

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HISENSE USA CORPORATION,
Petitioner,

v.

BRIGHTPLUS VENTURES LLC,
Patent Owner.

IPR2023-01385
Patent 7,690,812 B2

Before STACEY G. WHITE, KEVIN C. TROCK, and
JOHN D. HAMANN, *Administrative Patent Judges*.

TROCK, *Administrative Patent Judge*.

PRELIMINARY GUIDANCE
PATENT OWNER'S MOTION TO AMEND

I. INTRODUCTION

On March 14, 2024, we instituted trial as to claims 1–7, 10–12, 14–21, and 23 (the “challenged claims”) of U.S. Patent No. 7,690,812 B2 (“the ’812 patent,” Ex. 1001). Paper 7 (“Inst. Dec.”). After institution, Patent Owner filed a Contingent Motion to Amend (Paper 12 (“Mot.” or “Motion”)) that “requests the following contingencies: if claims 1 and 12 are found to be unpatentable [in a final written decision], substitute proposed amended claims 25 and 26,” and “if claims 15 and 18 are found to be unpatentable [in a final written decision], substitute proposed amended claims 27 and 28.” Mot. 2, 20, App. A (Substitute Claims Listing). Petitioner filed an Opposition on September 17, 2024. Paper 16 (“Opp.”). Petitioner submitted a second Declaration of P. Morgan Pattison, Ph.D. (Ex. 1015) in support of the Opposition.

In the Motion, Patent Owner requested that we provide preliminary guidance concerning the Motion in accordance with the Board’s pilot program on motion to amend practice and procedures. Mot. 2, 20; *see also* Notice Regarding a New Pilot Program Concerning Motion to Amend Practice and Procedures in Trial Proceedings under the America Invents Act before the Patent Trial and Appeal Board, 84 Fed. Reg. 9,497 (Mar. 15, 2019) (providing a patent owner with the option to receive preliminary guidance from the Board on its motion to amend) (“Notice”). We have considered Patent Owner’s Contingent Motion and Petitioner’s Opposition.

In this Preliminary Guidance, we provide information indicating our initial, preliminary, non-binding views on whether Patent Owner has shown a reasonable likelihood that it has satisfied the statutory and regulatory requirements associated with filing a motion to amend in an *inter partes* review and whether Petitioner (or the record) establishes a reasonable likelihood that the substitute claims are

unpatentable. *See* Notice, 84 Fed. Reg. at 9,497 (“The preliminary guidance . . . provides preliminary, non-binding guidance from the Board to the parties about the [motion to amend]”); *see also* 35 U.S.C. § 316(d) (statutory requirements for a motion to amend); 37 C.F.R. § 42.121 (regulatory requirements and burdens for a motion to amend); *Lectrosonics, Inc. v Zaxcom, Inc.*, IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019) (precedential) (providing information and guidance regarding motions to amend).

For purposes of this Preliminary Guidance, we focus on the proposed substitute claims, and specifically on the amendments proposed in the Motion. *See* Notice, 84 Fed. Reg. at 9,497. We do not address the patentability of the originally challenged claims. *Id.* Moreover, in formulating our preliminary views on the Motion and Opposition, we have not considered the parties’ other substantive papers on the underlying merits of Petitioner’s challenges. We emphasize that the views expressed in this Preliminary Guidance are subject to change upon consideration of the complete record, including any revisions to the Motion filed by Patent Owner. Thus, this Preliminary Guidance is not binding on the Board when rendering a final written decision. *See id.* at 9,500.

II. PRELIMINARY GUIDANCE

A. Statutory and Regulatory Requirements

Patent Owner bears the burden to establish compliance with the statutory and regulatory requirements. *See, e.g.*, 37 C.F.R. § 42.121(d)(1) (“A patent owner bears the burden of persuasion to show . . . that the motion to amend complies with the requirements of paragraphs (1) and (3) of 35 U.S.C. 316(d), as well as paragraphs (a)(2), (a)(3), (b)(1), and (b)(2) of this section.”). For the reasons discussed below and based on the current record, it appears that Patent Owner has shown a reasonable likelihood that it has satisfied the statutory and regulatory

requirements associated with filing a motion to amend with respect to proposed substitute claims 25–28.

1. Reasonable Number of Substitute Claims

Does Patent Owner propose a reasonable number of substitute claims?
(35 U.S.C. § 316(d)(1)(B))

Yes.

Patent Owner proposes no more than 1 substitute claim for each of challenged claims 1, 12, 15, and 18. *See* Mot. 1–3, App. A (Substitute Claims Listing). Petitioner does not argue otherwise. *See generally* Opp.

2. Respond to Ground of Unpatentability

Does the Motion respond to a ground of unpatentability involved in the trial? (37 C.F.R. § 42.121(a)(2)(i))

Yes.

Patent Owner responds to the grounds of unpatentability on which we instituted trial. *See* Mot. 3–4, 11–19. Upon review of Patent Owner’s arguments, we agree that proposed substitute claims 25–28 recite new limitations, and new combinations of limitations, that directly respond to the grounds of unpatentability involved in the trial. *See* Mot. 3–4, 11–19, App. A (Substitute Claims Listing). Petitioner does not argue otherwise. *See generally* Opp.

3. Scope of Amended Claims

Does the amendment seek to enlarge the scope of the claims? (35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii))

No.

Proposed substitute independent claims 25 and 27 include narrowing limitations as compared to their corresponding original independent claims 1 and 15, respectively. *See* Mot. 5–7, App. A (Substitute Claim Listing). Petitioner does not argue otherwise. *See generally* Opp.

Proposed substitute dependent claim 26 changes the scope of original dependent claim 12, but because claim 26 depends from narrowed

proposed substitute claim 25, proposed substitute claim 26 does not enlarge the scope of the claims of the challenged patent. *Id.* Petitioner does not argue otherwise. *See generally* Opp.

Proposed substitute dependent claim 28 changes the scope of original dependent claim 18, but because claim 28 depends from narrowed proposed substitute claim 27, proposed substitute claim 28 does not enlarge the scope of the claims of the challenged patent. *Id.* Petitioner does not argue otherwise. *See generally* Opp.

4. New Matter

Does the amendment seek to add new subject matter? (35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii))

No.

