

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THERMALTAKE TECHNOLOGY CO., LTD. and

THERMALTAKE INC.,

Petitioner,

v.

CHEN, CHIEN-HAO,

Patent Owner.

IPR2024-01230

U.S. Patent No. 10,690,336 B1

PATENT OWNER SUR-REPLY

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UPDATED EXHIBIT LIST

Exhibit	Description
2001	October 17, 2024 Office Action from <i>Ex Parte</i> Reexamination No. 90/019,565
2002	Declaration of Dr. David Tuckerman in Support of Patent Owner Preliminary Response
2003	Joint Claim Construction and Prehearing Statement, Lian Li Industrial Co., Ltd. et al. v. Thermaltake Technology Co., Ltd. et al., N.D. Cal., Case No. 2:23-cv-07470-HDV-MAR
2004	Declaration of Kyle D. Chen in Support of Motion for <i>Pro Hac Vice</i> Admission
2005	Deposition Transcript of Dr. Andrew Wolfe (April 25, 2025)
2006	Declaration of Dr. David Tuckerman in Support of Patent Owner Response and Contingent Motion To Amend
2007	U.S. Application No. 90/019,565 File Wrapper
2008	U.S. Patent No. 10,082,286 B1 (“Huang”) (Cited in Ex-2005) [Thermaltake Ex-1008]
2009	RESERVED
2010	RESERVED
2011	RESERVED
2012	U.S. Patent Application No. 2017/031477 A1 (“Lai”) (Cited in Ex-2005) [Thermaltake Ex-1012]
2013	RESERVED
2014	Verified Certification and Translation of JP2005051085A (Cited in Ex-2005) [Thermaltake Ex-1014]
2015	RESERVED
2016	Certified Translation of TW107217695U (dated 9/21/2025)
2017	Certified Translation of TW107217695U (dated 5/14/2025)
2018	Close-up of Power Socket 4 in FIG. 1 of ’336 patent (annotated by Dr. Tuckerman during his 7/15/2025 deposition)

Exhibit	Description
2019	Copy of Petition for Inter Partes Review of U.S. Patent No. 10,690,336 (used during 7/15/2025 deposition of Dr. Tuckerman)
2020	Declaration of David B. Tuckerman, Ph.D., December 17, 2024 (black and white)
2021	Declaration of David B. Tuckerman, Ph.D., December 17, 2024 (in color)
2022	Comparison between spatial distribution chart for LEDs purportedly used in Lai and Lai's FIG. 3
2023	Figure of a die (as related to definition 3 b for "side" in Ex-1032)
2024	Figure of a die (annotated, as related to definition 3 b for "side" in Ex-1032)
2025	Figures of a die and FIG. 1 of the '336 patent (both annotated, as related to definition 3 b for "side" in Ex-1032)
2026	Figure of a pool (as related to definition 4 b for "side" in Ex-1032)
2027	Figure of a pool/poolside (as related to definition 4 b for "side" in Ex-1032)
2028	Figures of a pool/poolside and FIG. 1 of the '336 patent (both annotated, as related to definition 4 b for "side" in Ex-1032)
2029	Copy of Petitioner's Reply to Patent Owner's Response to Petition (used during 9/26/2025 deposition of Dr. Wolfe)
2032	Figures of illumination fans in an exhibit filed with a brief in Lian Li v. Thermaltake, Case No. 2:23-cv-07470-HDV-MAR (C.D. Cal.), Doc. 50-3.
2033	RESERVED
2034	RESERVED
2035	FIG. 3 of '336 patent (annotated)
2036	FIG. 1 of '336 patent (annotated)

Exhibit	Description
2037	FIG. 3 of '336 patent (annotated)
2039	Spatial Distribution Chart for LEDs purportedly used in Lai (annotated)
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2050	Spatial Distribution Chart for LEDs purportedly used in Lai (clean/not annotated)
2051	Dr. Andrew Wolfe's deposition transcript, September 26, 2025
2052	Dr. David Tuckerman's Updated Declaration, October 3, 2025

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<i>Bell Atl. Network Servs., Inc. v. Covad Comm'c'ns Group, Inc.</i> , 262 F.3d 1258 (Fed. Cir. 2001)	4-5
<i>In re Chaganti</i> , 554 F. App'x 917 (Fed. Cir. 2014)	32-33
<i>Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.</i> , 279 F.3d 1022 (Fed. Cir. 2002)	9
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<i>InTouch Techs., Inc. v. VGO Commc'ns, Inc.</i> , 751 F.3d 1327 (Fed. Cir. 2014)	16, 30, 33
<i>Kaufman v. Microsoft Corp.</i> , 34 F.4th 1360 (Fed. Cir. 2022)	6
<i>KSR Int'l Co. v. Teleflex, Inc.</i> , 550 U.S. 398 (2007).....	30
<i>Kyocera Senco Indus. Tools Inc. v. Int'l Trade Comm'n</i> , 22 F.4th 1369 (Fed. Cir. 2022)	5, 12
<i>Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.</i> , 520 F.3d 1367 (Fed. Cir. 2008)	9
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	4
<i>Regeneron Pharms., Inc. v. Mylan Pharms. Inc.</i> , 130 F.4th 1372 (Fed. Cir. 2025)	5, 12

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I. INTRODUCTION

Patent Owner hereby submits this Sur-Reply in response to Petitioner’s Reply (“Reply”). For at least the reasons herein and in the Patent Owner Response (“POR”), Petitioner has not shown any of claims 1-5 are unpatentable.

II. CLAIM CONSTRUCTION

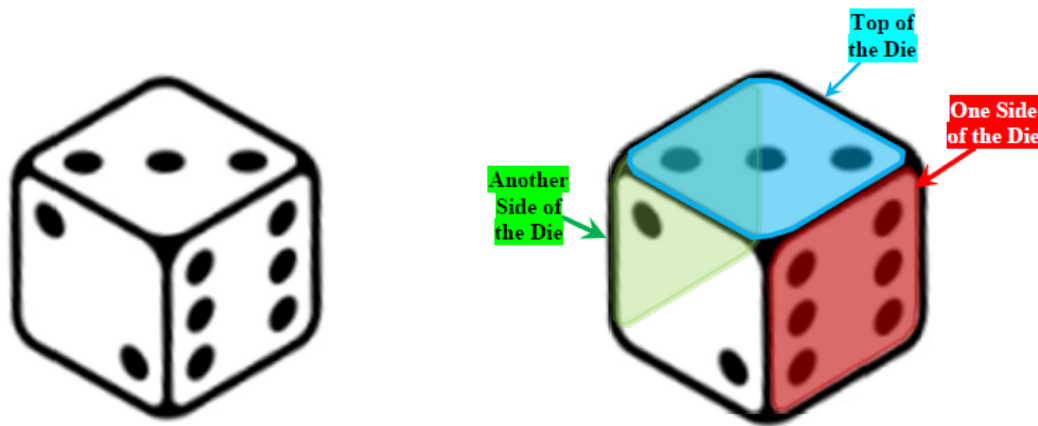
A. Claim 1 Defines Three Separate Surface Locations on the Claimed Illumination Fan’s Body: a Top and Two Sides

“Claim 1 expressly recites *three body locations*: ‘the top of the body,’ ‘one side of the body,’ and ‘another side of the body.’” (Institution Decision (Paper 12), hereinafter “ID,” at 17 (emphasis added);¹ *see also id.* at 4 (“Figure 1 illustrates body 1 as a three-dimensional box with a square *top surface* and rectangular *sides* descending therefrom.”).) The Board found that “the *plain meaning* of claim 1 defines *three sides of the claimed body [i.e., three body locations]*, a top of the body (with an illumination area on two sides of the fan), one side of the body with a power socket and a first connector, and another side of the body with a second connector.” (ID at 17; *see also id.* at 4.) The Board’s plain-meaning interpretation of the three surface locations, *i.e.*, the top surface (*i.e.*, the “top of the body”) and the two side surfaces (*i.e.*, the “one side of the body” and the “another side of the body”) are supported by FIGS. 1-5 and the related text describing them in the ’336 patent. (*See*,

¹ Emphasis added herein unless otherwise noted.

e.g., Ex-1001 at 1:53-2:2, 2:16-30, 2:61-3:6, 3:18-28.)

Nothing in the Reply justifies the Board changing its original opinion. Indeed, the testimony of Petitioner’s expert, Dr. Wolfe, confirms the Board’s ID determination was correct. For instance, when referring to the dictionary definition “3 b” for “side” in Ex-1032, Dr. Wolfe stated that an “object [like] a die has six sides,” as shown below:

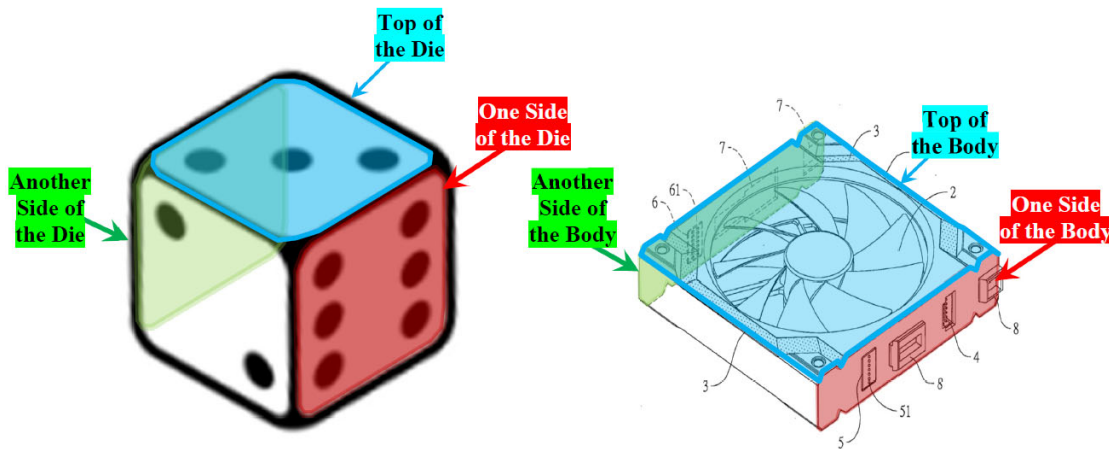


(Ex-2023 (above-left) and Ex-2024 (above-right); *see also* Ex-2051 (Wolfe Tr.) at 119:16-20 and 120:17-22 (“as shown in Exhibit 2023, would you expect the die as shown to have six sides as defined in definition 3 b for ‘side’ in Exhibit 1032? THE WITNESS: I think I would”) (objection omitted);² *see also* Ex-2051 (Wolfe Tr.) at 121:15-18 (agreeing Ex-2024 is a “fair” annotated Ex-2023).)

Dr. Wolfe further admitted that the “body of the illumination fan” could be considered an “object” like a die under *the dictionary definition “3 b” for “side”* as

² Counsel’s objections are always omitted herein unless otherwise noted.

shown above and below:



(Ex-2025; *compare id. with* Ex-2024; *see also* Ex-2051 (Wolfe Tr.) at 122:1-123:2 (agreeing the die shown in Ex-2024 has a “top,” “one side,” and “another side”) and 126:5-11 (“Q. Dr. Wolfe, *using the [dictionary] definition 3 b in Exhibit 1032 for ‘side,’* would you agree that the body of the illumination fan annotated on the right-hand side of Exhibit 2025 [above] could be *an object*? THE WITNESS: *It could be considered to be an object.*”) Thus, the “three sides of the claimed body” (ID at 17) refer to the three surfaces forming the three faces of the body as an “object,” as supported by the dictionary definition “3 b” for “side” in Ex-1032.

