *a* or the dielectric layer 2 *b* may be covered with a circuit protective layer made of an ink with function of resisting soldering and increasing reflectivity”). The protective layer may include openings for the LED light sources 202. *Id.* at 29:45-57; 32:51-33:4.

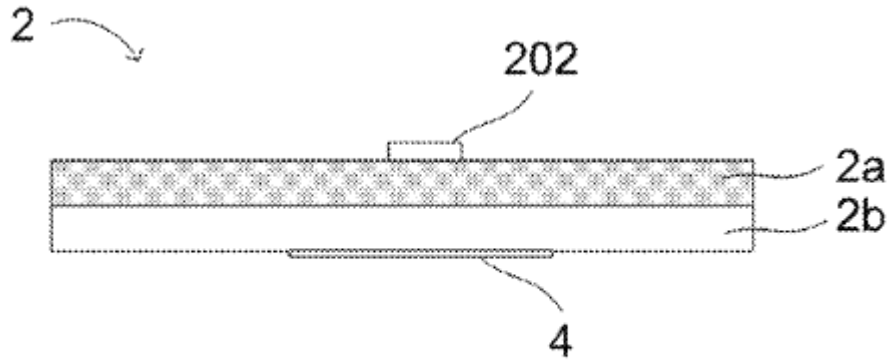


Fig. 23

Id. at Fig. 23. The protective layer may also include openings for soldering pads.

Id. at 32:51-33:23.

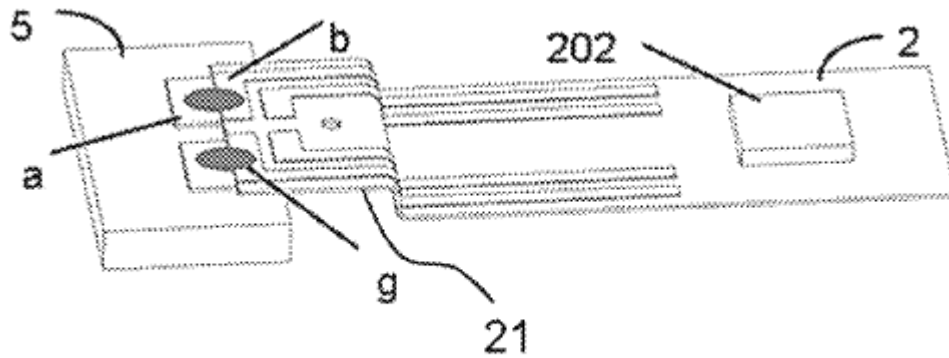


Fig. 24

Id. at Fig. 24.

B. Claim Construction

1. “electrically connected/coupled”

Petitioner states that it “does not believe this term needs explicit construction” (Pet. at 16), and Patent Owner agrees. Plain and ordinary meaning should control.

2. “disposed on an inner circumferential surface of the lamp tube”

Petitioner states that it “does not believe this term needs explicit construction” (Pet. at 16), and Patent Owner agrees. Plain and ordinary meaning should control.

Notably however, in order to support its invalidity allegations, Petitioner would then attempt to twist and enlarge the scope of this term beyond what a POSA would reasonably understand in view of the entire specification and prosecution history. Petitioner would do so by asserting, because Patent Owner’s mere statement that “intervening elements *may* be present” (’125 Patent at 12:8) (emphasis added), anything and everything that is directly or indirectly on the “inner circumferential surface of the lamp tube” shall be completely swallowed by this construction and therefore meets the claim term “disposed on [said] inner circumferential surface.” But, there is no “special definition” here, and plain and ordinary meaning is not “the broadest possible interpretation.” Patent Owner sets forth the reasons and examples below, in §§ V.A.1. and V.B.1, why Petitioner’s overly broad interpretation of the term “on” and misapplication of the construction lead to an absurd, unreasonable result that is anything but “plain and ordinary.”

**V. PETITIONER HAS NOT ESTABLISHED A REASONABLE
LIKELIHOOD OF PROVING ANY CHALLENGED CLAIMS
INVALID.**

**A. Petitioner Has Not Shown That the Challenged Claims Are
Obvious Under Ground 1.**

**1. Takahashi-Shimasaki Combination Does Not Render
Obvious Independent Claim 1 or Its Dependent Claims**

In Ground 1, Petitioner relies on Takahashi as the main reference for disclosing all features in claim 1 except for the “openings on the protective layer” feature. Pet. at 17-44. Petitioner turns to Shimasaki for the feature missing from Takahashi. *Id.* However, as explained below, the combination is built upon a defective foundation that includes a number of fatal mistakes and assumptions, including overly broad interpretations of claim term that are inconsistent with the plain wording of the claim, with the specification of the ’125 Patent, and even with the specification of Takahashi. As a result, a POSA would not have interpreted the claim as proposed by Petitioner, and the combination fails to render claim 1 obvious.

**(a) Takahashi’s LED Module Is Not “Disposed on An
Inner Circumferential Surface of the Lamp Tube”**

Almost the entirety of Petitioner’s obviousness theory builds on an overly broad construction that the term “disposed on” can include the entire world of elements as long as they are either directly or indirectly in physical contact with something “disposed on the inner circumferential surface of the tube lamp.”

However, that is far from how a POSA would construe the term. Petitioner's obviousness theory necessarily crumbles because of this fatal error.

(i) Petitioner's Interpretation Is Not How A POSA Would Reasonably Understand From the Plain Text of the Claim

"[C]laim construction must begin with the words of the claims themselves." *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1301 (Fed. Cir. 2006). "[W]ords of a claim are generally given their ordinary and customary meaning," i.e., "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention[.]" *Phillips*, 415 F.3d at 1312-13.

As an initial matter, Petitioner explicitly tells this Board that it "does not believe this term needs explicit construction," (Pet. at 16.)—thus plain and ordinary meaning should control per *Phillips*, 415 F.3d at 1316—and yet, the statement contradicts Petitioner's own Claim Construction briefs in the district court litigation. There, Petitioner proposed the construction for this claim limitation is: "arranged on an inner circumferential surface of the lamp tube either directly or through intervening elements," EX2012 at 30-32 (Opening Claim Construction Brief). Petitioner has not provided a clear explanation for its discrepant approach, but the goal here is self-evident: Petitioner is aware of the

weaknesses of its obviousness combinations, and it needs a way to redefine the scope of the claim so that the claim could cover the weaknesses.

But whether it is twisting the interpretation of the original claim term by a POSA, or implicitly adopting a new construction without acknowledging it, Petitioner cannot hide that its proposed interpretation of the claim scope is not plain and ordinary because it is overly broad and not the meaning a POSA would reasonably give in view of the entire specification and prosecution history. Once investigated under scrutiny, Petitioner's argument cannot hide the contradiction that Petitioner's interpretation would create.

Claim 1 of the '125 Patent recites, *inter alia*,

1[p] An LED tube lamp, comprising:

...

1[d] an LED light strip ***disposed on*** an inner
circumferential surface of the lamp tube, ...; and

1[e] a protective layer ***disposed on*** a surface of the LED
light strip, ...