Claims 25 and 27

Proposed substitute claim 25 amends original claim 1 to additionally recite “wherein the reflector sheet comprises at least one aperture configured to be proximate to the at least one solid state lighting element, wherein the reflector sheet does not contact the at least one solid state lighting element; and wherein the protruding feature is separate and positioned away from the at least one solid state lighting element.” *See* Mot. App. A (Substitute Claims Listing). Proposed substitute claim 27 amends original claim 15 in a similar way. *See id.*

Patent Owner submits that “[s]upport for the amendment in this proposed substitute claim [(25, and the similarly amended claim 27)] can be found in the ’812 Patent at FIGs 3–4, 5A, and 5B; 1:57–62; 5:5–29. . . . 7:27–29 . . . 8:17–19 . . . [and] 2:16–20.” *See* Mot. 7–8, 10–11. On this record, Patent Owner appears to have identified adequate written description support for proposed substitute claims 25 and 27. *See id.*

Petitioner has not argued otherwise. *See generally* Opp.

At this stage of the proceeding, on the record before us, Patent Owner has shown a reasonable likelihood that there is adequate written description support in the original disclosure of the ’812 patent for proposed substitute claims 25 and 27.

Claims 26 and 28

Proposed substitute claim 26 amends original claim 12 to recite that “the reflector sheet covers and maintains a substantially flat surface over the protruding feature, wherein the flat surface is parallel to the surface of the substrate.” *See* Mot. App. A (Substitute Claims Listing). Proposed substitute claim 28 amends original claim 18 in a similar way. *See id.*

Patent Owner submits that

[s]upport for the amendment in claims 26 and 28 can be found in the '812 Patent at FIG 3; 1:57–62; 5:5–29. Specifically, the '812 Patent demonstrates that the diffuser sheet reflector sheet covers and maintains a substantially flat surface over the protruding feature with the flat surface being parallel to the surface of the substrate. For example, as is shown in Figure 3, the reflector sheet 14 covers protrusions, “such as, for example, a large wire interconnect (LWI) 18”. '812 Patent at 4:62–46. Because the reflector sheet 14 includes “recesses 14B configured to provide relief for surface protrusions, such as an LWI 18” it prevents “reflector sheet 14” [f]rom “press[ing] against the LWI, potentially causing the LWI to break or pull away from substrate 13.” *Id.* at 5:10–11, 14–16. Additionally, the recesses, shown in figure 3, may be “molded into the reflector sheet 15¹ [sic] and/or created by removing material from the reflector sheet” thereby allowing the reflector sheet to cover and maintain a substantially flat surface over the protrusion, as shown in figure 3, allowing the reflecting sheet to form a flat surface parallel to the surface of the substrate, shown in figure 3 as 13A and 13B.

See Mot. 9–10.

Thus, Patent Owner relies principally on *Figure 3* of the '812 patent as support for *a reflector sheet that is (i) configured to conform to a shape of a protruding feature and that (ii) covers and maintains a substantially flat surface over the protruding feature, the flat surface parallel to the surface of the substrate* as required by claim 26, via its dependency from claim 25. *See* Mot. 9–10, App. A. We observe, however, that the '812 patent does not use the term “conform” with respect to Figure 3. Instead, the '812 patent uses the term “conform” with respect to Figures 4 and 5A–5B, however, these figures do not illustrate a protruding feature covered by a reflector sheet *that maintains a substantially flat surface over the*

protruding feature, wherein the flat surface is parallel to the surface of the substrate (as required by proposed substitute claims 26 and 28). See Ex. 1001, 6:34–36, 6:42–44, Figs. 4, 5A, 5B.

We also acknowledge our guidance to the parties in the Institution Decision, where we stated:

On this record, we preliminarily agree with Patent Owner that the '812 patent shows alternative ways for a reflector sheet “to conform to a shape of a protruding feature” on a lighting tile that does not demand the reflector sheet have “the same shape, outline, or contour of a protruding feature” as Petitioner’s proposed construction. . . . To illustrate this, Figures 3 and 4 from the '812 patent are shown in their entirety below.

. . . .

In addition, we again note that the Specification with respect to Figure 4 states that “the reflector sheet 24 includes a deformation characteristic that can provide *conformance* to surface protrusions,” and with respect to Figure 3 states that “the reflector sheet 14 may include recesses . . . configured to *provide relief* for surface protrusions.” *Compare id.* at 6:33–36, with *id.* at 5:9–11 (emphases added). *At this stage, we preliminarily agree with Patent Owner that these are alternative ways for a reflector sheet “to conform to a shape of a protruding feature.” The parties, however, should consider during trial whether these different descriptions concerning reflector sheet 14 instead disclose distinct embodiments that may not both be covered by a different construction of “to conform to a shape of a protruding feature.”*

. . . .

Thus, for purposes of this Decision, and based on the current record, we preliminarily adopt Patent Owner’s proposed construction that the phrase “reflector sheet configured to conform to a shape of a protruding feature on the tile” recited in claim 1 means a “reflector sheet that provides cover and relief for a shape of a protruding feature on the tile.” *As noted above, this preliminary construction does not preclude the parties from proposing, presenting evidence, or arguing a different construction of the claims during trial. To the extent the parties*

¹ The reflector sheet is item 14. See Ex. 1001, 5:9, Fig. 3.

disagree with this preliminary construction, the parties are encouraged to present their claim construction arguments and evidence as permitted by our rules.[] A final claim construction will be determined after the close of all the evidence and after any oral hearing in this matter.

Inst. Dec. 13–15 (emphases added).

Thus, our Institution Decision preliminarily construed “configured to conform to a shape of a protruding feature” (in the claimed “reflector sheet configured to conform to a shape of a protruding feature”) as including the embodiment shown in Figure 3 of the ’812 patent—in which case proposed substitute claims 26 and 28 would find support in the specification of the ’812 patent (i.e., in Figure 3).

As we noted in our Institution Decision, however, we still have questions as to whether the reflector sheet shown *in Figure 3* of the ’812 patent is indeed configured to *conform to the shape* of the protruding feature therein—for which reason we invited the parties to address or clarify the scope of “conform to the shape.” See Inst. Dec. 13–15. The parties, however, do not appear to have addressed this point yet (i.e., whether the scope of “configured to conform to a shape of a protruding feature” necessarily embraces the configuration of the reflector sheet and protruding feature depicted and described in Figure 3 of the ’812 patent).

Moreover, we note that if the claimed “configured to conform to a shape of a protruding feature” were construed as *not including the embodiment shown in Figure 3* of the ’812 patent, then proposed substitute claims 26 and 28 would appear to lack support in the specification of the ’812 patent (because the other figures (e.g., Fig. 4) of the ’812 patent only show a reflector sheet configured to conform to a shape of a protruding feature but those figures do not show the reflector sheet also maintaining a substantially flat surface over the protruding feature with that flat surface parallel to the substrate surface as particularly recited in claims 26 and 28).