B. The “Two Sides of the Fan” Should Be Construed Differently from the “Side[s] of the Body”

Petitioner’s *new* claim construction arguments in the Reply regarding “side”³

³ Petitioner’s new claim construction arguments raised for the first time on Reply should be disregarded. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016) (entirely new theories on reply not allowed).

based on the following dictionary definition is wrong: “a place, space, or direction with respect to a center or to a line of division (as of an aisle, river, or street).” (Ex-1032 at 4.) Petitioner’s cherry-picked definition makes no sense because the ’336 patent is not directed to anything close to “an aisle, river, or street” for which the term “side” is defined in the dictionary definition “4 b.” (*Compare id. with* Ex-1001, FIGS. 1-5.) Further, by Petitioner’s and Dr. Wolfe’s own admissions, there are “more than a dozen definitions for side,” which proves that the word “side” must be determined in context. (Reply at 9; Ex-1031, ¶15.) Further, it is the specification and the claims that should primarily guide claim construction, not extrinsic evidence such as dictionaries without context. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (“heavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification.”). As discussed in Section II.A *supra*, the specification and the claim language support the Board’s plain-meaning interpretation of the “side[s] of the body” as the side surfaces of the body.

The Reply (at 10) argues its new claim construction of “side” is consistent with the Examiner’s statements in a stayed *ex parte* reexamination proceeding, but unlike the statement of an applicant, the statements of an examiner will not necessarily limit a claim. *Bell Atl. Network Servs., Inc. v. Covad Comm’c’ns Group*,

Inc., 262 F.3d 1258, 1273 (Fed. Cir. 2001). Petitioner’s new construction of “side[s] of the body” (effectively as two halves of the body) also improperly causes the “top of the body” to overlap with the “side[s] of the body,” as shown below:

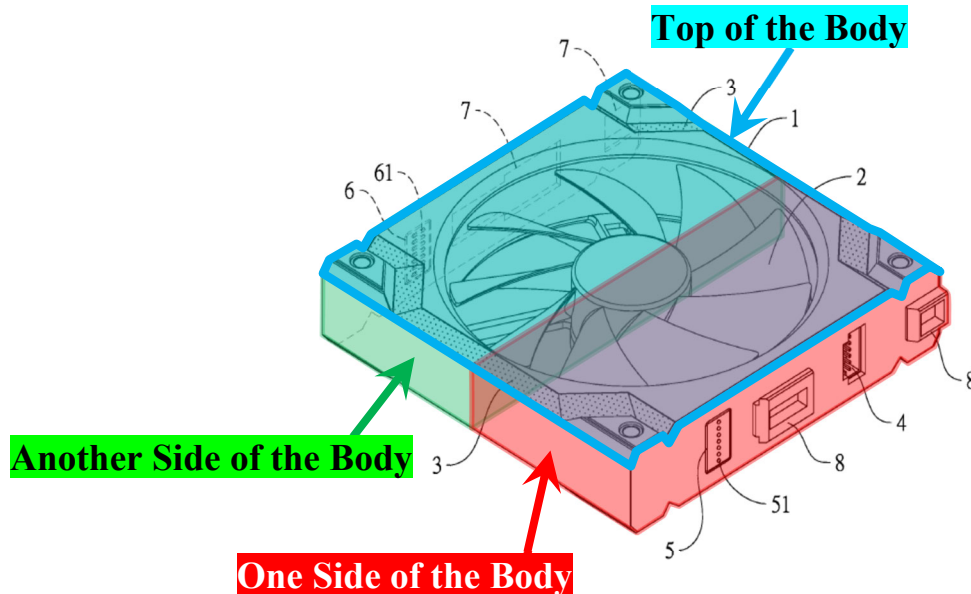


Fig. 1

(Ex-1001, FIG. 1 (annotated); *see also* Ex-2021, ¶¶25-33.) This unavoidable overlap violates the presumption that separately recited elements are *distinct*. *Regeneron Pharms., Inc. v. Mylan Pharms. Inc.*, 130 F.4th 1372, 1379 (Fed. Cir. 2025) (“where a claim lists elements separately, the clear implication of the claim language is that those elements are *distinct components* of the patented invention”) (quoting *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1250 (Fed. Cir. 2010)); *accord. Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1382 (Fed. Cir. 2022) (“there is ... a presumption that those [separately listed] components are *distinct*”). Further, Petitioner’s new claim construction potentially

excludes a preferred embodiment, *e.g.*, FIG. 1, by placing the first and second connectors on the same “one side of the body” (**red**), while the power socket on the different “another side of the body” (**green**), as shown below:

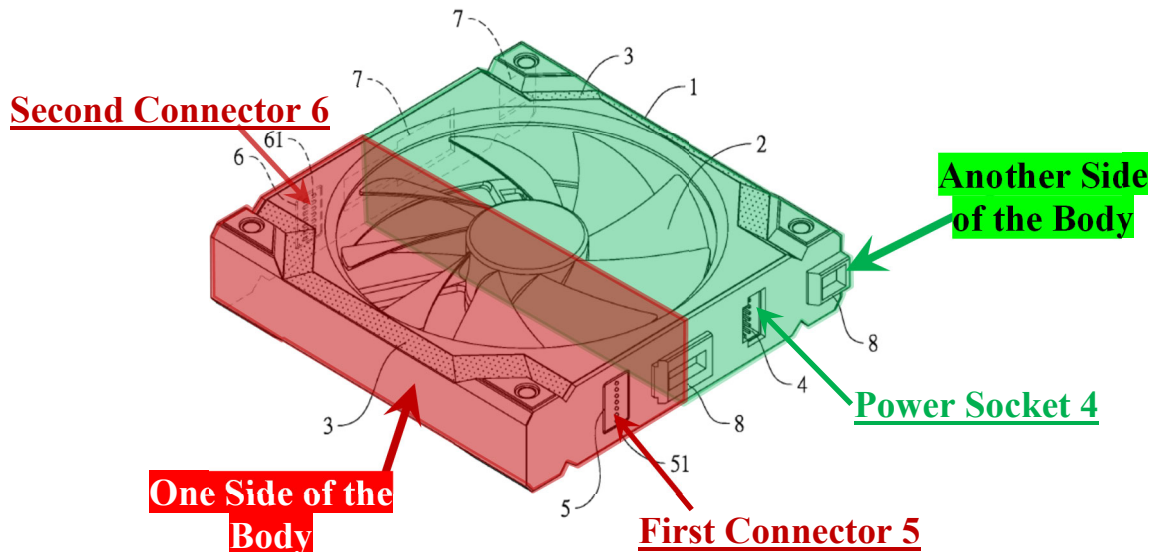
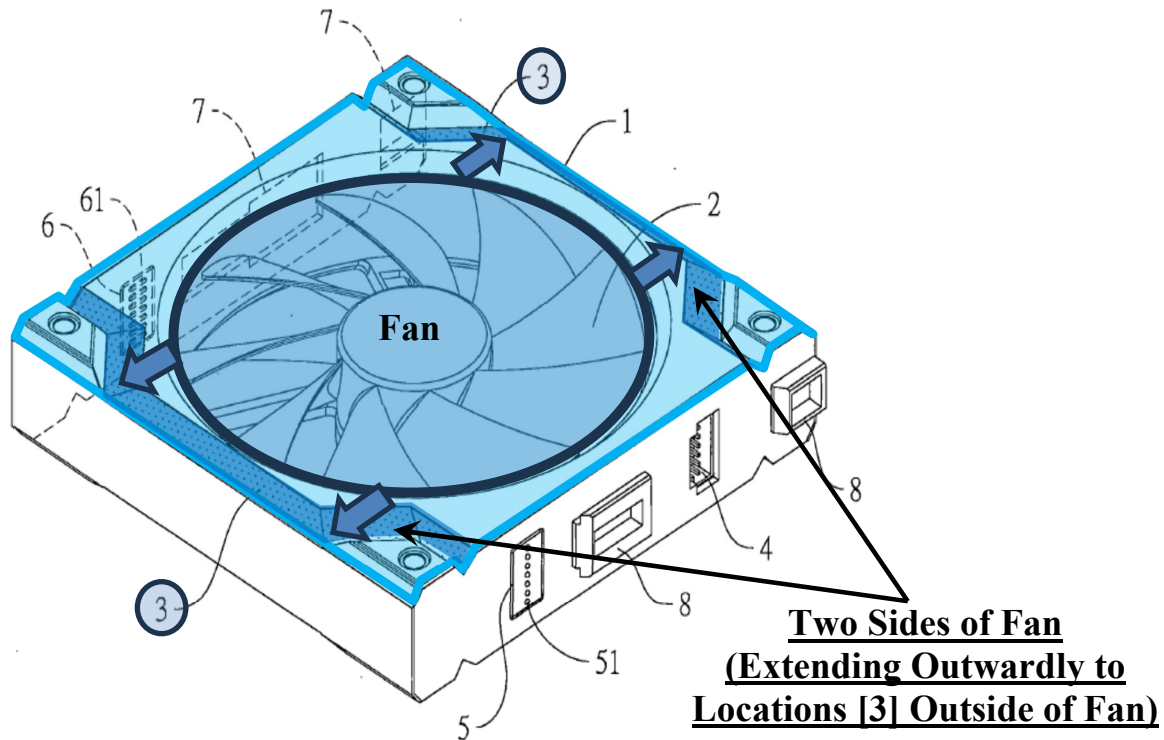


Fig. 1

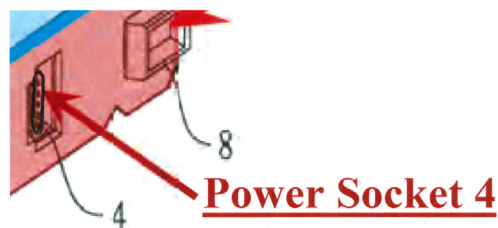
(Ex-1001, FIG. 1 (annotated).) But claim 1 requires the “power socket” and the “first connector” to be on the *same* “one side of the body,” and the “second connector” to be on the “another side of the body.” (ID at 16-17.) That is, the above preferred embodiment in FIG. 1 is potentially excluded under Petitioner’s construction, and a claim construction excluding a preferred embodiment is rarely, if ever, correct. *Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1372 (Fed. Cir. 2022).