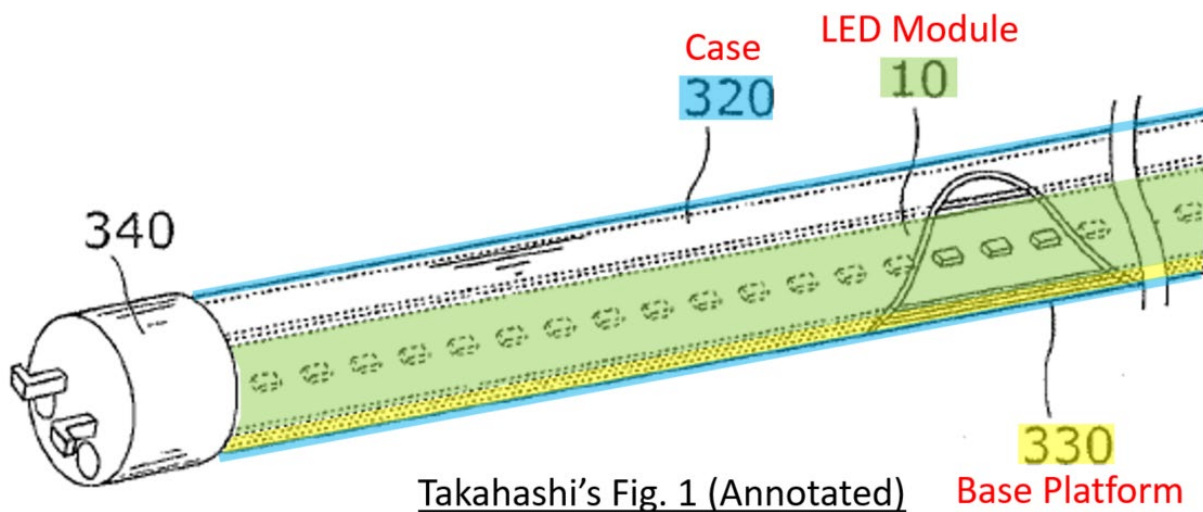
(emphasis added).

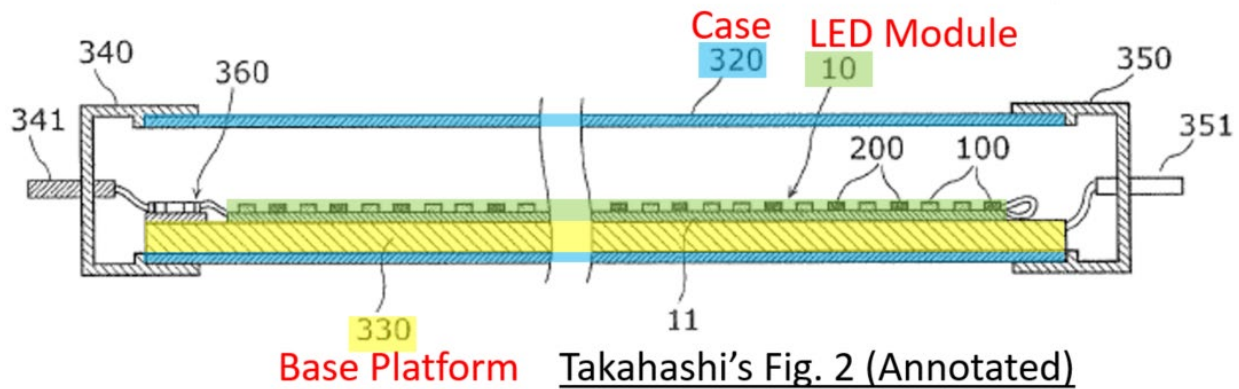
Petitioner asserts that Takahashi discloses element 1[d], Pet. at 40, but Takahashi's LED module clearly is located on a base platform. "[T]he base platform 330 holds (supports) the LED module 10." EX1005 at 7:47-48.

Takahashi states that this base platform has "a plate-shaped mounting part on

which the LED module 10 is mounted.” *Id.* at 7:55-56. In the embodiment shown in Takahashi’s Figs. 1 and 2, “[the] mounting surface of the mounting part, the front surface of the base platform 330, is an elongated rectangular flat surface.” *Id.* at 7:57-58. Indeed, both Figs. 1 and 2 of Takahashi shows that the LED module is located on this “elongated rectangular flat surface” of the base platform, and it is this base platform—not the LED module—that “is firmly fixed to the inner surface of the case 320.” *Id.* at 7:50-51.

Takahashi’s Figs. 1 and 2, with annotation highlighting the LED module 10, the base platform 330, and case 320, are respectively provided below.





To solve the issue created by the fact that it is Takahashi's base platform, not the LED module, that is "fixed to the inner surface of the case," Petitioner has to interpret the claim in a way that covers this intervening base platform. This interpretation is what can be found in the Petition, that anything is "disposed on the inner circumferential surface" as long as that thing is "either directly or through intervening elements" located on the surface. Pet. at 16, 40.

But Petitioner's interpretation can only work if one ignores the requirement that the claim must be evaluated "as a whole," *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983), because in the same claim 1, the word "disposed on" is used twice—once for the "LED light strip" and once for the "protective layer." In particular, claim 1 states that the "protective layer [is] disposed on a surface of the LED light strip" **and** the "LED light strip [is] disposed on an inner circumferential surface of the lamp tube." See *PODS, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1366 (Fed. Cir. 2007) ("We apply a 'presumption that the same terms appearing in different portions of the claims should be given

the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.””) (citation omitted). If Petitioner’s interpretation were to be adopted, that Takahashi’s LED module could be within the claim’s meaning of being “disposed on” the inner circumferential surface of the lamp tube even when there is an obviously intervening base platform, then the same interpretation would mean that the claimed feature of “protective layer” is *also* “disposed on” the inner circumferential surface of the lamp tube because the intervening element, i.e., the LED light strip, is disposed on that surface. However, no POSA would have read the plain English of this claim and understood the “protective layer” in the claim as “disposed on” the inner circumferential surface of the lamp tube, because that would defy a POSA’s common knowledge of the art and common sense.

By attempting to implicitly adopt a construction that is too broad and necessarily leads to a wrong result, the Petitioner’s interpretation of the claim term “disposed on” is not how a POSA would have understood when they read the limitation “an LED light strip disposed on an inner circumferential surface of the lamp tube.” Petitioner’s invitation to this Board to distort this plain-English claim term should be rejected. The meaning of the term “disposed on an inner circumferential surface” is readily apparent and requires no additional explanation or clarification to be understood by a POSA. The term plainly describes the

location of elements within an LED tube lamp. When, for example, an LED light strip is “disposed on an inner circumferential surface,” it is located on an inner circumferential surface. This meaning is clear. A POSA would not read this term as blindly swallowing every single component, regardless of the size, importance, function, whatsoever, as long as it directly or indirectly contacts something that is on the inner circumferential surface.

In the same way how a POSA would not read the “protective layer” in the claim as “disposed on an inner circumferential surface of the lamp tube,” so is Takahashi’s LED module not “disposed on an inner circumferential surface of the lamp tube.”

