

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOE TECHNOLOGY GROUP CO., LTD.,
Petitioner,

v.

OPTRONIC SCIENCES, LLC,
Patent Owner

IPR2024-01130
Patent 7,168,842 B2

Record of Oral Hearing
Held October 27, 2025

Before THU A. DANG, BENJAMIN D. M. WOOD, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

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P R O C E E D I N G S

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JUDGE WOOD: Good morning. We're here for oral argument in IPR2024-01130, BOE Technology Group Company, Limited versus Optronix Sciences LLC concerning U.S. Patent Number 7,168,842. I'm Judge Wood. With me are Judges Dang and Cherry. Can we get a roll call from Petitioner?

MR. SAULNIER: For Petitioner, BOE Technology group, Michael Saulnier. I'll be arguing today. With me is Brian Erickson and Alan Limbach.

JUDGE WOOD: Okay. Thank you. (INDISCERNIBLE) your name Saulnier?

MR. SAULNIER: Saulnier.

JUDGE WOOD: Saulnier, okay. Thank you.

MR. SAULNIER: Thank you, Your Honor.

JUDGE WOOD: All right. And let's have a roll call for Patent Owner, please.

MR. TONG: Here, on behalf of Patent Owner, I am Peter Tong from Russ August & Kabat. And with me is my associate, Jake Cummings.

JUDGE WOOD: All right. Thank you, Mr. Tong. Before we begin, I'll note this is the first of two oral arguments today involving the same parties. Currently, the argument for the 01133 case is scheduled to begin at 1:30. We would prefer, however, to begin that shortly after the ending of this oral argument, if that is acceptable to the parties, you know, perhaps with a 20- to 30-minute break between the two oral arguments.

1 MR. SAULNIER: That's acceptable to Petitioner, Your Honor.

2 MR. TONG: Your Honor, we would prefer a longer lunch break in
3 between.

4 JUDGE WOOD: How long would you prefer?

5 MR. TONG: An hour, Your Honor.

6 JUDGE WOOD: All right. Well, we'll see. Yeah. We could talk
7 about that at the end of this oral argument.

8 All right. From the hearing order, Petitioner will have 45 minutes
9 to present its case and an additional 15 minutes because I believe Mr.
10 Saulnier is a LEAP participant so that's a total of 60 minutes. And you may
11 present your case in chief at that time, with reserving rebuttal time. Patent
12 Owner will have 45 minutes to respond to Petitioner's argument. I
13 understand, Patent Owner, you do not have a LEAP practitioner this
14 morning.

15 MR. TONG: That's right, Your Honor.

16 JUDGE WOOD: All right. Thank you. All right. And you may
17 also present your case during that time regarding your motion to exclude Dr.
18 Baker's testimony.

19 MR. TONG: Understood. Thank you.

20 JUDGE WOOD: And may reserve rebuttal time as well. So are
21 there any questions or concerns before we begin?

22 MR. SAULNIER: Not from Petitioner, Your Honor.

23 MR. TONG: Not from Patent Owner, Your Honor.

24 JUDGE WOOD: We have electronic copies of your
25 demonstratives in the record, the complete record, and we're familiar with it.

1 So Mr. Saulnier, you may begin when you're ready. I'm going to put up on
2 this clock here the full 60 minutes. Any time you have left after you present
3 your case in chief, you can use for rebuttal.

4 MR. SAULNIER: Thank you, Your Honor. And we have paper
5 copies of our Petitioner's demonstrative if that would be helpful to --

6 JUDGE WOOD: I don't think we need those.

7 JUDGE CHERRY: No, we don't.

8 JUDGE WOOD: We have, again, the electronic copies.

9 MR. SAULNIER: Sounds good. Thank you. I'd like to reserve 25
10 minutes for rebuttal.

11 JUDGE WOOD: That's fine.

12 MR. SAULNIER: Great.

13 JUDGE WOOD: And you'll see the clock as you proceed.

14 MR. SAULNIER: Thank you.

15 JUDGE WOOD: So whenever you want to end, you may do so.
16 And then the time remaining will be available for rebuttal.

17 MR. SAULNIER: Thank you, Your Honor. Good morning. And
18 may it please the Board. Subject to any questions from the Board, I'd briefly
19 like to discuss three issues: first is a little bit of the background of the '842
20 Patent and the appropriate level of ordinary skill in the art; second is some
21 claim construction issues; and finally, the substantive grounds of the '842.