In other words, although it appears that there may be adequate written description support in the original disclosure of the ’812 patent for proposed substitute claims 26 and 28, the parties have not yet addressed our concerns with respect to the phrase “*configured to conform to a shape*”—i.e., *whether the reflector sheet shown in Figure 3* of the ’812 patent is considered to be *configured to conform to a shape of the protruding feature (LWI 18)*. The parties have not yet clearly addressed

these concerns and the scope of the claimed “configured to conform to a shape” may be ultimately dispositive of whether proposed substitute claims 26 and 28 add new subject matter (or not). We note that we have issued an Order (Paper 17) directing the parties to address these issues.

B. Patentability

Petitioner bears the burden to show that any proposed substitute claims are unpatentable. *See* 37 C.F.R. § 42.121(d)(2). For the reasons discussed below and based on the current record² it appears that Petitioner (or the record) has shown a reasonable likelihood that proposed substitute claims 25–28 are unpatentable.

Does the record establish a reasonable likelihood that the proposed substitute claims are unpatentable?

I. Obviousness

Yes, as to proposed substitute claims 25–28 and Petitioner’s ground based on the combination of Kim and Sharp.

No, as to proposed substitute claims 25–28 and Petitioner’s grounds based on Tabito alone, Liu alone, Chou alone, the combination of Chou and Tabito, the combination of Chou and Liu, and the combination of Lee and Sharp.

Petitioner has asserted the following obviousness challenges against the following substitute claims:

- Ground asserting newly cited Kim (Ex. 1016)³ and newly cited Sharp (Ex. 1017)⁴ against proposed substitute claims 25–28;
- Ground asserting Tabito (Ex. 1007) as rendering obvious proposed substitute claims 25–28;

² We express no view on the patentability of original claims 1–7, 10–12, 14–21, and 23 in this Preliminary Guidance. Instead, we focus on limitations added to the challenged claims in Patent Owner’s Motion to Amend.

³ US 7,481,553 B2, issued January 27, 2009.

⁴ US 2007/0064171 A1, published March 22, 2007. We reference this document by the assignee name (“Sharp”) as Petitioner did.

- Ground asserting Chou (Ex. 1005) and Tabito against proposed substitute claims 25–28;
- Ground asserting newly cited Liu (Ex. 1013)⁵ as rendering obvious proposed substitute claims 25–28;
- Ground asserting Chou and newly cited Liu against proposed substitute claims 25–28;
- Ground asserting newly cited Lee (Ex. 1018)⁶ and newly cited Sharp against proposed substitute claims 25–28; and
- Ground asserting Chou as rendering obvious proposed substitute claims 25–28.

Opp. 1–25.

Below, we analyze each of Petitioner’s proposed grounds against the proposed substitute claims.

Kim-Sharp Ground

Proposed substitute claim 25 replaces original independent claim 1 and adds new limitations. *See* Mot. App. A. In particular, proposed substitute independent claim 25 amends original claim 1 to further recite that

the reflector sheet comprises at least one aperture configured to be proximate to the at least one solid state lighting element, wherein the reflector sheet does not contact the at least one solid state lighting element; and

wherein the protruding feature is separate and positioned away from the at least one solid state lighting element.

See id. Proposed substitute claim 27 replaces original independent claim 15 and adds new limitations similar to the limitations added in claim 25. *See* Mot. App. A.

Proposed substitute claim 26 depends from claim 25 and replaces original dependent claim 12 while adding new limitations directed to “the reflector sheet [that] covers and maintains a substantially flat surface over the protruding feature, wherein the flat surface is parallel to the surface of the

⁵ US 2006/0187660 A1, published August 24, 2006.

⁶ US 2003/0223249 A1, published December 4, 2003.

substrate.” *See* Mot. App. A. Proposed substitute claim 28 depends from claim 27 and replaces original dependent claim 18 while adding new limitations similar to the limitations added in claim 26. *See id.*

Petitioner relies on Kim to disclose *a substrate* (Kim’s printed circuit board PCB 222 in Fig. 3, or PCB 122 in Fig. 2), *a solid state lighting element* (Kim’s LED 224 in Fig. 3, or Kim’s LED 124 in Fig. 2) mounted on a surface of the substrate, *a reflector sheet* (Kim’s reflective sheet 226 in Fig. 3, or reflective sheet 126 in Fig. 2) on the surface of the substrate, *the reflector sheet* (reflective sheet 226) *configured to conform to a shape of a protruding feature* (Kim’s electrical line 238 in Fig. 3), *the reflector sheet comprising an aperture* (hole 128 corresponding to an LED 124 in Kim’s Fig. 2, or similar hole corresponding to an LED 224 in Kim’s Fig. 3) *configured to be proximate to the solid state lighting element*, and *the protruding feature* (electrical line 238 in Fig. 3) *being separate and positioned away from the solid state lighting element* (LED 224), as recited in proposed substitute claim 25. *See* Opp. 4–8 (citing Ex. 1016, 1:13–14, 4:34–38, 5:24–25, 5:36–41, Figs. 2–3). With respect to proposed substitute claim 26, Petitioner relies on Kim’s “reflective sheet 226 covering line 238 and flat surface parallel to PCB 222” for teaching a reflector sheet that covers and maintains a substantially flat surface over a protruding feature that is parallel to the substrate. *See* Opp. 8 (citing Ex. 1016, Fig. 3). Petitioner also contends that while “Kim does not specify if the reflective sheet contacts the LEDs,”

Sharp describes a gap between the diode and reflector that is preferred because it can prevent the reflection sheet from contacting the LED when it thermally expands. *Id.*; Ex. 1017, [0009]; *see also* Ex. 1015, ¶32. Sharp’s figure 3 . . . illustrates the gap between the edge of through-holes 31 in the reflection sheet 3 and the LEDs 1. Ex. 1017, [0046], [0051]; *see also* Fig. 1.

Opp. 6–7.

We have reviewed the disclosures of Kim and Sharp, and observe that the disclosures appear to support Petitioner’s assertions.

For example, Kim explains that “reflective sheet 126 is formed with a plurality of holes 128 corresponding to the respective LEDs 124” and “[e]ach LED 124 passes through the corresponding hole 128, thereby being exposed from the reflective sheet 126.” *See* Ex. 1016, 4:34–38, Fig.