**(ii) Petitioner’s Interpretation Is Unsupported by
The Specification of The ’125 Patent**

Citing ’125 Patent at 12:5-17, Petitioner attempts to point to the specification of the ’125 Patent and blames Patent Owner as the party who provided a “special definition” that overly broadly defines the term at issue. Pet. at 16. But Petitioner is reading its own interpretation into Patent Owner’s specification. The entire 12:5-17 of the ’125 Patent recites:

It will be understood that when an element is referred to as being “connected” or “coupled” to or “on” another element, it *can* be directly connected or coupled to or on the other element or intervening elements may be present. In contrast, when an element is referred to as

being “directly connected” or “directly coupled” to another element, there are no intervening elements present. Other words used to describe the relationship between elements should be interpreted in a like fashion (e.g., “between” versus “directly between,” “adjacent” versus “directly adjacent,” etc.). However, the term “contact,” as used herein refers to direct contact (i.e., touching) unless the context indicates otherwise.

(Emphasis added.) As shown in the above quote, the specification merely distinguishes phrases such as “on,” “connected,” or “coupled” from “directly connected,” “directly coupled,” and similar language. There is nothing cited by Petitioner that amounts to a “special definition” that “differs from the [plain and ordinary] meaning it would otherwise possess.” *Phillips*, 415 F.3d at 1316. Thus, the limitation here should simply have its plain and ordinary meaning given by a POSA in view of the entire specification and prosecution history. *Id.*

And as discussed in the above subsection, Petitioner’s interpretation is the one that is out of the ordinary, something a POSA would not adopt but for a “special definition” case described as an exception to the rule in *Phillips*. *Id.* Petitioner’s proposal implies substitution of the plain and ordinary meaning with a construction that encompasses an unlimited, unchecked range of elements that leads to clearly erroneous results. Such substitution is unsupported by the specification of the ’125 Patent and should be rejected.

**(iii) Petitioner’s Interpretation Is Inconsistent with
The Specification of Takahashi and Shimasaki,
the References Cited by Petitioner Itself**

While courts may also consider extrinsic evidence in claim construction, “such evidence is generally of less significance than the intrinsic record.” *Wi-LAN, Inc. v. Apple Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016). But then, it is even more telling when Takahashi itself, the primary reference that Petitioner chooses to rely upon, does not side with Petitioner. Instead, Takahashi describes the location of elements within its LED tube lamp in a manner that contradicts with Petitioner’s interpretation. In the paragraph that is immediately after the paragraph cited by Petitioner, Takahashi describes its “Configuration of LED Module,” as follows:

The LED module 10 is a lighting source module of the straight tube LED lamp 1, and ***is fixed to the mounting part on the front surface of the base platform 330*** to be covered with the case 320 as shown in FIG. 2. There are various methods for fixing to the mounting part such as fixation with a hook, a slide, silicon, a rivet, caulking, and so on in addition to fixation with an adhesive, a screw, and so on.

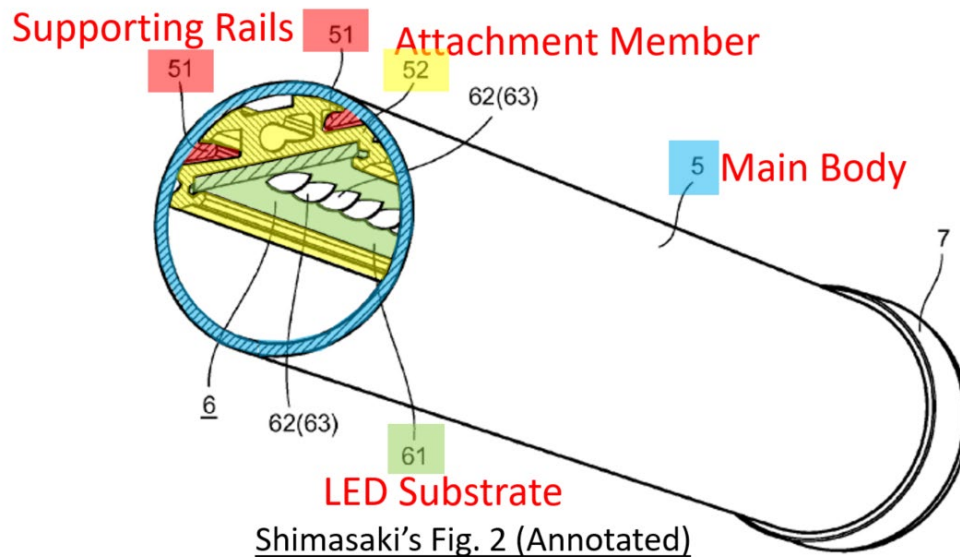
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As shown in the figures, the LED module 10 is a light-emitting module including: the board 11; the LED elements 100; the LED elements 200 having a different emission color from an emission color of the LED

elements 100; and the drive circuit 360 including the FET switch SW2.

EX1005 at 7:65-8:13 (emphasis added). Two things are evident from Takahashi's quoted paragraph above: First, unlike Petitioner's interpretation, Takahashi describes its LED module as "fixed to the mounting part of the front surface of the base platform." *Id.* Second, unlike Petitioner's interpretation, what is notably missing from Takahashi's description of its LED module is its "base platform." Indeed, even Takahashi does not consider the base platform as a part of the LED module.

Similarly, Shimasaki describes its LED substrate 61 as "adhere[d] to the attachment member 52" and "disposed in the center." EX1006 at 4:53-64, Fig. 2. Shimasaki further states that "a pair of supporting rails 51" is formed "[o]n the inner wall of the main body 5," and "[the] elongated attachment member 52 is supported by the supporting rails 51 and disposed along the longitudinal direction of the main body 5." *Id.* at 4:19-23. Shimasaki does not describe the substrate as located or disposed "on" the inner wall of the main body. Petitioner's interpretation is inconsistent with Shimasaki's description.



Regardless of whether it is Petitioner's unduly expanded interpretation of the claim term or its implied substitution of the plain and ordinary meaning of the claim term with "either directly or through intervening elements," they are equally unpersuasive because there is nothing in the record, not even from references cited by Petitioner, supports how a POSA would have understood the claim term as how Petitioner interprets it. If anything, they all point to the opposite direction that a POSA, after reviewing the plain wording of the claim and the relevant intrinsic evidence, would not have given the claim term a meaning that encompasses any and all "intervening elements."

2. Petitioner Has Not Met Its Burden of Showing That A POSA Would Have Combined Takahashi with Shimasaki

Although Petitioner's "Motivation to Combine" section for the Takahashi-Shimasaki combination spans across pp. 29-35 of the Petition, a vast majority of

the space is spent on explaining how a POSA would have understood the openings from Takahashi alone. Pet. at 29-32. There are only two paragraphs, on p. 34, where Petitioner substantively asserts how a POSA would have been motivated to combine Takahashi and Shimasaki in the manner as claimed. Petitioner asserts that a POSA would have been motivated to include such openings in Takahashi's resist layer because "soldered connections through such openings represented a desirable one of a limited number of options." *Id.* at 34. These "limited number of options" include: (1) no resist layer, or (2) using a mechanical plug connector. *Id.* Petitioner asserts that "a POSITA would have viewed a soldered connection as a more[] reliable connection [than a plug connector], for example, because "soldering typically secures and strengthens the direct contact between a wire and the solder pads." *Id.* Petitioner also asserts reasonable expectation of success. *Id.* at 35.