22 Turning to Petitioner's demonstrative Slide number 4, the '842
23 Patent is a simple patent that is directed to the packaging of light-emitting
24 device backlights. This is just using known components to do system design
25 of a backlight package as a whole. And the patent goes into specifics,

1 stating that the benefit is minimizing backlight size in a particular direction.

2 Contrary to Patent Owner's arguments, this isn't just about light-
3 emitting diodes or even light-emitting diode packages, this is related to the
4 entire backlight package. As you can see in Figure 4 on the right on the
5 demonstrative, this is everything that is included in the backlight package,
6 that's LED light of any device, circuit board, heat dissipating means,
7 fastener, conducting wires, and a light guide plate.

8 And the patent doesn't go into specifics about the composition of
9 these components. It's specifically about the orientation of these generally
10 known components in relation to one another.

11 Now, Patent Owner, in its definitions for the requirements for a
12 POSITA, has a few requirements that just aren't in the specification itself.
13 The first is LED design. Light-emitting diode design is not disclosed or
14 discussed in the background of the '842 Patent. Information, like chemical
15 composition designed to achieve certain LED colors, luminosity, or
16 efficiency are simply not required in the background.

17 Similarly, it's not directed to the most efficient form of heat
18 dissipation. As Dr. Bretschneider agreed in his deposition, a person of
19 ordinary skill would understand that the location of the heat dissipating
20 plates would not be the most efficient for dissipating heat. Simply put, it's
21 directed to the overall profile and package design.

22 Similarly, it's not directed to heat dissipating means design, similar
23 in the patent just describes them as heat dissipating plates, there's no further
24 discussion. That's a whole other field of art related to design of heat sinks,
25 the chemical composition, the size, the orientation.

1 Similarly, it's not related to semiconductor design. That's not
2 discussed at all in the specification of the '842 Patent. It's simply the
3 backlight package. And then finally, it's not directed to flat panel design
4 generally. While LCDs are generally discussed and LCDs use backlights,
5 it's not related to just flat panel design as a whole.

6 JUDGE WOOD: Mr. Saulnier, would you agree that it requires
7 some experience in -- as the background of the invention says, packaging of
8 light-emitting device backlights?

9 MR. SAULNIER: It's related to the system as a whole. So Your
10 Honor, to the extent that it's a light-emitting device, a backlight, that would
11 be helpful to understand. But again, it's just utilizing these known
12 components. And the invention as a whole isn't just to a light-emitting
13 device module, the claims require more and more components. So
14 respectfully, we submit that it's related to the system as a whole.

15 JUDGE WOOD: Thank you.

16 MR. SAULNIER: And to that point, turning to Petitioner's
17 demonstrative Slide number 6, the POSITA definition the Petitioner puts
18 forward recognizes that this is related to system design. It's not related to an
19 individual component within a backlight or within the entire LCD system as
20 a whole, specifically stating that electronic and optoelectronic system design
21 are what is required.

22 In contrast, Patent Owner offers three different inconsistent
23 definitions of the person of ordinary skill in the art. As you can see on the
24 slide, the first POSITA definition was offered by Dr. Bretschneider in this
25 IPR proceeding. The second definition was offered by Dr. Bretschneider in

1 the District Court proceeding. And the third definition was offered by Patent
2 Owner's infringement expert in the District Court proceeding.

3 And the first inconsistency that you can point to is the lack of
4 thermal management requirement for a POSITA between the first of Dr.
5 Bretschneider's definitions. The Patent Owner attempts to explain this away
6 by stating that each claim has its own separate field of art, but this can't be
7 so. The field of art is related to the patent and the specification in the
8 background. In fact it would -- if each claim itself had its own field of art,
9 then you wouldn't have one level of POSITA per patent. It would be a
10 person of ordinary skill in the art per claim.

11 Additionally, there are some -- just things that we disagree with
12 that are required in the definitions that are incorrect. The first is the focus on
13 light-emitting diodes. Light-emitting diodes aren't required by the
14 specification or the claims. While light-emitting diodes are included in the
15 title of the patent, every place that LED is defined throughout the patent is
16 light-emitting device and it doesn't say what it's limited to. This could
17 include compact fluorescence or other types of backlights because those
18 existed at the time and were relevant.