2. And with respect to Fig. 3, Kim similarly shows reflective sheet 226 having holes corresponding to respective LEDs 224, with each LED 224 passing through a corresponding hole and being exposed from reflective sheet 226. *See id.* at Fig. 3. Based on the current record, it appears that Petitioner has established a reasonable likelihood that Kim teaches a “reflector sheet [that] comprises at least one aperture configured to be proximate to the at least one solid state lighting element,” as recited in proposed substitute claim 25 (and the similar limitation recited in proposed substitute claim 27). *See* Opp. 6, 8.

It also appears that Petitioner has established a reasonable likelihood that Kim’s “reflector sheet [is] configured to conform to a shape of a protruding feature on the tile . . . wherein the protruding feature is separate and positioned away from the at least one solid state lighting element,” as recited in proposed substitute claim 25 (and the similar limitation recited in proposed substitute claim 27). *See* Opp. 5–6, 8. In particular, Kim describes a line 238 that interconnects various LEDs 224, and further provides that “since the line 238 is connected to the thin film line 242 by soldering at the top surface of the PCB 222, *the line 238 is bent toward a reflective sheet 226*” and “[a]ccordingly, *a portion of the reflective sheet 226 corresponding to a space between the adjacent LED units 236 has a concave portion 244 to prevent the reflective sheet 226 from contacting the line 238.*” *See* Ex. 1016, 5:28–41 (emphasis added), Fig. 3. “That is, *the reflective sheet 226 includes the concave portion 244 so that a projected portion of the line 238 is not pressed by the reflective sheet 226.*” *Id.* (emphasis added). Thus, Kim’s reflector sheet 226 is configured to conform to a shape of protruding feature 238, as required by proposed substitute claims 25 and 27. *See id.* at Fig. 3. Moreover, as shown in Kim’s Fig. 3, reflector sheet 226 covers and maintains a substantially flat surface (parallel to the substrate/PCB 222) over protruding feature 238, as required by proposed substitute claims 26 and 28. *See* Ex. 1016, Fig. 3; Opp. 8.

We also observe that while Kim does not specifically state that its reflector sheet (226) *does not contact* an LED (224), Kim does not specifically express any need or preference for the reflector sheet to contact the LEDs. Rather, Kim merely provides that “the reflective sheet ha[s] at least one hole corresponding to the at least one light emitting diode” and “the at least one light emitting diode is exposed through the hole.” *See* Ex. 1016, 3:1–5, 3:15–17, 4:34–38.

Sharp, in turn, appears to provide a preference and a reason for a reflector sheet to *not contact* the light emitting elements it surrounds. *See* Opp. 6–7 (citing Ex. 1017 ¶¶ 9, 46, 51, Figs. 1 and 3). In particular, Sharp explains that

[the] backlight device and [] display device [are] constructed *to have a gap between the through-hole of the reflection sheet and the circumferential surface of the inserted light emitting diode at room temperature, and thereby capable of preventing the circumferential surface of the through-hole of the reflection sheet from coming into contact with the circumferential surface of the light emitting diode even when the reflection sheet thermally expands somewhat.*

....

[] another object of the invention is to provide a backlight device and a display device in which *the dimension of the gap varies depending on positions in the circumferential direction of the through-hole, thereby capable of reflecting light emitted from the light emitting diode by the reflection sheet without being influenced by the mount position of the light emitting diode substrate even when there is an irregularity in the positional relationship between the light emitting diode and the through-hole due to the mount position of the light emitting diode substrate.*

....

... since the light emitting diode substrate is fixed in a state in which it is arranged on the base wall of the housing, it is possible to *correctly maintain the positional relationship between the light emitting diode and the through-hole of the reflection sheet, and it is possible to prevent the circumferential surface of the through-hole of the reflection sheet from coming into contact with the circumferential surface of the light emitting diode even when the reflection sheet thermally expands somewhat.*

....

Further, the backlight device and display device according to the present invention are characterized by comprising three or more of the light emitting diodes, wherein at least one of distances between adjacent light emitting diodes is different, and *the through-hole is configured so that the gap between the through-hole and the circumferential surface of the light emitting diode*

has a longer dimension at a position in the circumferential direction where the distance is longer, and the gap between the through-hole and the circumferential surface of the light emitting diode has a shorter dimension at a position in the circumferential direction where the distance is shorter.

. . . since the through-hole of the reflection sheet has a longer distance to the circumferential surface of the light emitting diode at a position in the circumferential direction where the distance is longer and has a shorter distance to the circumferential surface of the light emitting diode at a position in the circumferential direction where the distance is shorter, it is possible to prevent the circumferential surface of the through-hole from coming into contact with the circumferential surface of the light emitting diode due to thermal expansion of the reflection sheet.

See Ex. 1017 ¶¶ 9, 11, 20, 25–26 (emphases added). And with respect to Figures 2 and 3, Sharp describes “a reflection sheet 3 placed on the light emitting diode 1 side of the light emitting diode substrates 2 and having through-holes 31 into which the light emitting diodes 1 are inserted,” where

[t]hrough-holes 31 of the reflection sheet 3 are arranged with a distance therebetween at positions corresponding to the light emitting diodes 1. In other words, the through-holes 31 are arranged with a distance therebetween in two orthogonal directions X and Y, and the separation distance between adjacent through-holes 31 and 31 in one direction X is longer than that in the other direction Y. Moreover, the reflection sheet 3 is supported on the light emitting diode substrates 2 so that the light emitting diodes 1 are inserted into substantially the center of the respective through-holes 31.

The through-hole 31 of the reflection sheet 3 is elliptical in shape, *and the dimension of the gap between the through-hole 31 and the circumferential surface of the light emitting diode 1 at room temperature varies depending on positions in a circumferential direction of the through-hole 31*, so that the through-hole 31 includes a long-dimension portion 31a and a short-dimension portion 31b. The long-dimension portion 31a is located at a position in the circumferential direction where the

separation distance is longer, and the short-dimension portion 31*b* is located at a position in the circumferential direction where the separation distance is shorter.

See id. ¶¶ 46, 51–52 (emphases added), Figs 2–3.

In view of the disclosure in Sharp, we preliminarily agree with Petitioner’s assessment that Sharp describes a reflector sheet that *does not contact* the lighting elements that are exposed through the reflector sheet, and describes advantages provided by such a reflector sheet. *See Opp.* 6–7. Petitioner also provides reasons why a skilled artisan would have been motivated to combine the teachings of Sharp and Kim to provide in Kim “a gap between the diode and reflector that is preferred because it can prevent the reflection sheet from contacting the LED when it thermally expands.” *See id.* at 2–3, 6–7. Based on the disclosure in Sharp regarding the advantages of the aforementioned gap, at this stage of the proceeding it appears that Petitioner has established a reasonable likelihood that a “[person of ordinary skill in the art (POSITA)] would have been motivated to apply Sharp’s gap between the reflecting sheet through-holes and the LEDs to Kim.” *See id.* at 2–3, 7.