First of all, Dr. Baker's declaration should be entitled to little or no weight. Petitioner's only support for these assertions is from its expert declarant, Dr. Baker. *Id.* at 34-35 (citing EX1002 at ¶¶ 68-69). But, a careful review of Dr. Baker's declaration reveals that it merely repeats, *verbatim*, the conclusory assertion for which it is offered to support. *See* EX1002 at ¶¶ 68-69 (Dr. Baker declaring that "a POSITA would have been motivated to include such openings in Takahashi's 'white resist' layer ... because soldered connections through such

openings represented a desirable one of a limited number of options.”). The cited declaration testimony is “conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support,” and is “entitled to little weight.”

Xerox Corp. v. Bytemark, Inc., No. IPR2022-00624, 2022 WL 3648989, at *6 (PTAB Aug. 24, 2022) (precedential); *see* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) (“Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.”).

Petitioner’s “limited number of options” assertion is also questionable. It is entirely unclear what “a mechanical plug connector” Dr. Baker is exactly referring to in the declaration, and why it would be so weak that a POSA would “have viewed a soldered connection as a more reliable connection.” EX1002 at ¶¶ 68-69. Contrary to Petitioner and its expert’s assertions, a POSA would have known that soldered connection failure is one of the most common failure for the art of the LED lamp design and manufacturing. Patent Owner also identified this issue and provided a number of solutions to address it. *See, e.g.*, ‘125 Patent at 51:37-41 (“the total amount of welding or soldering can be significantly reduced, improving the general reliability of the power supply module”), 52:10-16 (“[S]ince welding

points on the printed circuit board ... are no longer used, the reliability of the power supply module is improved, in view of the fact that these welding points are most liable to (cause or incur) faults, malfunctions, or failures.”). Even Petitioner’s own reference, Shimasaki, identifies solder joints as weak points in the LED lamps. EX 1006 at 2:48-51 (“[I]t is likely that, for example, deflection, deformation, and a gap occur in the substrates, a load is applied to a soldered portion (a joined portion) and a crack occurs, and the substrates are disconnected.”). Indeed, there was “no disclosure of underlying facts or data” on which this assertion is based. 37 C.F.R. § 42.65(a). Because Dr. Baker offered a mere mirror image of Petitioner’s argument and nothing else, Petitioner’s expert declaration “is entitled to little or no weight.” *Id.*

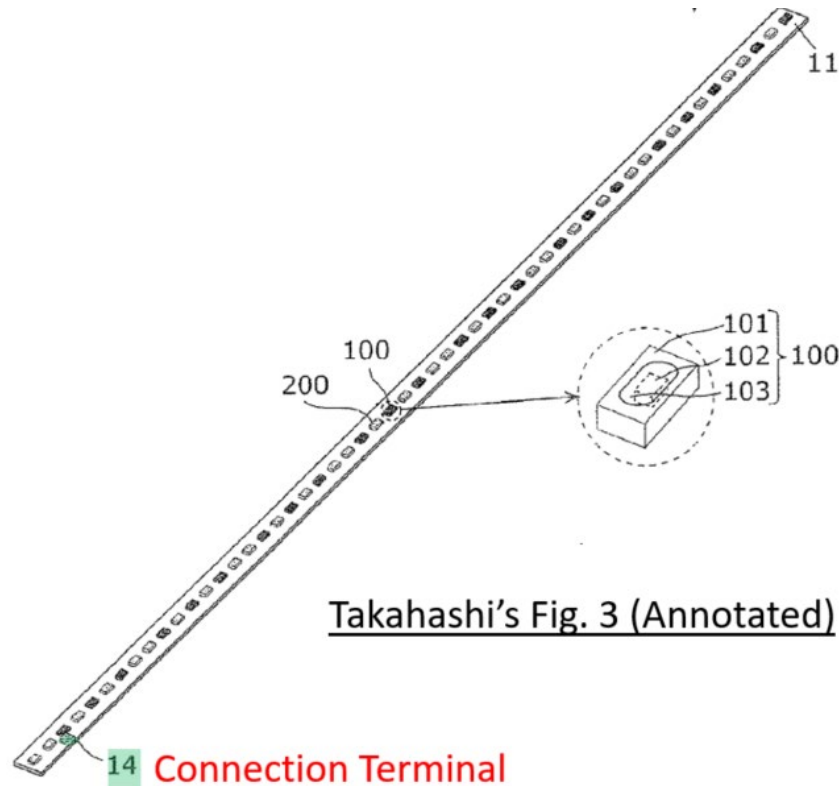
The alleged Takahashi-Shimasaki combination provides no benefit. When an advantage provided by one reference is redundant with an advantage already possessed by another reference, the Federal Circuit recognizes that there could be a nexus between impermissible hindsight and the redundant advantage. *Kinetic Concepts, Inc., v. Smith and Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012). Referring to the redundancy in advantage, the Federal Circuit states, “[b]ecause each device independently operates effectively, a person having ordinary skill in the art, who was merely seeking to create a better device [for the same function], would have no reason to combine the features of both devices into a single device.”

Id. With this finding of redundant advantage that weights against motivation to combine as well as other findings, the Court concludes in *Kinetic Concepts* that “hindsight provides the only discernable reason to combine the prior art references.” *Id.*

Petitioner asserts that a POSA, after reading Takahashi and Shimasaki, would be motivated by Shimasaki to modify Takahashi’s white resist and electrical connection. Pet. at 34-45. But Takahashi is not at all about white resist or electrical connection, and neither is Shimasaki. Takahashi’s invention is directed to “provid[ing] a lighting source and a lighting apparatus that are capable of switching between emission colors without changing the brightness and the power consumption.” EX1005 at 2:12-15. Most parts of Takahashi’s specification are devoted to this purpose, which is primarily achieved by using circuit designs incorporating two separate arrays of LED elements but with a constant power output circuit for powering both arrays without changing a total value of supplied power. *Id.* at 5:28-60.

Takahashi, in its entirety, only mentions the word “white resist” once. “[T]o enhance reflectivity and protect wiring, a white resist may be applied to the front surface of the board 11.” *Id.* at 9:20-22. Similarly, Takahashi, in its entirety, only mentions the word “solder” once, and that is in association with a “connection terminal.” *Id.* at 9:40-42. Takahashi, in describing Fig. 3, states: “It is to be noted

that a lead wire is soldered at the connection terminal 14 to be fixed to the board 11.” *Id.* Shown below is Takahashi’s Fig. 3, i.e., the only figure where Takahashi’s connection terminal 14 is shown, which is also the only time Takahashi mentions “solder.”