19 Additionally, semiconductor manufacturing, another thing that's
20 highlighted, is not relevant to the design of the backlight. And then there is
21 a tacit recognition of this in the level of ordinary skill that was offered by the
22 third definition by Dr. Fontecchio in the District Court. As you can see, he
23 gets rid of the requirements for LED design, he gets rid of the requirements
24 for LED packages, there's no thermal management requirement. And we
25 agree that the package is broader. However, we still respectfully disagree

1 with the definition as a whole.

2 One other key difference here is that Dr. Fontecchio states that
3 graduate education could reduce or eliminate the requirement for
4 professional experience. And here, that would be dispositive as a difference
5 between them because it's uncontested that Dr. Baker has a PhD and many,
6 many years of experience and education in the relevant field.

7 Turning to Petitioner's demonstrative Slide number 8, this is just
8 highlighting that Dr. Baker is qualified, or presumably is qualified, under the
9 District Court person of ordinary skill definition. There was no Daubert
10 challenge, there was no motion to strike, and they didn't challenge his
11 qualifications for purposes of claim construction either. And the time to file
12 all those motions has come and gone. And again, this inconsistency of not
13 challenging his qualifications there and here should be dispositive and also a
14 recognition of the fact that the level of ordinary skill in the art proposed in
15 this proceeding is too narrow.

16 Dr. Baker is qualified as a person of ordinary skill in the art. I can
17 get into this more, but I was planning just to move to claim construction.
18 Unless you all have any questions about his specific qualifications.

19 JUDGE WOOD: I don't think so.

20 MR. SAULNIER: Thank you. Turning to Petitioner's
21 demonstrative Slide number 11, the first construction that I would like to
22 discuss is fastener. Dr. Bretschneider applies an improper claim
23 construction throughout the definition, and Patent Owner proposes one that's
24 not consistent with what was agreed in the District Court. Specifically in the
25 District Court, as you can see there, parties agreed to a construction of a

1 feature. Fastener is a feature that attaches or holds something in place.

2 And in the Patent Owner response, Patent Owner continues to push
3 for a narrow definition of attaching. And all of this -- all of the argument
4 circles back to this narrow definition of attachment. And attachment isn't
5 just the ordinary meaning of attachment, they go further. Throughout the
6 argument, they argue that it requires soldering or some kind of specific
7 material. None of those things are required by the specification, and that
8 isn't commensurate with the scope of the claims or the agreed construction,
9 which specifically also included holding in place.

10 And as you can see, this definition has been a moving target
11 throughout. The definition that Dr. Bretschneider offered in his initial
12 petition -- or in his initial expert declaration, Exhibit 2020, is different from
13 in the District Court. The preliminary construction that was offered by
14 Patent Owner, which was an article whose primary purpose is to attach
15 something or what they ended up -- with a fastener that attaches something.
16 And finally, parties agreed to the claim construction.

17 JUDGE WOOD: Mr. Saulnier, I believe Petitioner is
18 recommending that we adopt the agreed-upon District Court claim
19 construction for fastener?

20 MR. SAULNIER: Yes, Your Honor. That's correct.

21 JUDGE WOOD: Thank you.

22 MR. SAULNIER: The next brief claim construction that I'd like to
23 discuss is the circuit board connecting the second portion. In the District
24 Court litigation, the parties agreed to a claim construction of circuit board
25 connecting to the second portion. There was no -- and regardless, Patent

1 Owner argues that there's electrical connection and attaching requirements.
2 So neither of those things are required by the specifications or the scope of
3 the claims.

4 And there's two specific reasons for that. First, I'll point you to the
5 plain language of Claim 5, which is on the left. Right before the highlighted
6 portion, it states the circuit board is connecting to the second portion. There
7 is no requirement of electrical or anything within that. Similarly, in the next
8 piece, if they did want to put electric, if the -- they could have included
9 electrical connection if they wanted to. Specifically, they state that the
10 conducting wire is electrically coupling the light-emitting device to the
11 circuit board. And that, in and of itself, should be enough to know that it's
12 not required that the fastener does any electrical connection.