Further, the Reply’s logic for construing the word “side” in claim 1 to accommodate the phrase, “the illumination area on at least two sides of the fan,” is also *backwards* because the “two sides” in the phrase *extend outwardly beyond* the

circular edge of the rotating fan to the areas *outside of* and *next to* the fan, ***not inwardly*** to an imaginary centerline of the fan,⁴ as shown below:



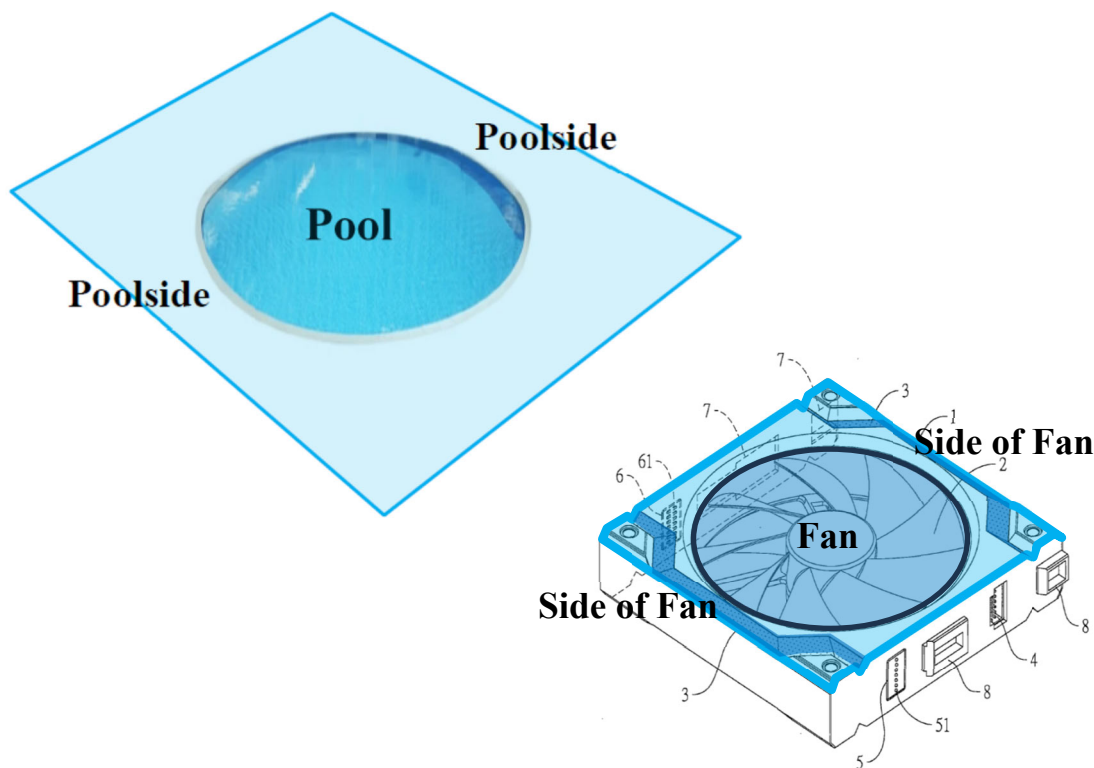
⁴ The Reply (at 8) mischaracterizes the testimony of Dr. Tuckerman, who did not exclude internal structures from being on a side of the body only because they were part of power socket 4 on the “one side of body,” such as the electrical contacts circled in a black ellipse inside the “Power Socket 4” below:



(Ex-2018 (annotated by Dr. Tuckerman); *see also* Ex-1030 at 140:22-141:6 (explaining and annotating Ex-2018).)

(Ex-1001, FIG. 1 (annotated).) That is, the “illumination area” located on “two sides of the fan” is *next to* and *outside of* the fan, *not* on the fan, as shown in all embodiments of the ’336 patent and as admitted by Dr. Wolfe. (*See, e.g.*, Ex-1031, ¶16; *see also* Ex-2051 (Wolfe Tr.) at 135:11-12 and 135:23-25.)

The meaning of the “two sides of the fan” (on which the illumination area is) *in the context of the ’336 patent*, therefore, is supported by Petitioner’s dictionary definition “4 b”: “an area next to something – usu. used in combination <a poolside interview>” (Ex-1032 at 4 (italics original)), as shown below:



(Ex-1001, FIG. 1 (annotated) (pool/poolside illustration added).) This is because the “two sides of the fan” (on which the illumination area is) are *next to* and *outside of* the fan. Dr. Wolfe agrees. (Ex-1031, ¶16 (“[T]his [illumination] area is *not on any*

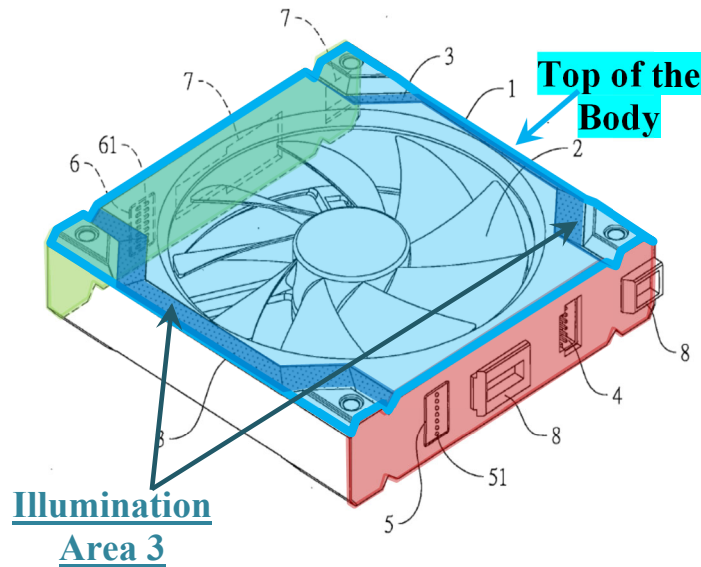
surface of the fan. In fact, it is on the housing (i.e., the claimed body) and *not on the fan at all*. ... In the preferred embodiment it is clearly *not part of Fan 2*.”); *see also* Ex-2051 (Wolfe Tr.), 135:11-12 (“In Figure 1 illumination area 3 is *not part of fan 2*. It is *to the left and to the right of fan 2*.”) and 135:23-25 (“Illumination area 3 is *not part of fan 2* in Figure 1. It is illustrated as being *to the left and to the right of fan 2*.”).) Thus, the “side[s] of the body” that are *part of* and *on* the body should be construed differently than the “two sides of the fan” that are *not* *part of* or *on* the fan. *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1031 (Fed. Cir. 2002) (construing “substantially” differently in two different contexts); *see also* *Aventis Pharms. Inc. v. Amino Chemicals Ltd.*, 715 F.3d 1363, 1374 (Fed. Cir. 2013) (“We have previously held that the same claim term can have different constructions depending upon the context of how the term is used within the claims and specification.”); *see also* *Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (there is no requirement that a claim term be construed uniformly, particularly if it would lead to a “nonsensical reading”).

III. THE REPLY FAILS TO CURE THE PETITION’S DEFICIENCIES

A. Petitioner Fails to Show Lai Teaches or Suggests Limitation 1[b]: “an Illumination Area ... at Top of Body”

1. Petitioner Incorrectly Conflates Visibility with Location

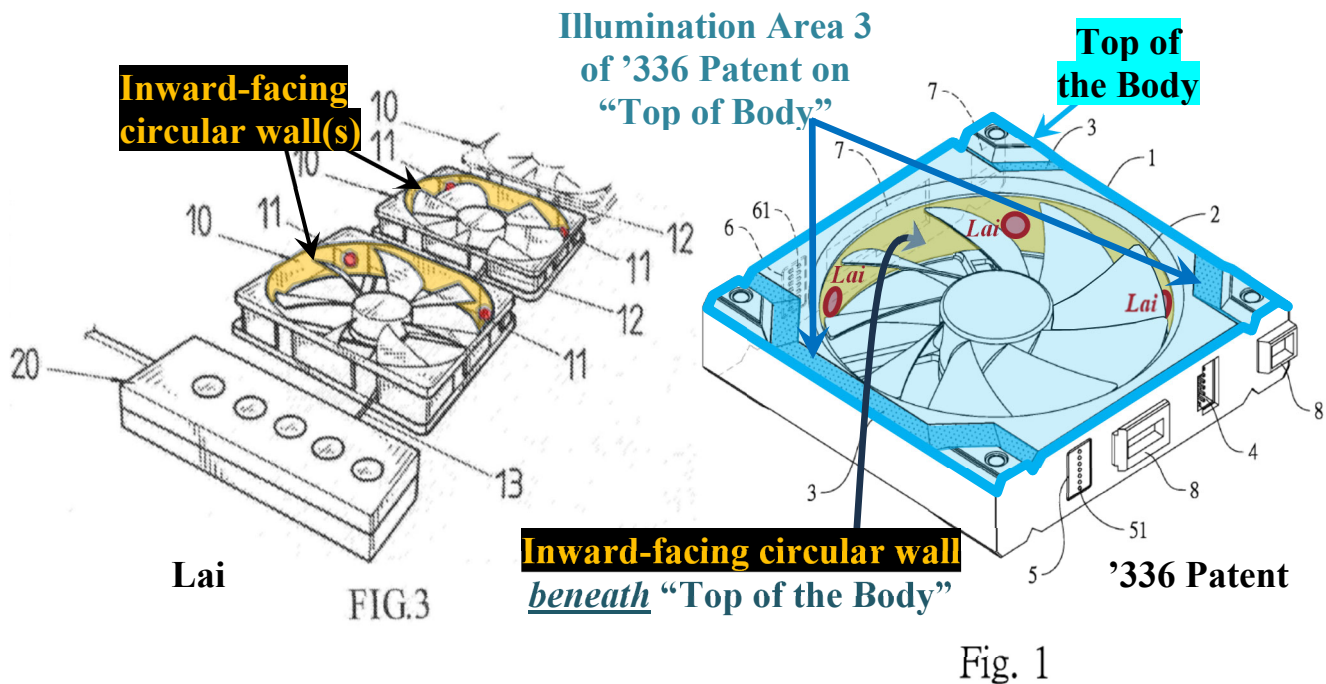
The Board’s interpretation of the “top of the body” (ID at 4, 17) points to the top surface of “the body” where the “illumination area” is, as shown below:



(Ex-1001, FIG. 1 (annotated).) The Reply (at, *e.g.*, 6, 12) incorrectly states Patent Owner argues that the “top of the body” refers to a “*topmost* surface” of the body and that “the term ‘top’ requires the illumination area to be *completely* on the upper surface of the body.” Yet, Patent Owner never made such arguments. Instead, “*topmost* surface” (like “outermost surface”) is a term invented by Petitioner that appears to mean an *imaginary flat plane* touching only the highest point(s) of the top surface of the body. (*See, e.g.*, Reply at 6-9, 11, 12, 15, 17, 19, 24-25.)

The Reply is wrong for several reasons. As an initial matter, the claim does not use the term “*topmost* surface”—the claim recites “top of the body,” which is clear on its face to mean a top surface of the body. (ID at 4, 17.) Second, the top surface of the body *does not have to be flat* because (a) no such requirement is present in the plain claim language, and (b) each of the ’336 patent’s embodiments includes an uneven and non-flat top surface corresponding to the “top of the body.”

(Ex-1001, claim 1, FIGS. 1-5; *see also* Ex-1030 (Tuckerman Tr.), 141:7-142:7 (pointing out the '336 embodiment, as annotated on page 20 of Ex-2006, shows that none of the “one side of the body,” the “another side of the body,” and the “top of the body” is flat, nor is there any limitation requiring the “top of the body” to be flat.)) Under the proper construction, Lai fails to teach the “illumination area ... at top of the body” because *no part* of Lai’s illuminating or illuminated area is *located at* the top of the LED’s fan body:



(POR at 14-17.) Indeed, neither Petitioner nor Dr. Wolfe argued Lai discloses an illumination apparatus at the top surface of the fan body. Instead, they seem to argue that the limitation is somehow met if an illuminated area is *visible* when *viewed* from the top of the body. (See, e.g., Reply at 12-14, 16, 28.) Specifically, Petitioner

appears to propose that, if *visible* from the “top of the body,” then (1) the illuminated rotating fan blades of the Lai’s LED fan and/or (2) the light emitting “straight up” from Lai’s LEDs somehow satisfies or renders obvious this limitation. (*Id.*) Petitioner’s arguments fail for several reasons.