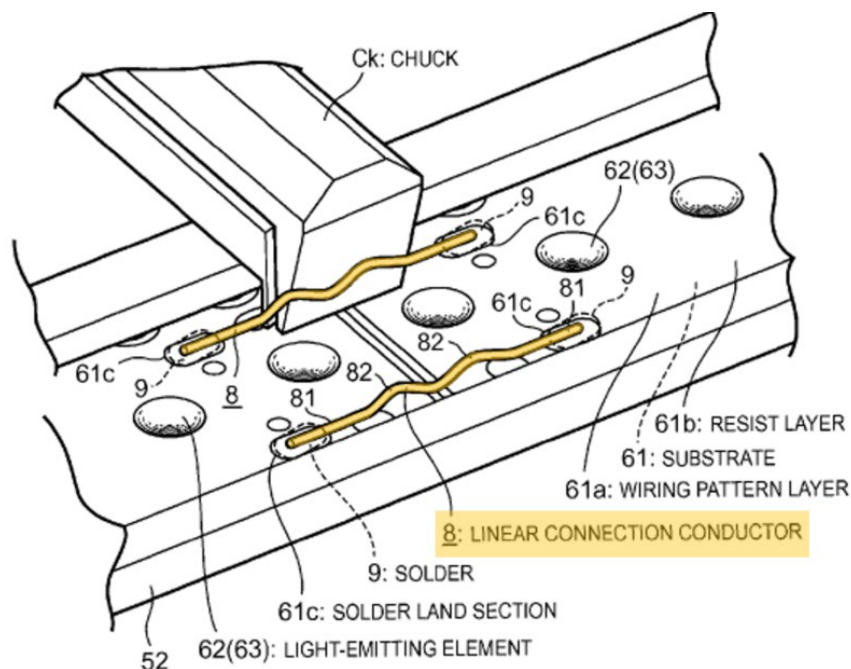


Unlike Petitioner’s assertion (*see* Pet. at 41-42), Takahashi is otherwise absolutely silent on anything to be soldered, let alone “at least two solder pads” in “a connection region.” From the lack of detail for Takahashi’s connection terminal 14 to the casual reference to the “white resist,” they show that these features are far from the focus of Takahashi’s invention. To assert that a POSA would be motivated to modify Takahashi’s white resist and electrical connection after

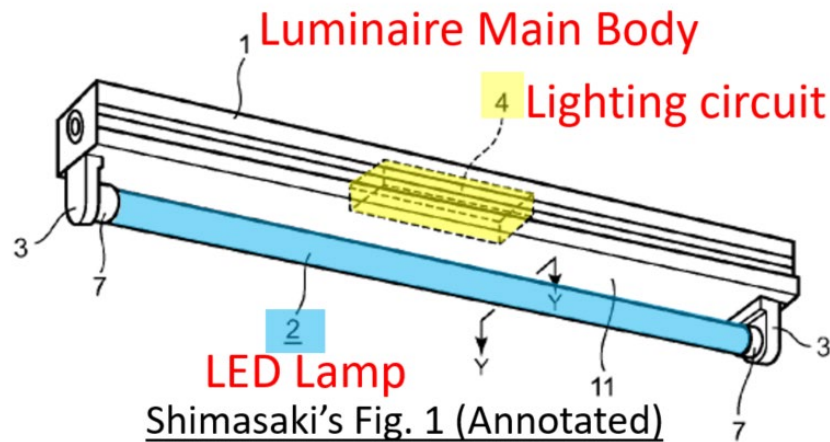
reading it is a suspicious starting point. To further build on that starting point and assert that a POSA would then look to Shimasaki's solder resist for modifying the solder for the connection terminal, such as shown in Takahashi's Fig. 3 above, is stretching for the POSA's creativity.

Furthermore, contrary to Petitioner's assertion, Shimasaki's connector is not for "connection between a power circuit and an LED light strip." Pet. at 31.

Shimasaki's linear connector is soldered between two PCB substrates, and Shimasaki's power circuit is in "luminaire main body 1" that is not even within the LED tube. See EX1006 at Fig. 5 (showing linear connection conductor 8 connecting between two PCBs); *cf. id.* at Fig. 1 (showing a lighting circuit 4 in luminaire main body 1 as opposed to LED lamp 2).



Shimasaki's Fig. 5 (Annotated)



Shimasaki's invention is directed to solving the reliability issue caused by soldering the jumper wire in mass, automated production process. *See generally* EX1006. "When soldering is performed, it is difficult to automate a process for soldering the jumper wire formed by bending the metal plate" and "the jumper wire is not suitable for mass production." *Id.* at 2:57-61. Therefore, Shimasaki's solution to this problem is a special "linear conductor." *Id.* at 2:62-63.

Specifically, this linear conductor of Shimasaki has a particular shape, wire diameter dimension, tensile strength, solder land area size, etc., and is to be soldered ***between two PCB substrates*** so that a mechanical arm (or a chuck) can grab the PCBs by the linear conductors without unintentionally breaking or cracking the soldered joints. *Id.* at 6:41-56; *see also* Fig. 5 (above with annotation).

As such, Shimasaki's openings on the resist layer are specifically designed for providing the mechanical strength and tolerance that are needed for mass

production by automated machinery. Although Shimasaki's linear connector 8 provides electricity, a POSA would not look to Shimasaki to improve Takahashi's white resist. And even if so, Takahashi already has a solder resist that works, and so does Shimasaki. Overall, Petitioner has not shown that Takahashi's white resist is more likely than not deficient for its intended purposes, nor has it shown Shimasaki's resist layer is more likely than not better in addressing any alleged deficiency. Because the proposed Takahashi-Shimasaki provides no benefit but, at best, only redundant feature, "each device independently operates effectively," and a POSA, "who was merely seeking to create a better device [for the same function], would have no reason to combine the features of both devices into a single device." *Kinetic Concepts*, 688 F. 3d. at 1369. "[H]indsight provides the only discernable reason to combine the prior art references." *Id.*

3. Conclusion

At least for the reasons stated above, Petitioner has failed to meet its burden to present a reasonable likelihood that Petitioner would prevail on at least one claim challenged under Ground 1 against '125 Patent's claim 1 and, also at least for the same reasons, against any of its dependent claims.

B. Petitioner Has Not Shown That the Challenged Claims Are Obvious Under Ground 2.

1. Guang-Shimasaki Combination Does Not Render Obvious Independent Claim 1 or Its Dependent Claims

Ground 2 is Petitioner's second bite of the apple. It is almost identical as Ground 1, and it suffers from similar issues.

In Ground 2, Petitioner relies on Guang as the main reference for disclosing all features in claim 1 except for (1) the "openings on the protective layer" feature and (2) the "connection region ... having at least two solder pads" feature. Pet. at 51-65. Petitioner turns to Shimasaki for the feature missing from Guang. *Id.* However, as explained below, the Guang-Shimasaki combination repeats almost the same defects as the Takahashi-Shimasaki combination proposed in Ground 1. They at least include an overly broad interpretation of claim term that is inconsistent with intrinsic and extrinsic evidence, as well as lack of motivation to combine. As a result, a POSA would not have interpreted the claim as proposed by Petitioner, and the combination again fails to render claim 1 obvious.

For brevity, Patent Owner only provides in Ground 2 a summary version of the argument where such argument repeats what has been made in Ground 1.