13 Beyond that, the fastener is not described as a metal component
14 anywhere in the specification or something that would conduct electricity.
15 The only relationship that's described -- and I'm going to turn to Petitioner
16 demonstrative Slide number 13 -- is that the fastener is disposed on the
17 circuit board. And disposed on, again, does not require electrical
18 connections. Similarly, it does not require attachment. The patent was very
19 clear about using this disposed on language, stating that the circuit board is
20 disposed on one face of the horizontal fastener. And this just requires
21 connecting between the two of them, it doesn't require anything more.

22 And the final claim construction, turning to demonstrative Slide
23 number 14, is related to heat dissipating means for conducting the heat
24 generated thereon. Petitioner has offered consistent constructions
25 throughout these proceedings. In our initial petition, we offered a

1 construction of plural heat dissipating plates for conducting heat generated
2 on a circuit board. We alternatively offered a narrow construction of a
3 single heat dissipating plate. And --

4 JUDGE WOOD: That doesn't impress me as a more narrow
5 construction. It sort of -- it certainly doesn't exclude multiple heat
6 dissipating plates. It sort of opens it up to just a single heat dissipating plate.

7 MR. SAULNIER: That's correct, Your Honor.

8 JUDGE WOOD: Wait. And the other thing is the -- in the
9 petition, Petitioner made very clear that you were interpreting the term as a
10 means plus function claim term under USC 112(f). Is that still Petitioner's
11 position?

12 MR. SAULNIER: Yes, Your Honor. That still is Petitioner's
13 position. And the petition also does go into more detail about how that is
14 applied throughout the grounds, specifically Uekusa and Kurokawa grounds
15 and the combinations.

16 JUDGE WOOD: All right. So to -- for the prior art to teach heat
17 dissipating means, they would need to teach either the disclosed structure or
18 equivalent to the disclosed structure.

19 MR. SAULNIER: Yes, Your Honor. And the petition puts
20 forward why it discloses the structure or an equivalent to the disclosed
21 structure. There are two additional requirements -- or one explicit additional
22 requirement the Patent Owner suggests, and two implicit requirements. And
23 none of those are required by the specifications or the scope of the claim
24 itself.

25 First, the explicit construction that they offer is that heat is required

1 to be dissipated outside of the device. There's no disclosure of internal
2 versus external dissipation. Turning back to Petitioner's demonstrative Slide
3 number 4, which shows the backlight package. As you can see, there's no
4 description of an external body outside of that or interior or exterior of the
5 device. So including that requirement is just simply not commensurate with
6 the scope of the specification or the claims.

7 Additionally, there's two implicit requirements that Patent Owner
8 suggests. The first is that there needs to be some threshold of heat to be
9 dissipated. But in some ways, there's no objective boundaries to whatever
10 this magical threshold might be. Patent Owner agrees that it can't just be an
11 insulator or something of that nature. But that's not to say that there needs to
12 be some specific threshold of heat dissipated. They just need to be, as we
13 said before, the structure of heat dissipating plates or an equivalent thereof.

14 And finally, there's also an implicit requirement that heat must be
15 dissipated from the light-emitting devices or light-emitting diodes.
16 However, the specification is clear that the heat dissipating means dissipate
17 heat produced from components disposed on the PCB 45, specifically that's
18 in the patent at column 3, lines 27 to 31.

19 The final construction I'd like to discuss, turning to demonstrative
20 Slide number 15 is the construction of disposed on. The petition clearly
21 disclosed both the narrow and broad proposed constructions and they haven't
22 been disputed by Patent Owner, either in the substance of the Patent Owner's
23 response or in Dr. Bretschneider's declaration.

24 JUDGE WOOD: What do you mean they haven't been disputed?
25 That they haven't been addressed or they haven't -- well, if you presented

1 two alternative constructions, what -- I just don't understand what you mean
2 by they didn't dispute those constructions.

3 MR. SAULNIER: So in both ways that Your Honor described.
4 First, they didn't say which construction that they agreed with or provide any
5 analysis regarding the constructions at all. There is -- in fact, in the Patent
6 Owner response, they didn't even discuss if -- the directly versus indirectly
7 disposed on as a point of the prior art not teaching anything. There are a
8 couple of stray paragraphs in Dr. Bretschneider's declaration where he uses
9 the words disposed on, but there's never actually any application or a
10 discussion of the specification or why it's narrow versus a broad disposed on
11 is appropriate.