We acknowledge that Patent Owner has not yet had the opportunity to address Kim and Sharp (which Petitioner first made of record in support of its Opposition) and respond to Petitioner’s asserted combination of Kim with Sharp. Patent Owner will have the opportunity to do so in its Reply to Petitioner’s Opposition (or in a revised motion to amend) in this proceeding. *See Notice, passim.*

Accordingly, based on the current record it appears that Petitioner has shown a reasonable likelihood that proposed substitute claims 25–28 would have been obvious over the combination of Kim and Sharp.

Tabito Ground, and Chou-Tabito Ground

Petitioner asserts that “Tabito alone renders obvious claims 25–28” and that “Chou in view of Tabito [also] discloses all of the elements of substitute claims 25 and 27.” *Opp.* 9.

In particular, Petitioner relies on Tabito to disclose a substrate (Tabito’s back panel 13), a solid state lighting element (Tabito’s LED 18), a reflector sheet (Tabito’s reflecting plate 26) configured to conform to a

shape of a protruding feature (set screw 39 in Tabito's Fig. 5,⁷ and set screw shown in Fig. 4), the reflector sheet (reflecting plate 26) comprising at least one aperture (Tabito's guide openings 32) configured to be proximate to the solid state lighting element (LED 18), wherein the reflector sheet (reflecting plate 26) does not contact the solid state lighting element (LED 18), as recited in proposed substitute claim 25. Opp. 9–13 (citing Ex. 1007 ¶¶ 27, 36, 47, 51–52, 69, 74, 81–83, 88, 100, 103–104, Figs. 2–4; Ex. 1014, Fig. 5).

On this record, we disagree with Petitioner's contentions. Although Tabito's *reflecting plate 26* is located "on the surface of the substrate [(Tabito's back panel 13, see Fig. 2)]," and "comprises at least one aperture [(guide opening 31 including guide opening section 32 shown in Tabito's Figs. 2–5)] configured to be proximate to the at least one solid state lighting element [(Tabito's LED 18)]," and even appears to "not contact the at least one solid state lighting element" (per Tabito's paragraph 69⁸ and Figs. 3 and 5) as required by claim 25, Tabito's reflecting plate 26 does not appear to be a "reflector sheet *configured to conform to a shape of a protruding feature*" as recited in claim 25.

Tabito provides that "large-sized reflecting plate 26" has "a higher surface accuracy, *is free from distortion and is formed as a large-sized member of substantially the same size as the liquid crystal panel 8,*" is "combined with the light guide section 5 at a preset distance therefrom, [and] *the reflecting plate is required to be of a certain mechanical rigidity*" such that "reflecting plate 26 is formed by a plate 29 of, for example, *aluminum. . . [or] by a stainless steel plate* presenting a mirror surface." See Ex. 1007 ¶¶ 67–68 (emphases added); see also *id.* ¶¶ 70 (providing

⁷ As Petitioner observes (Opp. 10), Tabito's Fig. 5 is referenced in the text of the U.S. Patent Application Publication of Tabito (Ex. 1007) but the figure itself is missing from the Patent Application Publication (Ex. 1007); however, Fig. 5 is included in the text of the patent issued from Tabito's application (Ex. 1014).

⁸ Tabito's paragraph 69 provides that "reflecting plate 26 is provided with six rows of guide openings 31 in association with the light emitting array 16. . . . [and] each row of guide openings 31 includes a number of horizontally elongated rectangular-shaped unit guide openings 32a to 32n. . . . referred to . . . as a unit guide opening section 32" and "[e]ach opening of the unit guide opening section 32 has an *opening width slightly larger than the outer diameter of the light emitting part 18a of the LED unit 18* and a length long enough to allow five LED units 15 to pass therethrough." See Ex. 1007 ¶ 69 (emphasis added).

that “each bridge 33 of the row of guide openings 31 must play the part of assuring mechanical rigidity of the reflecting plate 26”), 73 (“The reflecting plate 26 is overlaid on each reflective sheet piece 27 and secured in this state to each heat dissipating plate 28.”), 74 (“the reflecting plate 26 is formed the plate 29 of aluminum”), 75 (“After assembling the reflective sheet pieces 27, from one light emitting unit 15 to another, the reflecting plate 26 is mounted in position. When secured onto the heat dissipating plate 28, the reflecting plate 26 thrusts and holds the reflective sheet piece 27 against the heat dissipating plate 28.”), 81 (describing construction of “[t]he liquid crystal display apparatus” by, *inter alia*, “forming the light guide section 5, and the reflecting plate 26, forming the reflecting section 6, . . . positioned relative to one another and such that parallelism between facing major surfaces in their entirety will be maintained to high accuracy”), 89 (“mounting member 35 and the reflecting plate 26 are clamped along the direction of thickness between the fitting part 25b and the first receiving plate part 25c of each optical stud member 25” and “[t]he result is that the reflecting plate 26 is retained as it is positioned with respect to the back panel 13 for highly accurately positioning and retaining each reflective sheet piece 27”).

Thus, Tabito’s *reflecting plate 26 is a mechanically rigid and flat metal plate* that is required for clamping together various layers (e.g., sheet piece 27 and heat dissipating plate 28) in Tabito’s liquid crystal display apparatus. *See id.* This *rigid, flat reflecting plate 26 is clamped over the LED 18 and the heat dissipating plate 28 via supports 40 (see Figs. 2 and 5), while the set screws (e.g., set screw 39 in Tabito’s Fig. 5, which Petitioned identified as a protruding feature, see Opp. 10) are fully enclosed within a cavity formed by heat dissipating plate 28 and sheet piece 27 (which also contacts the base of the LEDs). See Ex. 1007 ¶¶ 71–74, 78, 103, 115, Figs. 2–4; Ex. 1014, Fig. 5.* Thus, we do not see Tabito’s set screws as a *protruding feature* to which Tabito’s reflecting plate 26 *conforms* (as proposed substitute claim 25 requires), and we also do not find that Tabito’s *flat and rigid reflecting plate 26 is “configured to conform to a shape of a protruding feature on the tile”* (as claim 25 recites). Rather, Tabito’s flat and rigid reflecting plate 26 covers the stacked layers of the liquid crystal display apparatus (with the exception of LEDs 18, *see Figs. 2 and 5*)—such that the *shape of Tabito’s reflecting plate 26 is not adjusted or manipulated in any way to fit, accommodate, or be married in some shape to, Petitioner’s alleged protruding features.*

We are therefore unpersuaded by Petitioner’s arguments and evidence (*see* Opp. 10–11) that Tabito’s “reflecting plate 26 [is] configured to conform to a shape of a set screw 39 (. . . a protruding feature on the tile),” or that “reflecting plate 26 conforms to a shape of a protruding feature . . . as it provides cover and relief from the protrusion. . . . without any aspect that extends down into the volume containing Tabito’s set screw 39.”