(a) Guang's LED Module Is Not "Disposed on An Inner Circumferential Surface of the Lamp Tube"

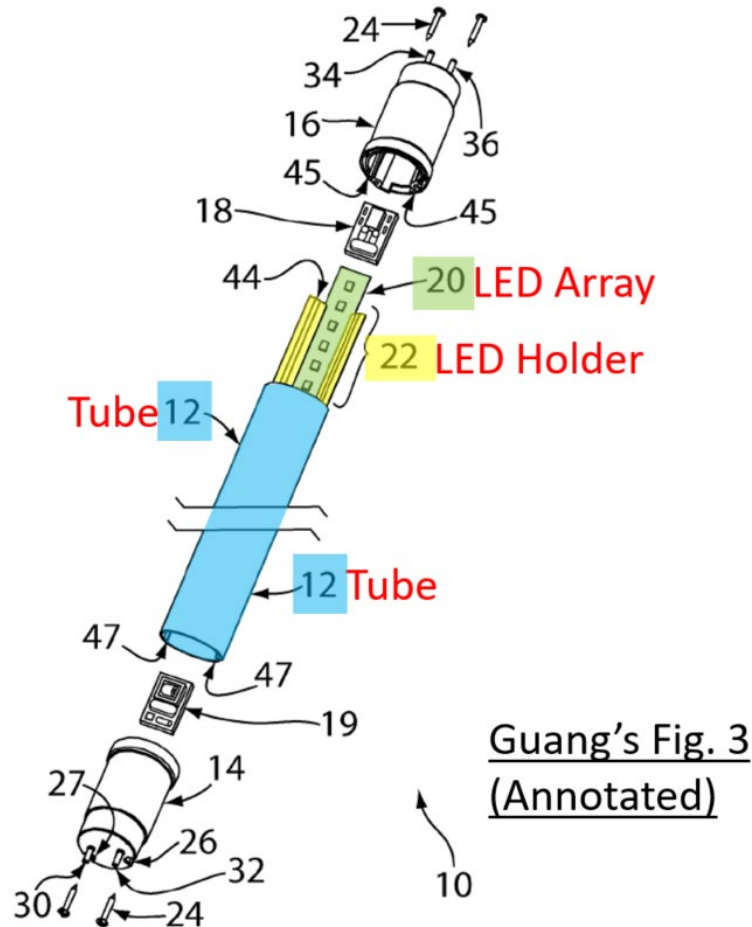
Petitioner's theory of obviousness is flawed because, like Ground 1, it relies on an overly broad construction of the term "disposed on." Petitioner proposes

that the term encompasses all possible elements, as long as they are in direct or indirect physical contact with something “on the inner circumferential surface of the tube lamp.” The interpretation is not consistent with how a POSA would understand it. Due to this fundamental mistake, the Petitioner’s obviousness theory inevitably collapses.

(i) Petitioner’s Interpretation Is Not How A POSA Would Reasonably Understand From the Plain Text of the Claim

Because Guang’s configuration shares similar weaknesses as Takahashi, like what is discussed above in § VI.A.1.(a).(i), Petitioner needs a way to redefine the scope of the claim so that the claim could cover those weaknesses.

Specifically, Petitioner asserts that Guang discloses “an LED light strip *disposed on* an inner circumferential surface of the lamp tube,” Pet. at 62-64, while Guang’s LED array is evidently located *not* on such surface but on an LED holder. “[T]he LED array 20 is supported inside the tube 12 by means of the LED holder 22 with ridges 44 for longitudinal strength.” EX1007 at 15:44-46. Note here how Guang, a reference cited by Petitioner, describes its LED array as “supported inside” the tube, not “disposed on an inner circumferential surface of the lamp tube.”



To solve the issue, Petitioner again resorts to an overly broad interpretation of the claim in hope to cover this intervening LED holder. Petitioner badly wants this Board to believe that a POSA would have understood the claim term as encompassing anything disposed on the inner circumferential surface as long as that thing is “either directly or through intervening elements” on the surface. Pet. at 16, 62-63.

But as demonstrated in Ground 1, such an overly broad interpretation is not the one a POSA would adopt at least because the plain English meaning of the

claim prevents the POSA from doing so. Claim 1 states that the “protective layer [is] disposed on a surface of the LED light strip” **and** the “LED light strip [is] disposed on an inner circumferential surface of the lamp tube.” *See PODS*, 484 F.3d at 1366 (terms presumed to have the same meaning throughout a claim). If Petitioner’s interpretation were correct, then the same interpretation would mean that the claimed feature of “protective layer” is **also** “disposed on” the inner circumferential surface of the lamp tube because the intervening element, i.e., the LED light strip, is disposed on that surface. No POSA would have read the plain English of this claim and understood the “protective layer” in the claim as “disposed on” the inner circumferential surface of the lamp tube, because that would be against a POSA’s common knowledge of the art and common sense.

A POSA would not read this term as blindly swallowing every single component, regardless of its size, importance, function, whatsoever, as long as it directly or indirectly touches something that is on the inner circumferential surface. Petitioner’s invitation to this Board to distort this plain-English claim term should be rejected. A POSA would not read the “protective layer” in the claim as “disposed on an inner circumferential surface of the lamp tube,” and in the same way, a POSA would not read Guang’s LED array as “disposed on an inner circumferential surface of the lamp tube.”

(ii) Petitioner's Interpretation Is Unsupported by The Specification of The '125 Patent

Petitioner attempts to point to the specification of the '125 Patent and blames that it is Patent Owner who overly broadly defined the term at issue, but as explained in § VI.A.1.(a).(ii), Petitioner is reading its own interpretation into Patent Owner's specification. Petitioner's proposal implies substitution the plain and ordinary meaning with a construction that encompasses an unlimited, unchecked range of elements that leads to clearly erroneous results. Such substitution is unsupported by the specification of the '125 Patent and should be rejected by the Board as well.

(iii) Petitioner's Interpretation Is Inconsistent with The Specification of Guang and Shimasaki, the References Cited by Petitioner Itself

It is not a mere coincidence when two out of the two primary references, Takahashi and Guang, both have descriptions in their specification that contradict the claim interpretation which Petitioner proposes. It is because Petitioner's proposal is overly broad and not the plain and ordinary meaning.

Like Takahashi, Guang also describes the location of elements within its LED tube lamp in a manner that is different from Petitioner's proposal:

Referring again to FIG. 3, the LED array 20 is *supported inside* the tube 12 *by means of the LED holder 22* with ridges 44 for longitudinal strength. The LED holder can be made of plastic or alternatively of metal in which case

the ridges 44 function as cooling fins to help dissipate heat away from individual LED's in the LED array 20. The channels 45 inside tube end 16 (and like channels in the other tube end) receive and hold flanged LED array holder 22 with its ridges 44.

EX1007 at 15:44-51 (emphasis added). First, unlike Petitioner's interpretation, Guang describes its LED array as "supported inside" the tube "by means of the LED holder." *Id.* There is nothing in Guang that supports a read where the LED array is "disposed on the inner circumferential surface" of Guang's tube 12. Second, unlike Petitioner's interpretation, what is notably missing from Guang's description of its LED array is its "LED holder." There is no part of Guang that considers the LED holder as a part of the LED array.