12 Unless Your Honors have any questions about claim construction,
13 I'd like to move on to discuss the substantive grounds. Turning to
14 demonstrative Slide number 18, the first dispute -- primary dispute between
15 parties is about Uekusa's fastener attaching or holding other structures in
16 place.

17 As discussed earlier, the agreed construction between parties is a
18 feature that attaches or holds something in place. And there's two really
19 clear disclosures of where that happens. Under even a narrow description of
20 attachment, if you look at the bottom right highlighting, it specifies there's a
21 light-emitting diode that is fixed onto one substrate electrode 33A in the
22 front upright section 32. And in that mapping in Uekusa, 33A -- electrode
23 33A, in combination with upright section, is the fastener. And so there's a
24 clear disclosure where it's -- it is fixed on it. It doesn't get much clearer than
25 that.

1 And secondarily, there is a description of how the second portion is
2 -- holds the circuit board in place. It's undisputed by the parties that the
3 mounted portion 42, as you can see in the highlighting above, is mounted on
4 the peripheral edge of hole 51 to support the light-emitting diode with three
5 points of contact. And so 42, as pointed to, is another part of the fastener
6 structure and is helping to hold the LED in place.

7 And so under that part of the agreed construction, that's correct. In
8 fact, it's more than holding it in place. The specification describes it as
9 mounted to. And Dr. Bretschneider and Patent Owner agree that it is
10 holding the LED in place. The dispute is around attachment.

11 Turning to demonstrative Slide number 19, the next dispute is over
12 is Uekusa's fashioner L-shaped? And it's clear, as you can see from the
13 image on the left, comparing Uekusa with the disclosed embodiment in the
14 '842 Patent. When considered from the profile, Uekusa's fastener is L-
15 shaped, exactly like the '842 Patent.

16 Patent owner argues that the fastener is T-shaped, but it's only T-
17 shaped in the same direction looking at the '842 Patent which is a square.
18 And so truly, it's a matter of perspective. And so Uekusa clearly discloses
19 an L-shape.

20 Turning to demonstrative Slide number 20, Uekusa's circuit board
21 is also connecting to the second portion. As discussed earlier, electrical
22 connection is not required. And one of the other disputes, is that the
23 attached requirement that they have that requires some kind of soldering or a
24 specific fastener material is imported here as well. The Patent Owner states
25 over and over again that resin can't be soldered.

1 But the '842 Patent doesn't require that the fastener is made of a
2 particular material, and it certainly doesn't require soldering. As shown
3 earlier, it's agreed that the 42 -- that 42, that second portion, is mounted on
4 the circuit board and that is clearly enough to show that it is connecting to.
5 And remember, the specification only uses the words disposed on. Any of
6 the other terms that are used, it's just not there, right? There's no adhesive
7 requirement, there's none of -- nothing additional for attaching.

8 The next thing I'd like to discuss are -- is Uekusa's electrodes. This
9 is consistent with the claim construction put forward by Petitioner, that the
10 electrodes each, individually, have multiple plates included on them. And
11 electrodes are typically made of metal and so heat would be dissipated,
12 specifically the heat on the electrode that the LED is attached to. Now, the
13 other electrode that's not directly attached to the LED may not dissipate as
14 much heat, but it's still, at least under the electrode that the LED is attached
15 to, that would dissipate heat. To the --

16 JUDGE WOOD: Mr. Saulnier, this goes back to my question
17 about interpreting heat dissipating means as a means plus function claim
18 element. I did not see in the petition where Petitioner explained why those
19 portions of the substrate electrodes are the disclosed -- structure disclosed in
20 the '842 Patent as performing the claimed function or equivalent thereto.

21 MR. SAULNIER: Yes, Your Honor. So the explanation that is in
22 the petition, at 23 to 26. And I'll need to review, but I can find a more
23 specific site for you where it's explicitly discussed. But there is discussion
24 of why the electrodes do meet that means plus function term specifically
25 -- as specifically applied to them.

1 JUDGE WOOD: Well, I understand you do talk about the petition,
2 you know, discusses the fact that they're made of metal and they would
3 dissipate heat, but I believe -- well, why would you say that that structure is
4 what is disclosed as the corresponding structure or equivalent thereto?