Petitioner also has not shown how its reliance on Chou would remedy the above-noted deficiencies of Tabito. Rather, Petitioner provides conclusory assertions that a “POSITA would have been motivated to combine Chou and Tabito for at least the reasons discussed in [the] Petition” and that “Tabito discloses the proposed additional claim limitations in Claims 25–28. As such, Chou in view of Tabito discloses all of the elements of substitute claims 25 and 27.” *See* Opp. 9. As discussed *infra*, however (with respect to Petitioner’s Chou ground), we do not find that Chou teaches or suggests a reflector sheet as recited in claim 25, either.

Thus, based on the current record, Petitioner does not appear to have shown a reasonable likelihood that Tabito, or the combination of Chou and Tabito, teaches or suggests a reflector sheet as recited in proposed substitute claim 25 (and also required by proposed substitute dependent claim 26) and similarly recited in proposed substitute claim 27 (and also required by proposed substitute dependent claim 28).

Liu Ground, and Chou-Liu Ground

Petitioner asserts that “Liu alone renders obvious claims 25–28” and that “claims 25–28 [also would have been] obvious by Chou in view of Liu.” Opp. 13–14.

In particular, Petitioner relies on Liu to disclose a substrate (Liu’s backboard 21), a solid state lighting element (Liu’s lighting unit 22 or lighting element 223), a reflector sheet (Liu’s reflective board 27) configured to conform to a shape of a protruding feature (Liu’s raised portion of rigid metal board 23, and fasteners (bolts and nuts) 241 and 242), the reflector sheet (reflective board 27) comprising at least one aperture (Liu’s hole 271) configured to be proximate to the solid state lighting element (lighting element 223), wherein the reflector sheet (reflective board 27) does not contact the solid state lighting element (lighting element 223), as recited in proposed substitute claim 25.

Opp. 16–18 (citing Ex. 1013 ¶¶ 17–18, 22, Fig. 2A–2E).

On this record, we disagree with Petitioner’s contentions. Although Liu’s *reflective board 27* is located “on the surface of the substrate [(Liu’s backboard 21)],” and “comprises at least one aperture [(hole 271 in Liu’s Fig. 2E)] configured to be proximate to the at least one solid state lighting element [(Liu’s element 223)],” and even appears to “not contact the at least one solid state lighting element” (per Liu’s paragraph 22 and Fig. 2E) as required by claim 25, Liu’s reflective board 27 does not appear to be a “reflector sheet *configured to conform to a shape* of a protruding feature” as recited in claim 25. Liu’s reflective board 27 is merely a flat board placed horizontally over the rest of the device to “cover[] the metal boards 222” as well as rigid metal board 23 and fasteners 241 and 242 (see Ex. 1013 ¶¶ 22, 27, Figs. 2A and 2E). That is, Liu’s *flat reflective board 27* (Fig. 2E) is located over the entire backlight module 2 (Fig. 2A), such that Liu’s flat reflective board 27 is not actually “*configured to conform to a shape* of a protruding feature [(as claimed)]” in any way. All of Petitioner’s identified “protruding features” (Liu’s rigid metal board 23 and fasteners 241 and 242) are in backlight module 2, which is then *covered by the flat reflective board 27*—such that the *shape of reflective board 27 is not adjusted or manipulated in any way to fit, accommodate, or be married in some shape to, the alleged protruding features*.

We are therefore unpersuaded by Petitioner’s arguments and evidence (see Opp. 17–18) that “[Liu’s] ‘reflective board 27’ . . . [is] configured to conform to a shape of a rigid metal board 23” because “reflective board 27 covers the metal boards 222, which are fastened by the rigid metal board 23,” or that “reflective board 27 [is] configured to conform to a shape of other protruding features such as ‘fasteners (241, 242),’” or that “Liu’s reflective board 27 is configured to conform to a shape of a protruding feature . . . as it provides cover and relief from the protrusion.”

Petitioner’s reliance on Chou does not remedy the above-noted deficiencies of Liu. Petitioner argues that

Liu’s method of attaching multiple lighting units together and *utilizing a reflector that has holes* of a dimension that is larger than the LEDs *would also be suitable for use in Chou’s lighting assembly*. Ex. 1015, ¶50. *A POSITA would have been motivated to apply Liu’s configuration to Chou to provide a more rigid structure and reduce the risk that multiple lighting units separate at the welds and to increase the efficiency of applying a reflector*

to the lighting unit. . . . it would have been obvious to use Liu's teaching on how to best support the various components of Chou's lighting system. Ex. 1015, ¶50. This improvement would *increase the durability of the mount for the reflecting plate*, and thereby would increase device longevity and durability. *Id.*

Opp. 15–16 (emphases added). Thus, Petitioner's combination with Chou relies upon Petitioner's previous argument that Liu teaches a reflector sheet *configured to conform to a shape* of a protruding feature (as recited in claim 25). As discussed *supra*, we are not persuaded by Petitioner's arguments and evidence that Liu teaches such a reflector sheet. Moreover, as discussed *infra* (with respect to Petitioner's Chou ground), we do not find that Chou teaches or suggests a reflector sheet as recited in claim 25 either.

Thus, based on the current record, Petitioner does not appear to have shown a reasonable likelihood that Liu, or the combination of Chou and Liu, teaches or suggests a reflector sheet as recited in proposed substitute claim 25 (and also required by proposed substitute dependent claim 26) and similarly recited in proposed substitute claim 27 (and also required by proposed substitute dependent claim 28).

Lee-Sharp Ground

Petitioner relies on Lee to disclose a substrate (Lee's bottom chassis 224), a solid state lighting element (Lee's lamp 221a), and a reflector sheet (Lee's reflecting plate 223) configured to conform to a shape of a protruding feature (Lee's power line 221d), as recited in proposed substitute claim 25. *See* Opp. 21–23 (citing Ex. 1018 ¶¶ 15, 49, Figs. 1–2). With respect to the limitation of “the reflector sheet compris[ing] at least one aperture configured to be proximate to the at least one solid state lighting element, wherein the reflector sheet does not contact the at least one solid state lighting element” in claim 25, Petitioner contends that a “POSITA would have been motivated to apply Sharp's gap between the reflecting plate 223 in Lee for the reasons discussed . . . in § II.A.1 [of the Petition (section describing why a ‘POSITA Would Have Been Motivated to Combine Kim and Sharp’)].” *Id.* at 22.