Similarly, as discussed in § VI.A.1.(a).(iii), Petitioner's interpretation is inconsistent with Shimasaki's description either.

Petitioner's argument is unpersuasive because there is nothing in the record, not even from references cited by Petitioner, that supports how a POSA would have understood the claim term as how Petitioner interprets it.

2. Petitioner Has Not Met Its Burden of Showing That A POSA Would Have Combined Guang with Shimasaki

Obviousness is a question of law based on underlying factual findings. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966). At the

outset, Dr. Baker’s declaration again is a complete repeat of Petitioner’s arguments; the sentences are *verbatim* in almost all places. *See* Pet. at 53-57; *cf.* EX1002 at ¶¶ 74-76 (for solder pads), ¶¶ 77-80 (for solder resist). Having the expert merely parrot what Petitioner argues (or “expertizing” the Petition)—while not offering any additional underlying fact or data—adds no value to the fact finding and offers no aid to the search for the answer to the ultimate validity question.

Dr. Baker’s declaration should be given no additional weight than Petitioner’s own argument.

(a) A POSA Would Not Have Modified Guang’s Pin Connectors to Shimasaki’s Solder Pads

Petitioner argues that a POSA “would have [] been motivated to use Shimasaki’s solder pads on Guang’s LED array 20 instead of pin connectors.” Pet. at 55. Petitioner proffers three reasons for the motivation, but they all are unconvincing. *See id.* at 55-58.

First, Petitioner claims a POSA would have been motivated to utilize solder pads because “Shimasaki explains that the use of connectors (instead of solder pads) makes it ‘difficult to efficiently perform work for connecting the substrates’ and ‘is not advantageous in terms of costs.’” Pet. at 57 (citing EX1006 at 1:35-38). But Petitioner has once again taken the words out of their context. The cited Shimasaki’s 1:35-38 is the Background Section where Shimasaki introduces prior

art solutions and general motivation behind those solutions. Immediately after the Background introduction, Shimasaki proceeds directly in the very first paragraph of Detailed Description the various problems that Shimasaki recognizes in the prior art solutions, EX1006 at 2:37-61, so that the stage is set for introducing Shimasaki's own invention, i.e., ***the linear connector***. *Id.* at 2:62-3:6. There are plenty of teaching-away statements on soldering from Shimasaki's stage setting. *See, e.g., id.* at 2:48-51 (“[I]t is likely that, for example, deflection, deformation, and a gap occur in the substrates, a load is applied to a soldered portion (a joined portion) and a crack occurs.”), 2:51-58 (“[If the substrates are connected using a jumper wire,] it is difficult to reduce the load applied to the soldered portion.”), 2:58-60 (“it is difficult to automate a process for soldering the jumper wire formed by bending the metal plate.”). As such, Petitioner's reliance on Shimasaki's Background for support of replacing connectors with solder pads is misplaced.

Second, Petitioner alleges that a POSA would have expected the use of solder pads instead of connectors to result in a more reliable connection, because the connection would be “less susceptible to oxidation” and would not “permit[] air (and [] moisture) to intrude.” Pet. at 57-58. But again, the allegation has no factual basis. As discussed in § VI.A.2 above, a POSA would have known that soldered connection failure is one of the most common failure for the art of the

LED lamp design and manufacturing. Patent Owner also identified this issue and provided a number of solutions to address it in the '125 Patent. *See, e.g.*, '125 Patent at 51:37-41 (“the total amount of welding or soldering can be significantly reduced, improving the general reliability of the power supply module”), 52:10-16 (“[S]ince welding points on the printed circuit board ... are no longer used, the reliability of the power supply module is improved, in view of the fact that these welding points are most liable to (cause or incur) faults, malfunctions, or failures.”). And as discussed, even Petitioner’s own reference, Shimasaki, identifies solder joints as weak points in the LED lamps.

Last but not least, Petitioner alleges the “simple substitution” argument, Pet. at 56, but the allegation is nothing but conclusory statements, and those statements ring especially hollow when there is no “underlying facts or data on which the opinion is based” and where Petitioner’s expert declaration merely repeats, *verbatim*, the conclusory assertion. 37 C.F.R. § 42.65(a).

(b) A POSA Would Not Have Modified Guang to Include Shimasaki’s Solder Resist

Petitioner also argues that a POSA “would have been motivated to incorporate Shimasaki’s resist layer on the surface of Guang’s LED array.” Pet. at 53-55. Petitioner appears to assume that Guang does not have a solder resist layer. But, anyone who is familiar with the art of PCB design and manufacturing would expect a commercial product, such as the ones Guang describes, to have a

protective solder resist layer on top of the actual metal, conductive traces of its circuitry. Having a solder resist layer on a PCB is typical. *See, e.g.*, U.S. Patent No. 7,600,315 at 2:8-9 (in Background Section describing conventional PCB manufacturing: “Subsequently, solder resist layers 310 are formed[.]”); U.S. Patent No. 7,834,273 at 1:46-47 (in Background Section: “Normally, a solder resist layer to protect the conductor circuit is formed on the surface layer[.]”).

What Petitioner’s allegation instead reveals is the hindsight involved in the Guang-Shimasaki combination. As discussed in § VI.A.2 above, when an advantage provided by one reference is redundant with an advantage already possessed by another reference, there could be a nexus between impermissible hindsight and the redundant advantage. *Kinetic Concepts*, 688 F. 3d. at 1369. “Because each device independently operates effectively, a person having ordinary skill in the art, who was merely seeking to create a better device [for the same function], would have no reason to combine the features of both devices into a single device.” *Id.* Here, the question is what a POSA would have understood after reading Guang and Shimasaki, and whether that person would therefore then be motivated to modify Guang to adapt Shimasaki’s solder resist. If that answer is no, and if the reason for that answer is because that POSA would not have understood Guang’s PCB as an incomplete, “naked” PCB, then the feature

redundancy would show impermissible hindsight, and that weighs against the alleged motivation to combine Guang and Shimasaki.

3. Conclusion

At least for the reasons stated above, Petitioner has failed to meet its burden to present a reasonable likelihood that Petitioner would prevail on at least one claim challenged under Ground 2 against '125 Patent's claim 1 and, also at least for the same reasons, against any of its dependent claims.

C. Petitioner Has Not Shown That the Challenged Claims Are Obvious Under Ground 3.

Ground 3 exclusively addresses dependent claims that depend from independent claim 1. *See, e.g.*, Pet. at 4. The ground does not address the defects in the proposed Takahashi-Shimasaki or Guang-Shimasaki combinations discussed above for independent claim 1. Accordingly, for at least the same reasons, Ground 3 does not render obvious any challenged claim.

D. Petitioner Has Not Shown That the Challenged Claims Are Obvious Under Grounds 4-6.

In Grounds 4-6, Petitioner tries its third and fourth bites of the apple. It relies on yet another variant of Takahashi-Shimasaki combination (Ground 1) and Guang-Shimasaki combination (Ground 2), but this time with one additional reference, Jing, and creates another two shots: a Takahashi-Shimasaki-Jing

combination (Ground 3) and a Guang-Shimasaki-Jing combination (Ground 4).