5 MR. SAULNIER: I mean, the only disclosure in the specification
6 of the '842 is that there's multiple heat dissipating plates.

7 JUDGE WOOD: And also a drawing.

8 MR. SAULNIER: Yes, Your Honor. A drawing. And in the same
9 way, these fins, as you can see in the image on the right, you have those
10 individual portions that you can point to as separate plates on the electrodes.

11 JUDGE WOOD: All right. Thank you.

12 MR. SAULNIER: And there's another requirement here the Patent
13 Owner also attempts to import into this limitation, which is that there's air
14 that needs to be on both sides of the plate. Similarly, that's not required or
15 commensurate with the scope of the specification for the claims.

16 Unless Your Honors have any questions about the first ground,
17 Uekusa anticipation, I'll move on to Uekusa and Isoda.

18 JUDGE WOOD: Thank you.

19 MR. SAULNIER: Turning to Petitioner's demonstrative Slide
20 number 23, a person of ordinary skill in the art would have been motivated
21 to combine Uekusa with Isoda. First, I'd like to point Your Honors to the
22 claim, the disclosures in the specification, which note that the heat
23 dissipating plates are attached onto the surface of the circuit board for
24 conducting a heat generated thereon. That's not limited to heat being
25 generated from the LED itself. And Dr. Baker, in his declaration at

1 paragraph 127, notes that it's clear that it would be helpful to dissipate heat
2 from other components and placing the heat dissipating means onto the
3 circuit board.

4 Isoda also recognizes that where you would place a heat
5 dissipating means is form factor dependent. As you can see with Figure 8 on
6 the left, there's a heat dissipating means located under. Everyone agrees that
7 this wouldn't be the most efficient way to dissipate heat, but you would -- a
8 POSITA would recognize that that that form factor is important. And so that
9 would, in part, drive where it's located as well as what components need heat
10 to be sunk from.

11 Patent Owner suggests another obvious location, direct -- disposed
12 directly behind the LED. But that doesn't change the other locations that
13 would be obvious to a person of ordinary skill in the art.

14 And a clear example of this is in the image on the top right. If you
15 look at the heat dissipating means that is on the left corner right above 50,
16 that heat dissipating means is both disposed on the circuit board and attached
17 to the heat conducting member that would be included in Uekusa. And so
18 that would allow the benefit of being able to dissipate heat not just from the
19 LED but also from anything that was disposed on the circuit board. So the
20 motherboard or other components, LED drive circuits, was an example Dr.
21 Baker gave, et cetera.

22 And so these locations are exemplary. It's not that Petitioner is
23 arguing that there would be a heat dissipating means located at all these
24 locations. It would depend on the form factor, and it would depend on what
25 components needed heat to be sunk from them. Unless Your Honors have

1 any questions, I'll move to Kurokawa.

2 The petition clearly disclosed the theory regarding what the
3 fastener and the circuit board are. Specifically, printed wiring board 72 is a
4 circuit board, the fastener was metal plate 71. And Kurokawa specification
5 is clear as to why they are separate components.

6 Moving to demonstrative Slide number 26, in paragraph 84, the
7 -- there's a slight typo. But the flexible printed wiring board 72 is described
8 as, for example, an insulating film, such as a polyimide film or polyester
9 film with a printed conductor pattern. This alone, in itself, is a circuit board.
10 It is a single component, and it is a circuit board. The fact that the
11 specification may collectively call the metal plate 71 and
12 (INDISCERNIBLE - TECHNICAL DIFFICULTY).

13 Additionally, I'd like to turn your attention to paragraphs 21 to 24,
14 Kurokawa, which I've -- I'm displaying here. Paragraph 21 notes that the
15 flexible printed wiring board is bonded to metal plate 71. It's not just
16 describing this number seven; it's describing these components individually.
17 And as you continue reading through, you can see why they are separate
18 components. Specifically, in paragraph 24, there's an embodiment disclosed
19 where metal plate 71 stands on its own without the printed wiring board 72
20 being included. And so it's clear from the disclosures that these are different
21 components and perform different functions.