On this record, we are unpersuaded by Petitioner's arguments and evidence. Although Lee illustrates a lamp 221a and reflecting plate 223 arranged on a chassis 224/substrate, Lee's reflecting plate 223 does not

include any aperture associated with and proximate to lamp 221a—on the contrary, Lee’s reflecting plate 223 is *a continuous layer arranged under all lamps 221a and contacting all lamps 221a*. See Ex. 1018, Fig. 2. Petitioner’s conclusory contention that a “POSITA would have been motivated to apply Sharp’s gap between the reflecting plate 223 in Lee for the reasons discussed . . . in § II.A.1 [of the Petition (the section describing why a ‘POSITA Would Have Been Motivated to Combine Kim and Sharp’)]” (*see* Opp. 22) does not account for the *differences between Lee* on one hand, *and Kim and Sharp* on the other hand. These differences include Lee’s arrangement of *reflecting plate 223 as a continuous contacting layer under all lamps 221a*, and Lee’s use of *elongated tubular lamps (221)* in contrast to Sharp’s backlight device that employs *pointlike light emitting diodes*. Compare Ex. 1018, Figs. 1–2, with Ex. 1017, Figs. 2–3.

Moreover, Petitioner does not explain (i) why a skilled artisan would *cut apertures* into Lee’s underlying continuous reflecting plate 223, (ii) why a skilled artisan would consider the *extra effort of cutting such apertures* to be worthwhile in Lee’s Figure 2 arrangement, and (iii) why a skilled artisan would further modify Lee’s reflecting plate 223 (which *contacts* all lamps 221a) *to not contact* lamps 221a. Rather, we find that Petitioner’s proposed modifications of Lee (i.e., to have a reflector sheet with an “aperture configured to be proximate to the at least one solid state lighting element, wherein the reflector sheet does not contact the at least one solid state lighting element” as recited in proposed substitute claim 25) are significant modifications that are not justified by—and in fact appear to frustrate—Lee’s disclosed arrangement of “reflecting plate 223 for reflecting light toward the liquid crystal display panel assembly 210” with “reflecting plate 223 [being] disposed in the receiving space along the bottom surface and the sidewalls of the bottoms chassis 224” and the “plurality of lamps [221a] parallel with each other . . . disposed over the reflecting plate 223.” See Ex. 1018 ¶¶ 47, 56, Figs. 1–2.

Thus, based on the current record, Petitioner does not appear to have shown a reasonable likelihood that the combination of Lee and Sharp teaches or suggests “[a] solid state lighting tile, comprising . . . [a] reflector sheet [that] comprises at least one aperture configured to be proximate to the at least one solid state lighting element, wherein the reflector sheet does not contact the at least one solid state lighting element” as recited in proposed substitute claim 25, and also required by

proposed substitute dependent claim 26. Petitioner also does not appear to have shown a reasonable likelihood that the combination of Lee and Sharp teaches or suggests “[a] method of forming a solid state lighting device comprising . . . positioning a reflector sheet on the surface of the substrate . . . wherein the reflector sheet comprises at least one aperture configured to be positioned around the at least one solid state lighting element, where the reflector sheet does not contact the at least one solid state lighting element” as recited in proposed substitute claim 27, and also required by proposed substitute dependent claim 28.

Chou Ground

Petitioner asserts that “Chou discloses the claim limitations found in the original claims” and “[t]he additional claim limitations in Claims 25–28 are rendered obvious by Chou.” Opp. 24.

In its Petition, Petitioner has relied on Chou’s Figures 3A and 8 to teach or suggest a substrate (Chou’s circuit board 500 in Fig. 3A or circuit board 1500 in Fig. 8), solid state lighting element (Chou’s LED 600), and reflector sheet (Chou’s reflector sheet 700 in Fig. 3A or reflector sheet 1700 in Fig. 8) configured to conform to a shape of a protruding feature (lead 650 and solder 800) on the tile, as recited in original claim 1 (*see* Pet. 14–19). The *substrate*, *solid state lighting element*, and *reflector sheet* are retained by proposed substitute claim 25 and, as Patent Owner observes, the elements identified by Petitioner in Chou’s Figures 3A and 8 do not teach the additional characteristics of the *reflector sheet* and *protruding feature* added in claim 25 because

Chou is silent about an aperture not contacting the solid state lighting element, as well as a protruding feature being separate and positioned away from the lighting element. As shown in Fig 3A . . . the reflector sheet 700 is only shown as touching the solid state element, and all of the elements Petitioner argues are equivalent to “protruding features” are positioned proximate to the solid state light emitter. . . .

This is the exact opposite of the invention of the ’812 Patent, wherein the reflector sheet comprises an aperture that does not contact the solid state lighting element and a protruding feature that is separate from the solid state lighting element.

. . . Chou, by being wholly silent on the reflector sheet not

touching the solid state element and a protruding feature separate from the solid state lighting element, does not render obvious proposed substitute claim 25, which specifically recites those elements.

Mot. 12–13; *see also id.* at 17–18.

Based on the current record, we agree with Patent Owner’s observations, and additionally observe that the light source assemblies in Chou’s Figures 3A and 8 appear to be particularly configured with *the reflector sheet (700/1700) contacting/abutting against the LEDs (600/1600)* at the edge of the apertures formed above the LEDs. *See Ex. 1005, 3:31–36* (explaining that “reflector sheet 700 has a hole 750 corresponding to the spot light source (LED 600) and the periphery of the hole 750 has at least one slit 760 extended from the hole 750” where “[t]he aperture of the hole 750 is slightly smaller than the size of the spot light source (LED 600)”), 4:29–36 (providing that “reflector sheet 1700 can be a deformable material, such as a resin film having reflecting function, and the slits can be omitted” and “reflector sheet 1700 is disposed on the circuit board 1500 and the reflector sheet 1700 adjacent to the hole 1750 is deformed to form an angle θ between about 0 degree to about 90 degree with the circuit board 1500”), Figs. 3A–3B, 8; *see also* Pet. 17 (whereby Petitioner noted that “reflector sheet 700 provides cover and relief for a shape of [a] protruding feature, such as the LED 600, lead 650, and solder 800, on the tile”), 18 (whereby Petitioner noted that a “POSITA would recognize that such a ‘deformable material’ used as the reflector sheet 700 would conform to the shape of the protruding features, e.g., the LED 600, lead 650, and solder 800” and that “reflector sheet 700 overlays (e.g., by deformation), and has the same shape, outline, or contour of the LED 600, lead 650, and solder 800”), 19 (whereby Petitioner noted that a “POSITA would recognize that [Chou’s described] variance in the angle θ indicates that the reflector sheet is conforming to the protrusions that the reflector sheet overlays, e.g., the LED 600, ‘the length of the lead 650,’ and ‘the amount of solder 800’”).