These two shots are aimed again at the same claims as Grounds 1 and 2.

Ground 6 exclusively addresses dependent claims that depend from independent claim 1. *See, e.g.*, Pet. at 4. The ground does not address the defects in the proposed Grounds 3-4. For brevity, Patent Owner limits the discussion here to Grounds 4-5.

1. Petitioner Has Failed to Meet Its Burden of Showing That A POSA Would Have Rendered Obvious Claims 1, 2, 6, 9-11, and 13-15 Over Jing

(a) The Certificate of Translation for Jing Is Defective

First of all, the certificate of translation submitted with Jing fails to comply with 37 C.F.R. § 1.68, as required by this Board. “When a party relies on a document or is required to produce a document in a language other than English, a translation of the document into English and an affidavit attesting to the accuracy of the translation must be filed with the document.” 37 C.F.R. §§ 42.63(b). 37 C.F.R. § 42.2 explains that “*Affidavit* means affidavit or declaration under § 1.68 of this chapter.”

Although the certificate states that the translation is believed to be “true, full and accurate,” it does not include the required warning regarding willful false statements and possible punishment, and therefore it fails to comply with 37 C.F.R. § 1.68. *See* EX1015 at 12 (Translation Certificate).

The certificate of Jing suffers from another failure. Although it identifies the declarant as “Andrea Santos, Project Coordinator in this company,” there is absolutely nothing that identifies what “company” it is. Jing’s certificate of translation is not effective for this reason as well.

(b) The Addition of Jing Does Not Cure the Lack of Motivation to Combine in Grounds 1 and 2

Even assuming Petitioner can later cure Jing’s defective certificate of translation, there is no additional argument raised by Petitioner in Grounds 3 and 4 that could address Petitioner’s failure of meeting its burden of proving that a POSA would have combined Takahashi with Shimasaki in Ground 1, or Guang with Shimasaki in Ground 2. Consequently, even if Jing could be added to the mix, it cannot cure the issues raised in §§ VI.A.2 and VI.B.2 above.

2. Petitioner Has Not Met Its Burden of Showing That A POSA Would Have Combined Jing with Takahashi-Shimasaki or Guang-Shimasaki

Jing states that “[t]he technical problem to be solved is to reduce the manufacturing cost.” EX1015 at ¶ [0006]. In addition, Jing also recognizes that “cooling is also a nonnegligible problem.”³ *Id.* at ¶ [0029]. But cost is the one cited by Petitioner as the reason for the assertion that a POSA would have

³ An alternative translation of this sentence that is closer to Jing’s original wording is: “heat dissipation is also a problem that cannot be ignored.”

modified Takahashi-Shimasaki and Guang-Shimasaki with Jing. Pet. at 80.

Petitioner even goes further by asserting that, after reading Jing, “a POSITA would have still recognized that in some instances reducing costs is more important than utilizing [the technical benefits from the intervening structures]”, such as “heat dissipation, supporting the LED light strip.” *Id.*

However, contrary to Petitioner’s assertion, a POSA would not have been motivated to combine Jing with Takahashi-Shimasaki or Guang-Shimasaki (even assuming that they were to be combined) because the mixture of Jing with these combinations creates the same technical problems Jing aims to solve. First, all three existing references—Takahashi, Shimasaki, and Guang—have flat PCBs. *See, e.g.*, EX1005 at Fig. 3, EX1006 at Fig. 3, EX1007 at Fig. 3. Whether it is Takahashi combined with Shimasaki, or Guang combined with Shimasaki, the resulting PCBs from these combinations would still be flat. They would not have a “circumference curvature of the inner wall of the lamp tube” like described in Jing. EX1015 at ¶ [0008]. With that, it leaves the POSA with a choice: to curve or not to curve. Petitioner does not appear to have considered this issue, Pet. at 82-84, because Petitioner has its eyes fixated on the target: meeting the limitation of “disposed on an inner circumferential surface of the lamp tube.”

But whether to curve or not to curve the resulting PCB would then lead the POSA onto two different paths, and both lead to the conclusion that the POSA

would not been motivated to combine a PCB resulting from Takahashi-Shimasaki or Guang-Shimasaki with Jing. If the POSA chooses not to curve the PCB and directly puts a flat PCB on the inner circumferential surface of the lamp tube, it necessarily results in an increased adhesive thickness towards the center of the PCB where all the LEDs are located. A POSA would recognize that this would deteriorate the thermal performance of the adhesive, which is “a nonnegligible problem” (or “a problem that cannot be ignored”). EX1015 at ¶ [0029]. And, if the POSA chooses to curve the PCB resulting from Takahashi-Shimasaki or Guang-Shimasaki to make it have a “circumference curvature of the inner wall of the lamp tube,” that invariably would involve a large amount of technical redesigns of not just the PCB that carries the LEDs but also the entire tube lamp. For example, PCB layout, tube lamp’s size, heat dissipation, manufacturing automation, and so forth, would all need to be redesigned for Takahashi-Shimasaki or Guang-Shimasaki to have a curved PCB like Jing, because a curved PCB is not how Takahashi, Shimasaki, or Guang was designed from the beginning. There are many factors that negatively affects whether a POSA would consider such modification proposal has a reasonable expectation of technical success, let alone such proposal almost invariably would increase manufacturing cost, again, something Jing expressly states that its patent aims to reduce.

Overall, without any underlying factual support or data, Petitioner cannot explain the various combinations it claims a POSA would have reached but for an impermissible amount of hindsight. Petitioner has not met the burden of proving a POSA would have combined Jing with Grounds 1 or 2.

3. Conclusion

At least for the reasons stated above, Petitioner has failed to meet its burden to present a reasonable likelihood that Petitioner would prevail on at least one claim challenged under Grounds 4-6 against the '125 Patent's claim 1 and, also at least for the same reasons, against any of its dependent claims.

E. Petitioner Has Not Shown That the Challenged Claims Are Obvious Under Grounds 7-12.

Grounds 7-12 repeat Grounds 1-6 with only one exception—the addition of Takigami for the feature of “a recognizing mark arranged on the connecting region”—against '125 Patent's independent claim 29 and its dependent claims. *See* Pet. at 85-97. These grounds do not address the defects in the proposed Grounds 1-6 discussed above for independent claim 1. Accordingly, for at least the same reasons, Grounds 7-12 do not render obvious any challenged claim.

VI. CONCLUSION

For all the reasons discussed above, the Board should deny institution of Petitioner's Petition for *inter partes* review of the '125 Patent.

Dated: May 17, 2023

Respectfully submitted,

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CERTIFICATION OF WORD COUNT UNDER 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Preliminary Response totals 13,985, excluding the parts exempted by 37 C.F.R. § 42.24(a). Accordingly, this Petition is under the word count limit of 14,000 words.

This word count was calculated by using the built-in word-count tool in Microsoft Word 2016, the software used to prepare the document.

Dated: May 17, 2023

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CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of May 2023, true and correct copies of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE and Exhibits 2003-2013 were served via electronic mail upon the following counsel of record for Petitioner:

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