First, claim 1 requires an “illumination area,” *i.e.*, a separate physical structure, to be located “*at the top of the body*” and not on the rotating fan in the center, as confirmed by Dr. Wolfe:

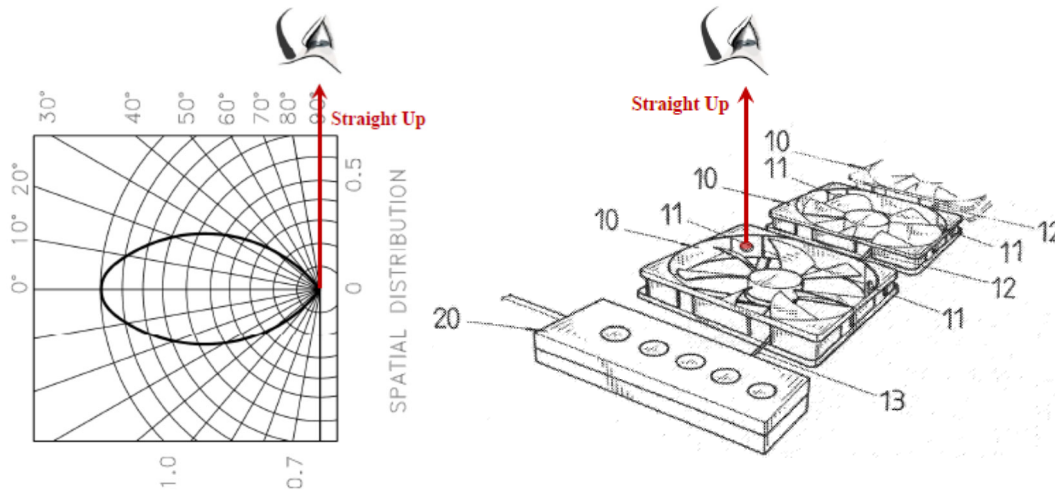
“[T]his [illumination] area is not on any surface of the fan. In fact, it is on the housing (*i.e.*, the claimed body) and not on the fan at all. Note that the claimed fan rotates when connected via the claimed connectors. Illumination Area 3 does not rotate. In the preferred embodiment it is clearly not part of Fan 2.”

(Ex-1031, ¶16.)⁵ Petitioner’s arguments thus fail because they attempt to map Lai’s rotating fan to two *distinct* features in claim 1: (1) an “illumination area ... at top of the body” and (2) a “fan in center of the body.” *Regeneron*, 130 F.4th at 1379; *accord. Becton*, 616 F.3d at 1250; *accord. Kyocera*, 22 F.4th at 1382. Because Lai’s rotating fan is already mapped by Petitioner to the “fan in center of the body” (Petition at 56-57 (*see below*)), it cannot *also* be overlappingly mapped to the

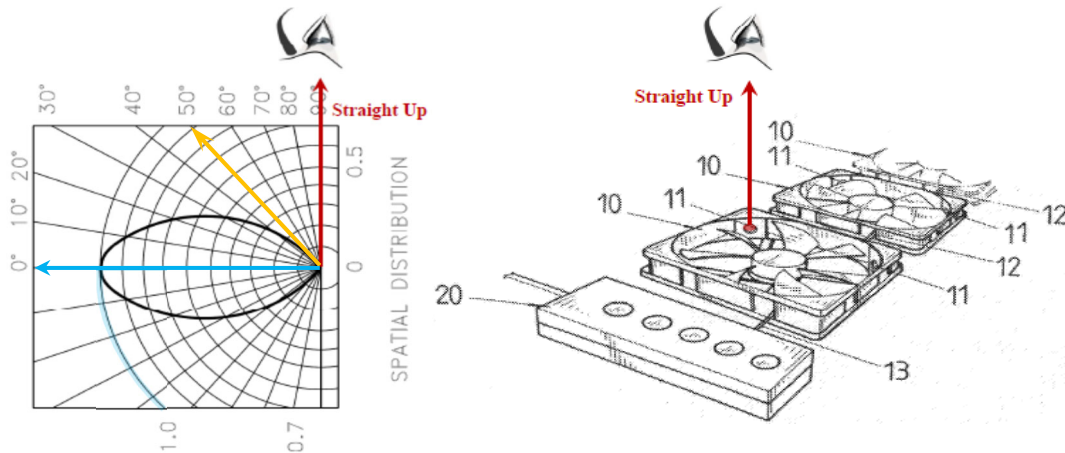
⁵ During deposition, Dr. Wolfe repeatedly confirmed that “illumination area 3 is *not part of fan 2*. It is *to the left and to the right of fan 2*.” (Ex-2051 (Wolfe Tr.), 135:11-12; *accord. id.* at 135:23-25.)

structurally distinct “illumination area ... at top of the body.”

Further, the “spatial distribution” chart cited by Dr. Wolfe as evidence shows that the light emission for the LEDs purportedly used in Lai *approaches zero* when viewed in the “straight up” direction, as shown below:

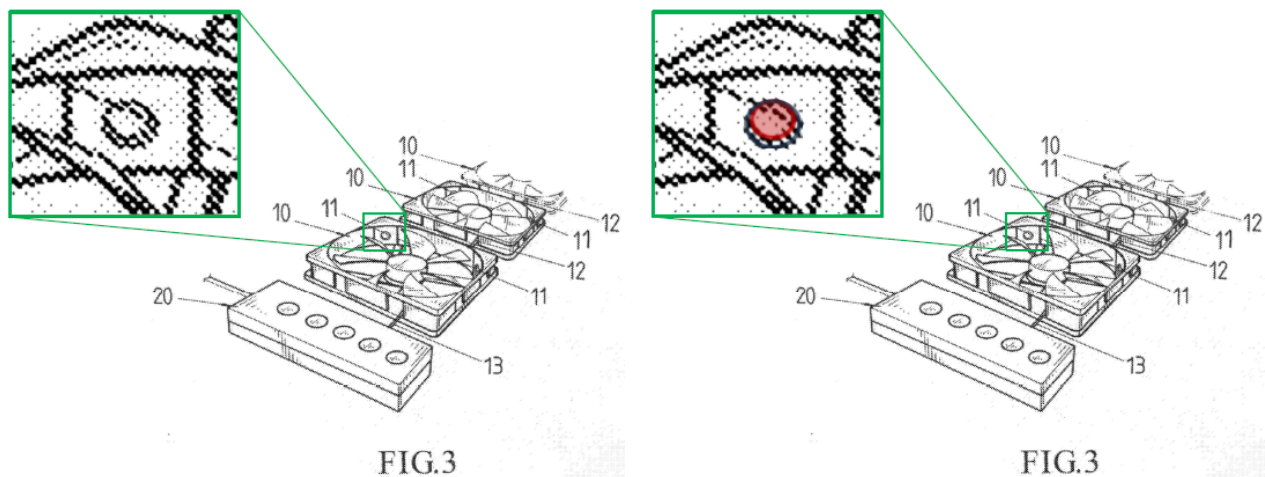


(Ex-2022; *compare id.* with Ex-1031, ¶51 (citing Ex-1035); *see also* Ex-2051 (Wolfe Tr.), 213:8-14.) The concentric circles in the spatial distribution chart (above-left) denote the light emission percentages for the purported Lai LEDs (from a maximum of “1.0,” *i.e.*, 100%, to a minimal of “0,” *i.e.*, 0%). (Ex-2051 (Wolfe Tr.), 214:10-16.) The radiating lines intersecting the concentric circles denote the light emission angles from 0° to 90°, and the points on the thick ellipse denote the LED’s light emission percentages at different light emission angles. (Ex-2051 (Wolfe Tr.), 215:15-24 and 218:6-19.) Thus, as shown below, the LEDs purportedly used in Lai emit 100% of the light at 0° (blue arrow, corresponding to “1.0”), **but close to 0% at more than 50°** (yellow arrow, corresponding to “0”):



(Ex-2022 (blue and yellow annotations added; other annotations original); *see also* Ex-2051 (Wolfe Tr.), 216:5-16 and 221:24-25.) As confirmed by Dr. Wolfe, in the 90° “straight up” direction (red arrows), which is way beyond 50°, ***the light emission strength “would approach 0.”*** (Ex-2051 (Wolfe Tr.) at 220:25-221:3.) Thus, Dr. Wolfe’s own evidence undermines the Reply’s visibility-based arguments.

Further, a POSITA would have understood that FIG. 3 of Lai shows “the tips of the LEDs would not substantially extend into the circular space in which the fan blades rotate to avoid interfering with the blades’ rotation” (Ex-2006, ¶52):



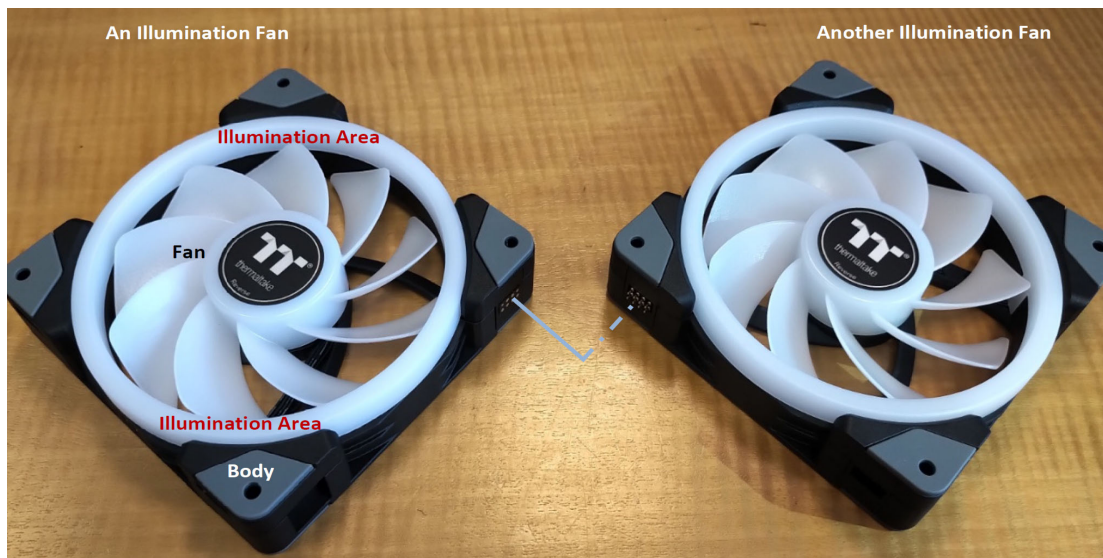
(Ex-2012 (Lai), FIG. 3 (annotated).)

In sum, Lai fails to disclose an “an illumination area ... at top of the body.” Instead, Lai’s LEDs 11 are located on the inward-facing circular wall(s) surrounding the fan blades, *i.e.*, *not* “at the top of the body.”⁶ Therefore, regardless of visibility, Lai’s LEDs cannot meet, or otherwise render obvious, the element “illumination area ... at top of the body.”

2. The Reply Fails To Show Lai Renders Limitation 1[b] Obvious

In alleging obviousness unsupported by evidence, the Petition apparently equates the purported “top of the fan body” in Lai as the “top surface”: “To the extent

⁶ Unlike Lai, the accused product in the district court case has a light-emitting ring (labeled as “**Illumination Area**”) *located at the top of each fan body*, as shown below:



(Ex-1018, at A-1; *compare id. with* Lai (Ex-1012), FIG. 3.)