22 So a POSITA would understand that that metal plate 71 is a
23 fastener and 72 is a circuit board. And 71 acts as a fastener. It holds the
24 LED in place and provides structures. There's nothing else required on that.
25 Similarly, as discussed earlier, it is for purposes of this ground that

1 Kurokawa's LED is indirectly disposed on metal plate 71.

2 The next thing I'd like to touch on briefly are why Kurokawa's ribs
3 6a are heat dissipating means. Specification of Kurokawa is clear that ribs
4 6a are in contact with printed wiring board 72. This is at Kurokawa
5 paragraphs 41 to 42, and it is in the heat dissipation space 9.

6 Patent Owner's only argument here is that the heat is dissipated in
7 the same space as the components. And there's no requirement that the heat
8 needs to be dissipated inside or outside of the device. As I discussed earlier
9 and showing the '842 Patent, there is no inside or outside of the device. So a
10 POSITA would understand that that's not taught or required here.

11 JUDGE WOOD: Let me ask you this, Mr. Saulnier.

12 MR. SAULNIER: Yes, Your Honor.

13 JUDGE WOOD: Again, the ribs of that structure 6, you're
14 contending that those ribs are the disclosed corresponding structure and/or
15 the equivalent thereof because they are ribs?

16 MR. SAULNIER: Because they're individual plates. It's easier to
17 see on Figure 1 on the right, but there are single plates that run the length of
18 the device, and so they are heat dissipating plates. They're the
19 corresponding structure.

20 JUDGE WOOD: Okay. Thank you.

21 MR. SAULNIER: The other alternative mapping that was
22 included in the petition is that Kurokawa's metal plate 71 is a dissipating
23 means. Dr. Bretschneider agrees that the fastener can function as a heat
24 dissipating means and would dissipate heat. And this is also agreed in the
25 specification because it discloses specifically that metal plate 71 will

1 conduct heat from LEDs to increase heat dissipation and it would, quote,
2 "utilize the entire heat dissipation area" and then provides a contact -- or a
3 definition for that. That's at Figure 1 and paragraph 48. And so it would
4 meet the means plus function requirement of a heat dissipating plate or
5 multiple heat dissipating plates.

6 Finally, I'd like to briefly discuss the combination of Kurokawa
7 and Isoda in Ground 6. Turning to Petitioner's demonstrative Slide number
8 32, a POSITA would have been motivated to combine both of them. And
9 the first thing I want to note here that maybe isn't the most clear, but the
10 combination utilizes Kurokawa's circuit board. It doesn't utilize the circuit
11 board that is disclosed in Isoda. So Patent Owner's citations to the Isoda
12 specification around the circuit board and the teachings thereof are not -- the
13 criticism are without merit.

14 Seventy-two, the circuit board in Kurokawa is described as very
15 thin in paragraph 47. So adding means would be an -- heat dissipating
16 means would be an effective way to dissipate heat just based on the structure
17 of that printed wiring board. And Kurokawa discloses elements, such as
18 LED drivers and components that are included on printed wiring board 72,
19 that generate heat, and Dr. Baker specifies would generate heat, that would
20 be helpful to dissipate heat from.

21 And finally, there's a reasonable expectation of success. Patent
22 Owner complains that there would -- the vent holes would be covered or
23 there wouldn't be space for them. But Dr. Baker actually deals with this, and
24 it's discussed in the petition. Specifically, Dr. Baker discusses this in his
25 initial report at -- or initial declaration, Exhibit 1002 at paragraph 237 and

1 specifically states that it would be dependent on the final application and
2 that would be just a matter of how you -- like, which heat dissipating holes
3 you might include or the type of heat dissipating means that you included in
4 there.

5 And the final thing I'd just like to note on this is the final complaint
6 by Patent Owner is that heat is dissipated into the interior of the device.
7 This is how Kurokawa is exactly supposed to work. It's described that the
8 heat dissipating space can have active means, such as fans, and the holes that
9 are included there to dissipate heat through to the exterior of the device. So
10 a POSITA would understand that that's a good place to put heat dissipating
11 plates. And unless the Board has any further questions (INDISCERNIBLE -
12 TECHNICAL DIFFICULTY).