Apparently recognizing that Chou’s Figures 3A and 8 do not provide the necessary teachings for the added “reflector sheet” limitations in proposed substitute claim 25, Petitioner pivots to Chou’s Figure 1A, which was relied upon in the Petition as teaching the “reflector sheet” limitations of original claim 12. *See* Opp. 24 (“The additional limitation [25D]/[27D] is nearly identical to original claim 12, which was addressed in the

Petition.”). Alternatively, Petitioner submits that a “POSITA would have been motivated to modify Chou’s reflector sheet to slightly increase the angle θ [in Chou’s Fig. 3A] such that the reflector sheet does not contact the solid state light element.” *Id.* (citing Ex. 1015 ¶ 14).

Based on the current record, we are unpersuaded by Petitioner’s arguments and evidence for the following reasons.

We are unpersuaded by Petitioner’s assertion that a “POSITA would have been motivated to modify Chou’s reflector sheet to slightly increase the angle θ [in Chou’s Fig. 3A] such that the reflector sheet does not contact the solid state light element” (*see* Opp. 24). We are unpersuaded because (as noted *supra*) the light source assemblies in Chou’s Figures 3A and 8 appear to be particularly configured with *the reflector sheet* (700/1700) *contacting/abutting against the LEDs* (600/1600) at the edge of the apertures formed above the LEDs. *See* Ex. 1005, 3:31–36, 4:29–36, Figs. 3A–3B, 8.

Dr. Pattison’s supporting testimony relied upon by Petitioner (Ex. 1015 ¶ 14) contends that “[i]t . . . would have been obvious to leave a space between the reflector and the LED” as that would “allow[] for some thermal expansion” and “greater manufacturing tolerances because the LED does not have to fit perfectly within a hole or aperture in the reflector sheet,” or allow the “deformable material [of the reflector sheet] ([Ex. 1005,] 4:29–33)” to “conform to the shape of protruding features separate and positioned away from the lighting element.” We find, however, that Dr. Pattison’s testimony provides an insufficient underlying factual basis for Petitioner’s obviousness contentions because: (i) the testimony appears to contradict Chou’s stated goal of “improving the covering area of the reflector sheet 300 [of the related art, in which reflector sheet 300 had a larger hole 350 which reduced the covering area of reflector sheet 300] so as to improve the lighting efficiency of the backlight module” (*see* Ex. 1005, 1:44–60); (ii) the testimony appears to contradict Chou’s explicit teaching that the reflector sheet is made of a deformable material such that the reflector sheet may be easily deformed when placed over and adjacent to the underlying light sources (*see id.* at 4:29–36, 4:48–54, Fig. 8); and (iii) the testimony appears to contradict Chou’s explicit teaching that the reflector sheet should be positioned snug against the LED (*see id.* at 3:31–36 (“reflector sheet 700 has a hole 750 corresponding to the spot light source (LED 600) and the periphery of the hole 750 has at least one slit 760 extended from the hole 750” and “[t]he aperture of the hole 750 is

slightly smaller than the size of the spot light source (LED 600)').

With respect to Petitioner's reliance on "original claim 12" as "addressed in the Petition" (*see* Opp. 24), we observe that Petitioner relied on *Chou's Fig. 1A* for claim 12's limitations of a "reflector sheet [that] comprises an aperture configured to be positioned proximate to the solid state lighting element, wherein the reflector sheet does not contact the solid state lighting element" (added in similar form to proposed substitute claim 25). *See* Pet. 20–22. We are unpersuaded, however, that *Chou's Fig. 1A* provides the necessary teachings for the added "reflector sheet" limitations in proposed substitute claim 25 because (i) reflector sheet 300 in *Chou's Fig. 1A* is simply a *flat sheet* that is not *configured to conform to the shape of any protruding feature on the tile* (contrary to what claim 25 requires), and (ii) even if reflector sheet 300 were considered to "comprise[] . . . one aperture configured to be proximate to the at least one solid state lighting element" (as claim 25 requires), *Fig. 1A* would not also show a "protruding feature [that] is separate and positioned away from the at least one solid state lighting element." *See* Ex. 1005, Figs. 1A–1B. Rather, the only illustrated protruding features in *Chou's Figs. 1A–1B* (leads 250 and solder 400) lie closer to LED 200 than the edges of the alleged reflector sheet aperture, such that those protruding features cannot be "separate and positioned away from the at least one solid state lighting element" (as required by claim 25) if the aperture itself is considered to be "proximate to the at least one solid state lighting element" (as required by claim 25).

We further observe that Petitioner's change in reliance from *Chou's Fig. 3A* (used against some of the limitations of claim 25) to *Chou's Fig. 1A* (used against other limitations in claim 25) is questionable because Petitioner does not explain how (and why) a skilled artisan would modify *Fig. 3A* (*Chou's* disclosed invention) based on *Fig. 1A* (which *Chou* describes as "related art" with an undesirable reflector sheet that needs to be improved). *See* Ex. 1005, 1:44–60.

Thus, based on the current record, Petitioner does not appear to have shown a reasonable likelihood that *Chou* teaches or suggests an arrangement of a reflector sheet, solid state lighting element, and protruding feature as recited in proposed substitute claim 25 (and also required by proposed substitute dependent claim 26) and similarly recited in proposed substitute claim 27 (and also required by proposed substitute dependent claim 28).

III. CONCLUSION

This concludes the Preliminary Guidance, which is Patent Owner's first option under the Board's pilot program. Notice, 84 Fed. Reg. at 9,497. Patent Owner has an additional option under the Board's pilot program to file a revised MTA by DUE DATE 3. *See* Scheduling Order (Paper 10).

In addition to those two options under the Board's pilot program, Patent Owner is reminded that amendments of the challenged claims may also be pursued in a separate reissue or reexamination proceeding before, during, or after an AIA trial proceeding, including subsequent to the issuance of the Final Written Decision. We draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IPR2023-01385
Patent 7,690,812 B2

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