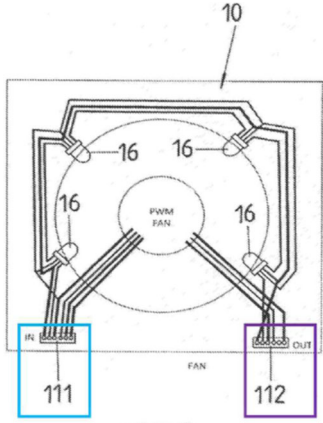
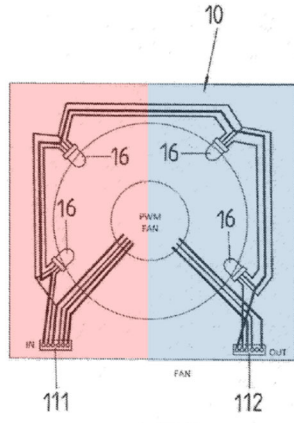
it is argued or found that Lai does not disclose an illumination area at *top of the fan body*, ... [t]here are no physical limitations that prevent or discourage moving them to the *top surface*.” (Petition at 58; *accord*. Ex-1004, ¶115; *accord*. Reply at 15-16; *accord*. Ex-1031, ¶53.) Critically, neither Petitioner nor Dr. Wolfe presents any evidence in the prior art to show that a POSITA **would have**, not just **could have**, moved Lai’s LEDs to the “top surface” of the body. Instead, Petitioner relies on Dr. Wolfe’s conclusory remarks based on hindsight. *See InTouch Techs., Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014) (“VGo’s expert also succumbed to hindsight bias in her obviousness analysis. Dr. Yanco’s testimony primarily consisted of conclusory references to her belief that one of ordinary skill in the art *could* combine these references, not that they *would* have been motivated to do so.”) (emphasis original); *see also* 37 C.F.R. § 42.104(b)(4) (requiring an IPR petition to “specify where each element of the claim is found in the prior art patents or printed publications relied upon”). Contrary to the Reply’s incorrect suggestion, Lai merely discusses the synching of LED light according to “the user preference” and “more complex and expressive lighting effects *through the change in output signals*,” but **not in the LEDs’ locations**. (Compare Reply at 16 with Ex-2012, [0003], [0011].) Further, if the LEDs were moved to the top surface of Lai’s fan body, then the fan blades in the center previously illuminated by the LEDs would no longer be so illuminated, defeating Lai’s original intent. (Ex-2006, ¶43.)

In sum, the Reply (at, *e.g.*, 12-14, 16, 28) confuses the *visibility* of light when viewed from the “top of the body” with its *location*. But the Board has already found that “the plain meaning of claim 1 defines three sides of the claimed body” (*i.e.*, “three body *locations*”) including “a top of the body (with an illumination area on two sides of the fan)” as a “top surface” of the body. (ID at 4, 17.) The dictionary definition “3 b” of “side” submitted by Petitioner and Dr. Wolfe, as well as his deposition testimony, also confirms the Board’s plain-meaning interpretation of the phrase, “top of the body,” as the top surface forming the top face of “the body.” (*Compare* ID at 4, 17 *with* Ex-1032 at 4 (definition “3 b” for “side”).)

B. The Reply’s New Argument on Limitation 1[c]⁷ Based on Lai’s FIG. 2 Should Be Disregarded

The Reply (at 20) argues Lai’s FIG. 2 teaches input 111 (the purported “first connector”) and output 112 (the purported “second connector”) on *different* sides, but the Petition (at 62-63) argued they are on the *same* side, *i.e.*, Petitioner has *changed its position on Reply*, as shown below:

⁷ Patent Owner notes that all instances of “limitation 1[d]” on pages 28-29 of the POR contain typographical errors and should be corrected to “limitation 1[c].”

Petition (at 62): “FIG. 2 of Lai shows both single input 111 and single output 112 on <u>the same side</u>”	Reply (at 20): “Lai[’s FIG. 2] discloses single input 111 on <i>a side</i> (in red on the left below) and single output 112 on <u>another side</u> (in blue on the right below).”
 FIG.2	 FIG.2

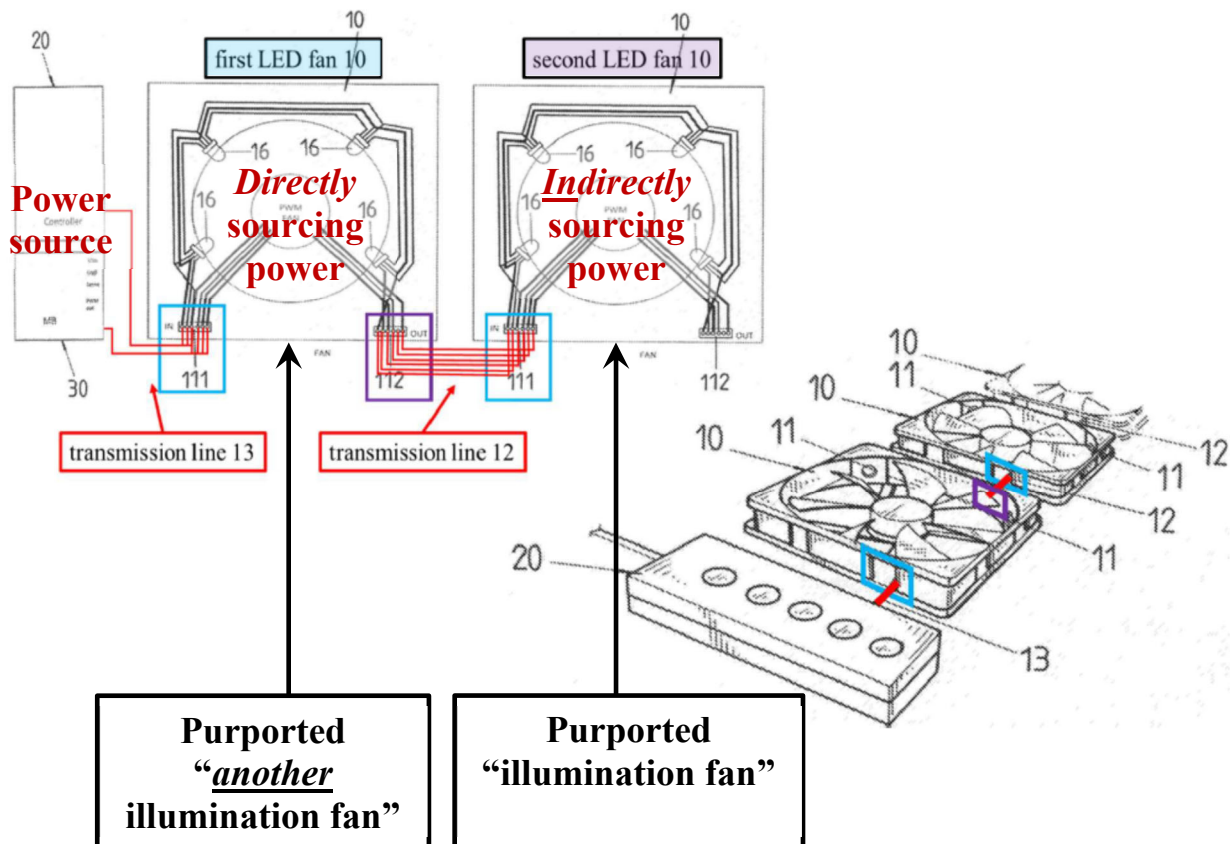
(Compare Petition at 62-63 with Reply at 20.) Aside from being incorrect (see Section II.A *supra*), Petitioner’s new argument is impermissible and should be disregarded. *Intelligent Bio-Sys.*, 821 F.3d at 1369-70.

C. The Reply Confirms the Petition Failed to Show Lai Teaches Limitation 1[d] Due to Backward Mappings

Claim 1 requires a unidirectional flow of power from the “*illumination fan*” to the “another illumination fan” because limitation 1[d] requires: “*when* the first connector of the body [of the *illumination fan*] is connected with a second connector of a body of another illumination fan, a fan and an illumination area of the body of another illumination fan are respectively driven into rotation and illumination.” As the POR explained, “when the *second* [i.e., another] *illumination fan* is connected to the *first illumination fan* through joining the first connector [5] of the *first*

illumination fan and the second connector [6] of the *second* [i.e., another] *illumination fan*, the fan and illumination area of the second [i.e., another] *illumination fan* are *also* driven into rotation and illumination, respectively.” (POR at 5-6, 33.)

The Reply admits that Petitioner *backwardly* mapped the claimed (first) “illumination fan” to Lai’s “*second* LED fan 10,” while the claimed (second or) “another illumination fan” to Lai’s “*first* LED fan 10,” as shown below:



(Reply at 23 (blue and purple shading, red text, and black-and-white text boxes added; other annotations original); *see also id.* at 22-23 (“The claimed ‘the *first* connector of the body of [the illumination fan]’ and ‘a *second* connector of a body

of another illumination fan' can be met with the **first** connector (e.g., single input in blue box depicted above) of the fan **indirectly sourcing power** (e.g., '**second** LED fan 10' depicted above) connected to the **second** connector (e.g., single output 112 in purple box depicted above) of the fan **directly sourcing power** (e.g., '**first** LED fan 10' depicted above).") (square brackets original; colors, boldface, and underlining of text added); *see also* Petition at 61.) Petitioner's mappings are **backwards** because the "first connector" of the "illumination fan" is supposed to **supply power to**, not **source (i.e., receive) power from**, the second connector of the "another illumination fan," as shown below:

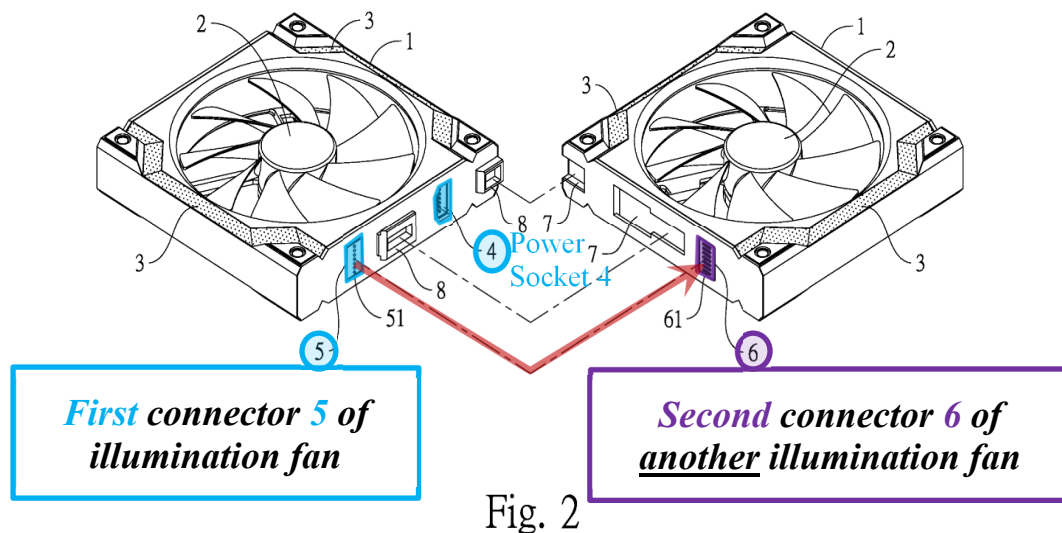


Fig. 2

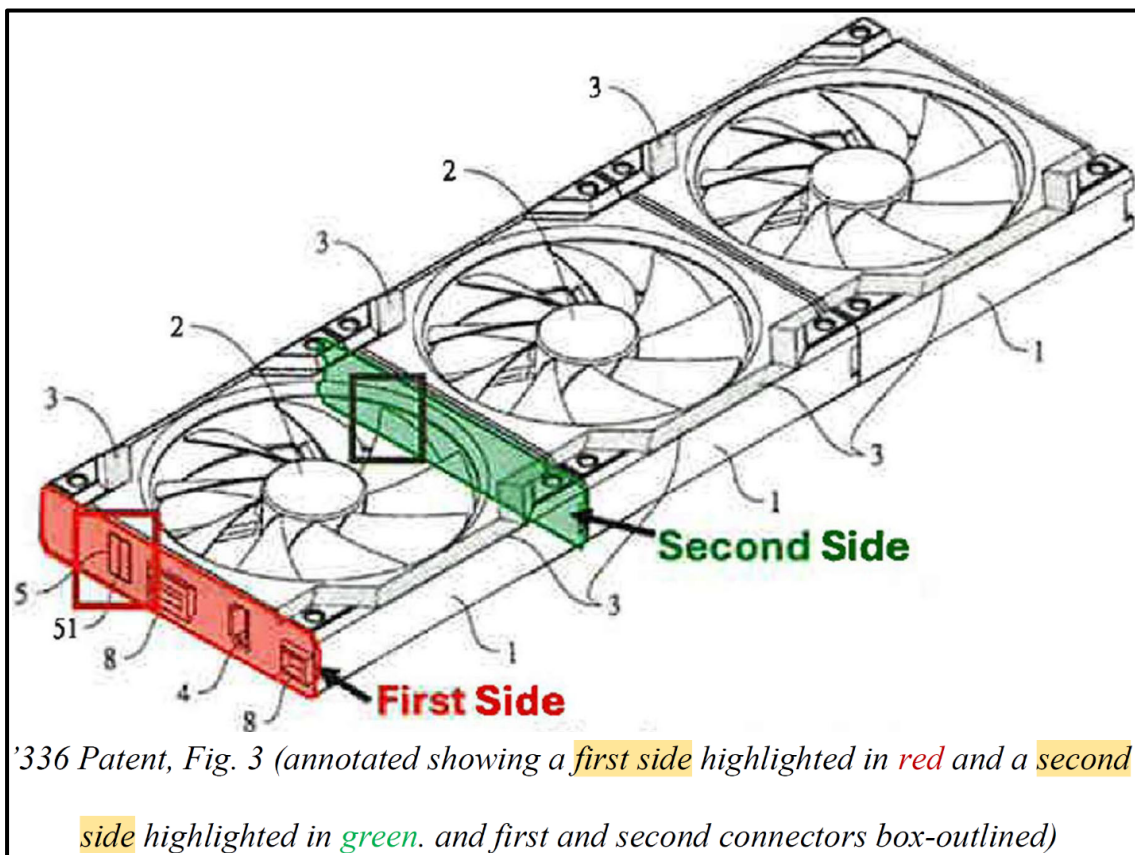
(Ex-1001, FIG. 2 (annotated).) This is because of limitation 1[d]'s requirement that, "***when*** the first connector of the body [of the illumination fan] is connected with a second connector of a body of another illumination fan, ***a fan and an illumination area of the body of another illumination fan are respectively driven into rotation***

and illumination.” (Ex-1001, cl. 1.) That is, limitation 1[d] specifies that the “illumination fan” connects with and ***supplies power to*** the “another illumination fan” to drive it into action. (*Id.*) Thus, the Reply confirms the Petition failed to show Lai teaches limitation 1[d]. (Reply at 22-23; *see also* Petition at 61.)

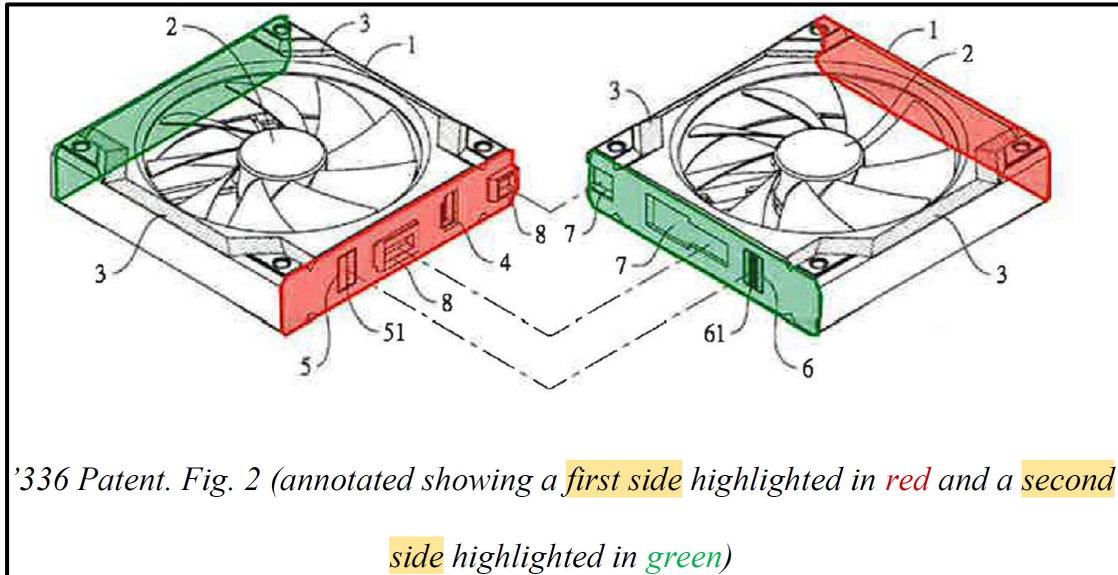
D. The Reply’s Impermissible New Tsuji Arguments Regarding “Side” Should Be Rejected

1. The Petition Repeatedly Mapped “Side of the Body” as a Side Surface of the Body

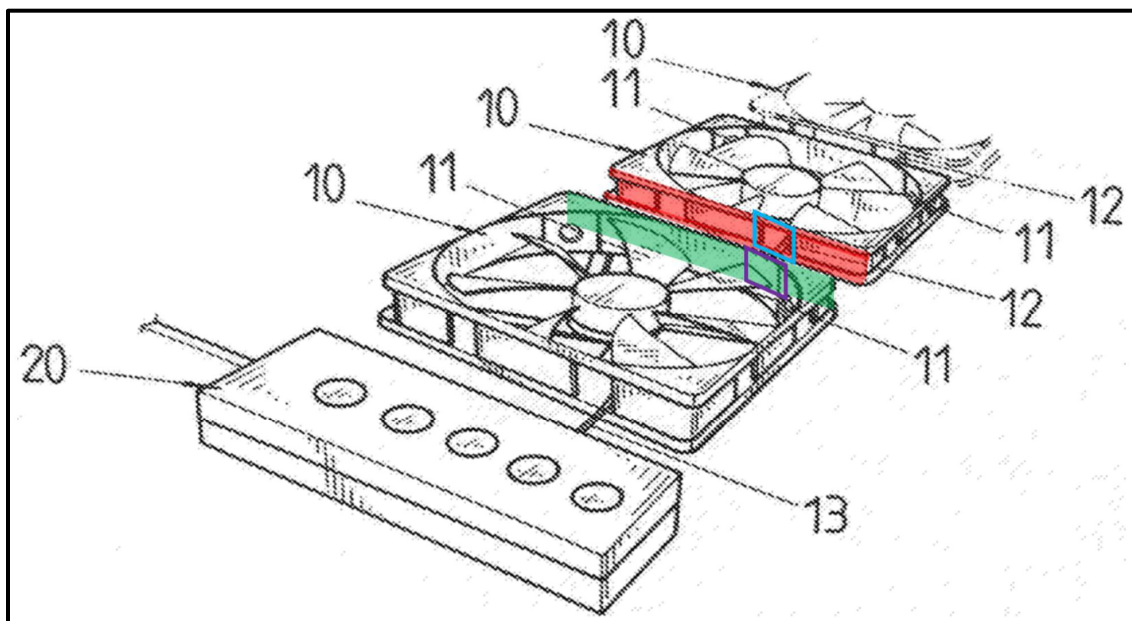
The Petition repeatedly mapped the two “side[s] of the body” under the plain meaning of “side,” consistent with the dictionary definition “3 b” in Ex-1032 as a “surface forming a ... face of” the body, as follows:



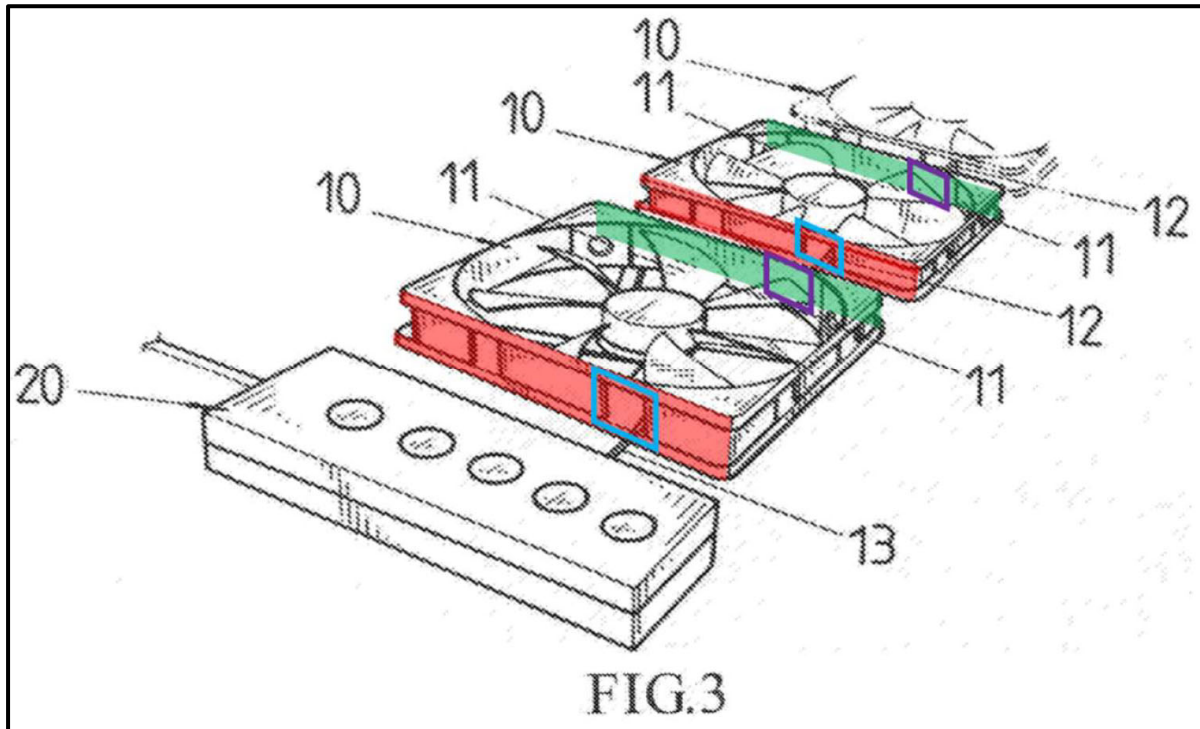
(Petition at 8-9 (yellow highlighting added; other colors/annotations original);
accord. Ex-1004, ¶13.)



(Petition at 9 (yellow highlighting added; other colors/annotations original); *accord.*
 Ex-1004, ¶14.) As shown above and below, the Petition consistently mapped the
 “first side” in *red* and the “second side” in *green*.

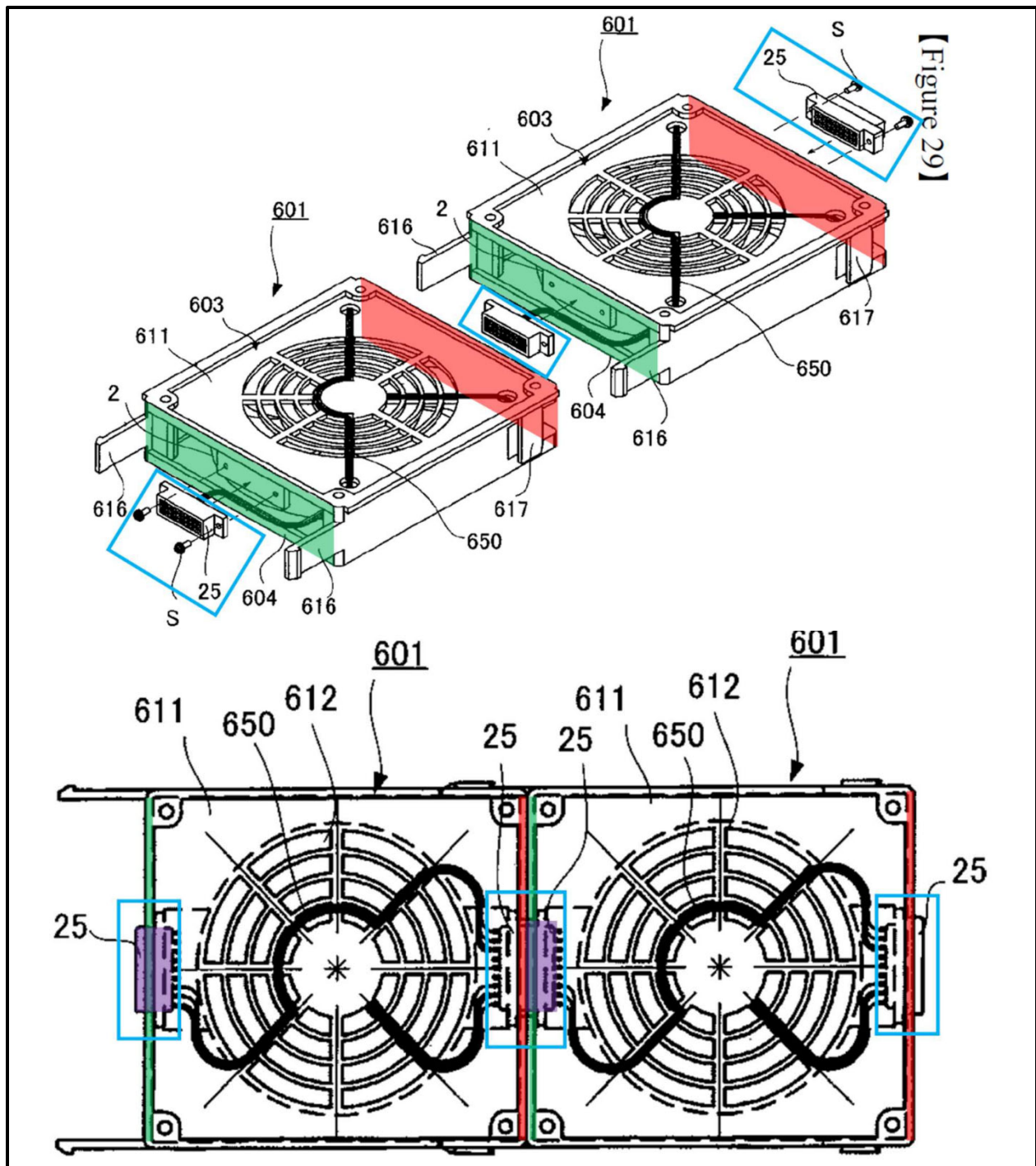


(Petition at 61 (“Single input 111 (in blue box) further includes a ‘first connector on one side of the body,’ as claimed.”) (yellow highlighting added; other colors/annotations original).)



(Petition at 62-63 (“FIG. 3 of Lai shows LED fans 10 are connected or linked together with a transmission line 12 extending from single input 111 positioned (in blue box) on a first side (highlighted in red) of one LED fan 10 to single output 112 (in purple box) on a second side (highlighted in green) of another LED fan 10.”) (yellow highlighting added; other colors/annotations original).)

Petitioner further mapped the purported “side[s] of the body” in Hasegawa in the same manner:



(Petition at 64-65 (“showing a first side highlighted in red, a second side highlighted in green, Connector 25 in blue box, the second connector of Hasegawa highlighted in purple”) (yellow highlighting added; other colors/annotations original).)

2. The Reply Attempts to Rewrite History

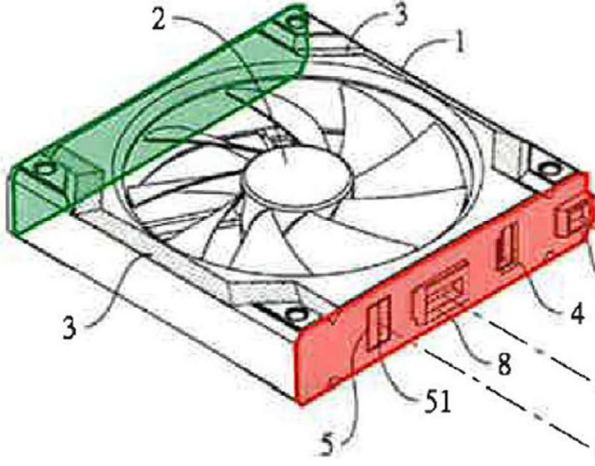
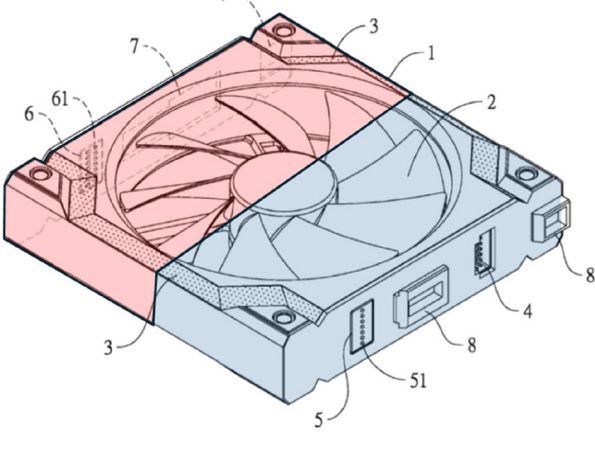
Claim 1 requires the “power socket” to be on the same “one side of the body” as the “first connector” (hereinafter the “Same Side” limitation”). As it relates to Tsuji (Ex-1006/1007), the Board preliminarily found that Tsuji does not meet the Same Side limitation:

“We agree with Patent Owner that on this preliminary record, Tsuji does not teach or suggest “a power socket and a first connector on one side of the body.” *Tsuji’s Figures illustrate a power socket located on the front of the fan unit and the first connector (and second connector) located on the side(s) of the fan unit. According to these Figures relied on by Petitioner, the power socket is not located on the same side as the first connector. Petitioner does not appear to argue that it would have been obvious in view of Tsuji [to] place the power socket on the same side as the first connector.*”

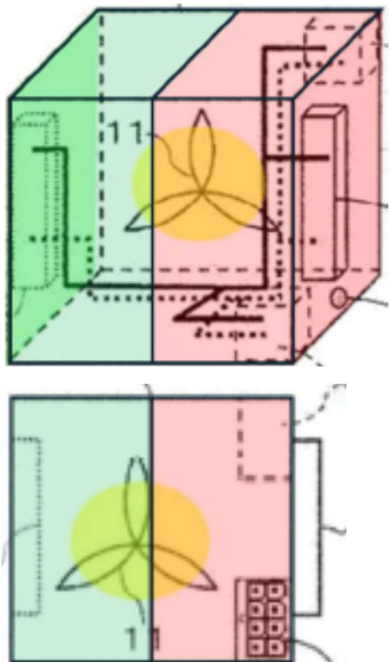
(ID at 49 (citation omitted); *see also id.* at 50 (“Neither Petitioner nor Dr. Wolfe identify any other express description for the alleged power socket on the same side of the first connector.”); *accord.* Preliminary Guidance (Paper 25), at 19 (“Petitioner’s assertion that ‘Tsuji discloses a power socket and a first connector on one side of the body’ is not supported by Tsuji.”) (citation omitted).) Nothing in the record justifies a deviation from the Board’s determination.

The POR (at 39-44) pointed out the Petition’s lack of any arguments about Tsuji meeting the “Same Side” limitation. In response, Petitioner’s Reply belatedly

invents a *new* claim construction for the “one side of the body” and the “another side of the body,” as shown below-right:

Petition (at 9): “<i>a first side [is] highlighted in red and a second side highlighted in green</i>” (italics and colors original).	Reply (at 10): “<i>The left side (in red) is a place, space or direction with respect to a center or a line of division as is the right side (in blue).</i>”
 (Petition at 9 (excerpt).)	 (Reply at 10.)

Based on Petitioner’s new position, below is a comparison between what Petitioner pointed to as the “side[s] of the body” and argued as to the location of Tsuji’s purported “power socket” on the “body” in the Petition, and what Petitioner points to and argues now in the Reply. As shown, the Petition *never* argued that the “power socket” was on the same “side of the body” as the “first connector” in Tsuji. In contrast, the Reply belatedly argues that Tsuji’s “power socket” is on the same “side of the body” as the “first connector”:

“Power socket” location in Petition	“Power socket” location in Reply
Petition made <i>no argument</i> on whether Tsuji’s purported “power socket” (CNA or CNB) is on the same “side of the body” as the purported “first connector” (CNC). (Petition at 32-39.)	“Tsuji’s power socket (CNA and/or CNB and/or CNC) and first connector (CNC) are located on the same side of the body of Tsuji (illustrated in red below), while a second connector (CND) is located on the left side of the body of Tsuji (illustrated in green below).” (Reply at 24.)
“Side(s) of the body” of Tsuji in Petition	“Side(s) of the body” of Tsuji in Reply
 (Petition at 34 (excerpt).)	 (Reply at 25 (excerpt).)

Petitioner’s new claim construction theories should be disregarded. *Intelligent Bio-Sys.*, 821 F.3d at 1369-70. Petitioner’s new arguments should also be rejected and/or given no weight because Dr. Wolfe *admitted* that he had never provided the above-right figures on page 25 of the Reply showing Petitioner’s new

mappings of Tsuji's purported "side[s] of the body":

Q. On page 25 of Exhibit 2029, which is Petitioner's Reply to Patent Owner's Response to Petition, do you see a figure colored in red, green and yellow?

A. Yes.

Q. Did you provide this exact same figure in your Reply Declaration, which is Exhibit 1031?

A. I don't recall.

Q. Did you provide this exact figure in your original Declaration, which is Exhibit 1004?

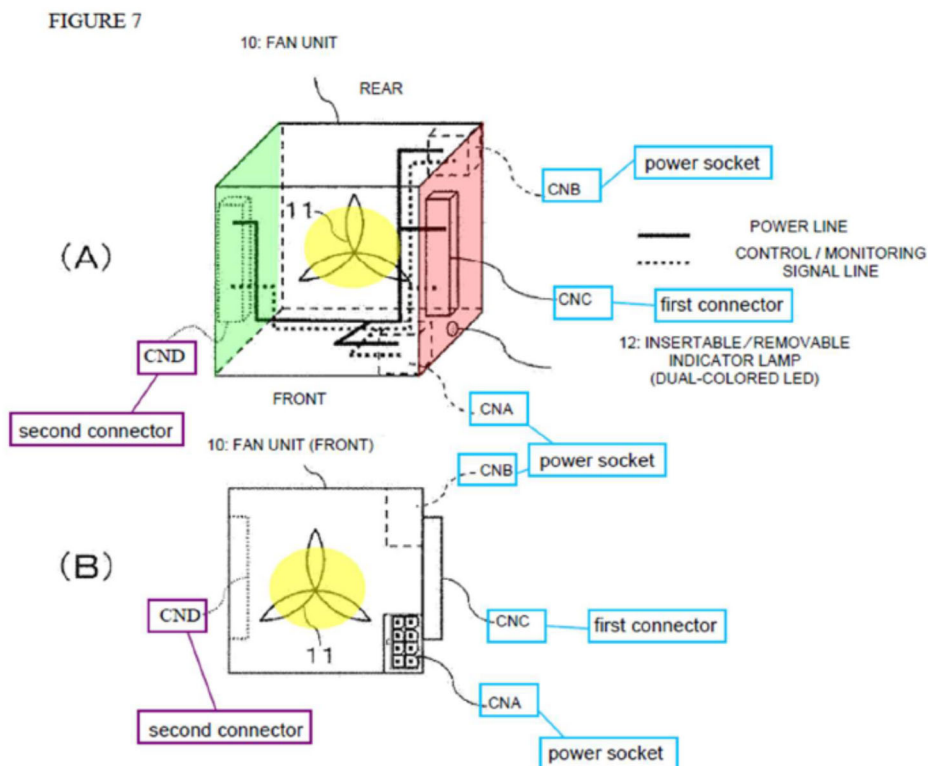
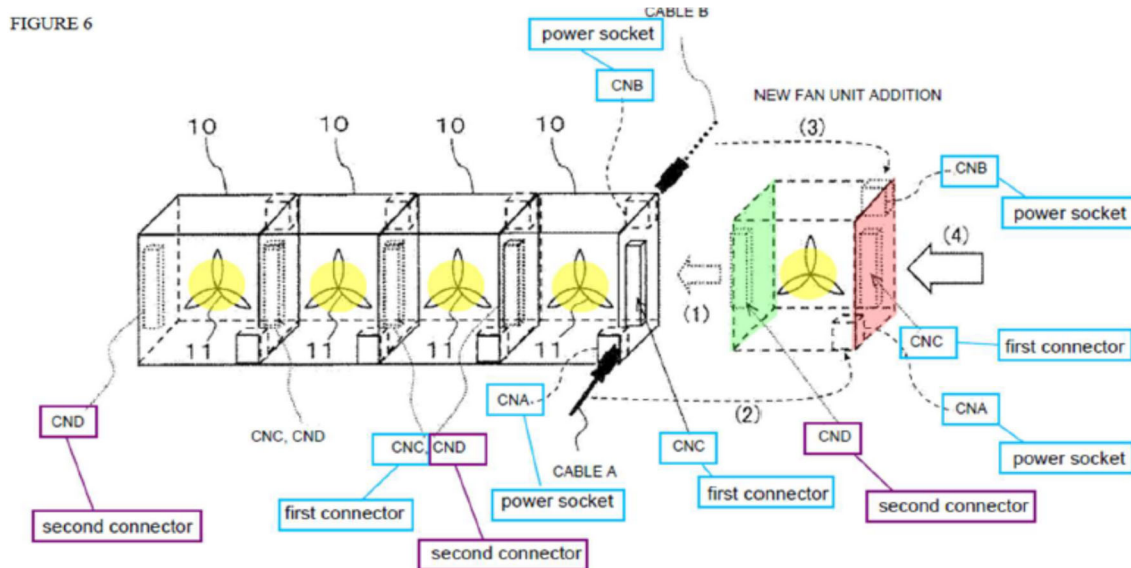
A. **No.**

(Ex-2051 (Wolfe Tr.) at 118:10-25 (emphasis added).)

The Reply (at 24-25) cites to paragraphs 68 and 70 of Dr. Wolfe's Reply Declaration (Ex-1031) as allegedly supporting the newly proposed "power socket" location in Tsuji based on the new mappings of the "side[s] of the body," *yet such new mappings are not included in Dr. Wolfe's original or reply declarations (i.e., Ex-1004 and Ex-1031, respectively)*. Thus, it appears Petitioner's mappings of Tsuji's "side[s] of the body" are not only *new* but also based on *unsupported attorney arguments*. Indeed, Petitioner has failed to show the *new* mappings of the "side[s] of the body" are how a POSITA would have read Tsuji.

The Reply (at 25) now also argues for the first time that "Tsuji discloses the CNC element that includes both a power socket and a first connector on the same outermost surface. ... Therefore, CNC includes a power socket and a connector,

naturally on the same surface.” This argument is again nowhere to be found in the Petition (at 32-39). Indeed, “Petitioner’s annotated Figure 6” from the Petition (at 34) relied upon by the ID (at 47) showed the unequivocal *absence* of any “CNC” labeled as a “power socket”:



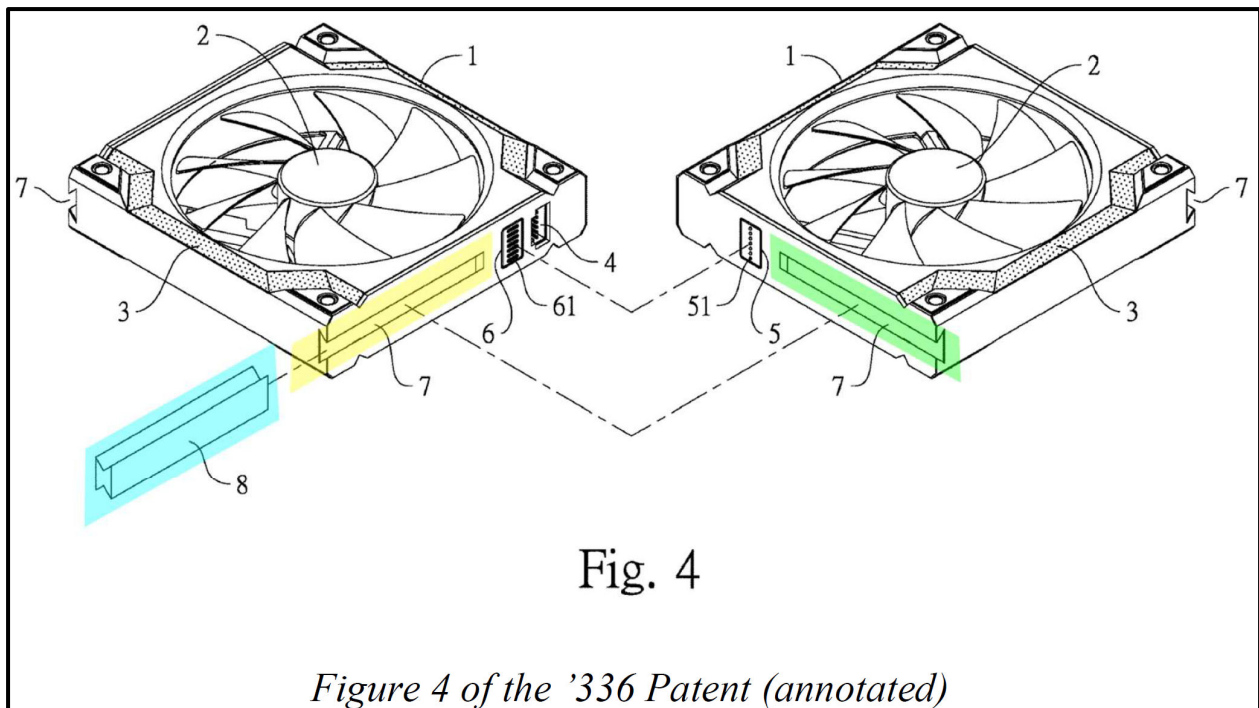
(Petition at 34; *compare id. with* ID at 47.) As shown, Petitioner labeled *only* “CNC” as the “first connector,” and *only* “CNA” and “CNB” as the “power socket[s]” in the Petition (at 34). Thus, the argument in the Reply (at 25) that somehow the CNC also contains a power socket is new and impermissible, and should be disregarded. *Intelligent Bio-Sys.*, 821 F.3d at 1369-70.

E. The Reply Fails to Show Petition’s Proposed Combination Can Be Achieved Without Undue Experimentation for Claim 4

The Reply fails to explain how a POSITA would have implemented the combination without destroying Tsuji’s connectors or Lai’s transmission lines when the proposed connections in mutually perpendicular directions are forced together. (*Compare* Reply at 29 *with* POR at 52-55). Instead, the Reply relies on vague and conclusory statements by Dr. Wolfe *without evidence* to state that “the fans could be engaged into the groove using a lever or latch supporting the use of connectors that mate through insertion” or that “[e]ven if sliding connections were preferred, a POSITA would have selected an appropriate sliding connector.” (Reply at 29.) Accordingly, Petitioner’s argument lacks the rational basis and evidence required to establish obviousness. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). Thus, Petitioner’s proposed combination for claim 4 should be rejected. *InTouch*, 751 F.3d at 1352.

F. The Reply Admits the Petition Failed to Meet Claim 5's Requirement to Connect the Illumination Fans on Their Sides

The Reply admits the Petition's prior art combinations do not meet claim 5's language but argues that claim 5 "does not limit connecting fans in any specific orientation" and that a POSITA *could* have rotated the attachment mechanism by 90 degrees. (Reply at 30.) The Reply fails to cure the Petition's deficiencies on both counts. First, claim 5 requires that "the body of the illumination fan is connected with the body of another illumination fan by respectively engaging an engaging block with *one of the grooves on the sides of the body of the illumination fan* and *one of the grooves on the sides of the body of another illumination fan*," as admitted by Petitioner:



(Petition at 12 (stating claim 5 requires "a separate and distinct engaging **block 8** ...

(highlighted in blue, [above]) ... as being configured to engage, on **one of the sides of the block 8**, a groove on **one side of one fan** (highlighted in yellow [above]) and to engage, on **another side of the block 8**, another groove **on one side of another fan** (highlighted in green)”) (boldface/underlining added; other emphasis original).)

As admitted by Petitioner above, claim 5 requires that *one* (yellow) of the *two* grooves respectively on the *two* “**sides** of the body of the illumination fan” and *one* (green) of the *two* grooves respectively on the *two* “**sides** of the body of *another* illumination fan” to *both* engage with the *same* engaging block (blue) on its “**sides**,” thus naturally joining the two illumination fan bodies on their **sides**. The Reply does not explain how to join two illumination fan bodies according to claim 5 **without them being joined on their sides**; instead the Petition attempted to show combined prior art fans ***joined on their sides***. (See, e.g., Petition at 51, 54, 84, and 87.) Further, neither the Petition nor the Reply explains why a POSITA ***would*** have “rotat[ed] the attachment mechanism by 90 degrees.” Instead, the Reply merely provides a conclusory statement that “[a] POSITA would have been ***fully capable of*** rotating the attachment mechanism by 90 degrees”—such unsupported, conclusory statements are insufficient to support a finding of obviousness. *In re Chaganti*, 554 F. App’x 917, 922 (Fed. Cir. 2014) (“It is not enough to say that ... to do so would ‘have been obvious to one of ordinary skill.’ Such circular reasoning is not

sufficient—more is needed to sustain an obviousness rejection.”);⁸ *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”) (emphasis original); *InTouch*, 751 F.3d at 1352. Thus, the Reply confirms that the Petition fails to show that claim 5 is obvious over the proposed prior art combinations.

Respectfully submitted,

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Date: October 24, 2025

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⁸ (Cited by the Board in Preliminary Guidance (Paper 25), at 21.)

CERTIFICATE OF WORD COUNT

The undersigned certifies that the word count in this Patent Owner Sur-Reply is 5,372 words, as counted by the word-processing program Microsoft Word for Office 365 used to generate this Petition at where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, and this certificate of word count. This Petition is in compliance with the 5,600-word limit set forth in 37 C.F.R. § 42.24(c).

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CERTIFICATE OF SERVICE

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