13 JUDGE WOOD: No. Thank you and appreciate your comments.
14 You have 25 minutes left for rebuttal.

15 MR. SAULNIER: Thank you, Your Honor.

16 JUDGE WOOD: Mr. Tong, you can begin when you're ready.

17 MR. TONG: Thank you, Your Honors. Peter Tong here on behalf
18 of the Patent Owner. So this patent, the '842 Patent, it covers what is agreed
19 to be a simple but (INDISCERNIBLE - TECHNICAL DIFFICULTY)
20 technology. But it is an important technology in the history of display
21 devices and LEDs. LEDs have been around for a long time and so have
22 displays. And here, the L-shaped fastener is one of the many useful
23 inventions that allow us to enjoy the very thin bezels that we see on the
24 monitors today and on the screens, on our phones, on our laptops, on our
25 computers.

1 The technology here is not found in the prior art. And Petitioner's
2 attempts to forcibly read prior art onto it is done solely through hindsight.
3 To understand that, I'm going to start with Slide 1 here and explain the
4 technology background. And I want to apologize in advance, there is a slide
5 numbering error. The slide started with 0 instead of the 1 causing there to be
6 an offset. So I'm going to refer to the numbers on the very bottom right-
7 hand corner of these slides.

8 So here on Slide 2, we have a conventional LED backlight
9 package. And we see the patent here, it discusses how this used to be the
10 design for LED backlight packages. The LED used to be oriented up into
11 the light guiding plate instead of directly into it. And this scattered light in
12 many directions; it was inefficient.

13 So turning to Slide 3, we see another discussion of how
14 practitioners attempted to address this issue in the past. They reoriented the
15 LED to directly emit the light into the light guiding plate, which is where
16 you want it. And this is the conventional art at the top. And when doing so,
17 they also reoriented the PCB and they made the heat guiding plates extend
18 outward. And this took up more room.

19 And the heat dissipating plates, these were necessary because for
20 LED backlit devices, you want to get them as bright as you can. That means
21 you put as much current in there. And if you can dissipate more heat, get it
22 brighter, then all of that's good, it's desired, that's what you want to do.

23 But what the inventor realized is that, hey, we can both balance
24 heat and space by adding this L-shaped fastener. He moved the PCB and the
25 heat dissipating plates downward below, and the reorienting was done using

1 this L-shaped fastener. And this achieved an optimal balance in the
2 inventor's opinion of efficiency, space, and thermal management.

3 So if we turn to the next slide, Slide 4, here we have the
4 independent claim. And we see these elements in the claim, they're color
5 coded for you. The light guiding plate is there, there is the first fastener with
6 its vertical and horizontal portions, we're going to refer to this as the L-
7 shaped fastener. And the light-emitting device is also there as well. One of
8 the dependent claims claims the heat dissipating means and the PCB as well.

9 But given the simplicity of this L-shaped structure, we have to ask
10 ourselves why is it -- given that LEDs have been around for decades, why
11 not find this simple structure in the prior art? Why are they relying on a
12 resin light guiding cavity to complete the L shape? It's because this fastener
13 wasn't in use. I mean, we have great search tools now, we have AI search
14 bots, and they just could not find this L-shape. It's because it's not there in
15 the prior art.

16 So turning to the next slide, Slide 5, Dr. Bretschneider explains, he
17 is a PHOSITA who has actually been working in the LED space for decades.
18 This here, on the left side, is an example of how LEDs were actually
19 packaged in the industry. This was the general format through the 1990s
20 and through the mid-2000s. As you can see, it looks kind of like maybe a
21 tooth. You might describe it as a C-shape or a V-shape, but not an L-shaped
22 bracket. And the way this works is if you see the prongs going out to the
23 side, those would kind of go into a motherboard like that. And the LED
24 would be mounted where that circle is that is facing us.

25 And here on the next slide, we see in Dr. Bretschneider's

1 declaration, he says, at the priority date of the '842 Patent, Nichia -- and by
2 the way, Nichia was the biggest -- yeah, he says there, Nichia was and still is
3 the largest LED company in the world, yet they did not find it obvious to
4 design an LED package that allowed portions of the LED package structure
5 to overlap the waveguide, thereby allowing a reduction in the longitudinal
6 direction of a backlit display, as in the '842 Patent. Biggest company in the
7 world did not think of this.

8 And that takes me to my first argument, which is, unlike Dr.
9 Bretschneider, Dr. Baker is not a PHOSITA.

10 JUDGE WOOD: Mr. Tong, before you move on, can I ask a
11 couple of questions --

12 MR. TONG: Yes, Your Honor.

13 JUDGE WOOD: -- about Slide 3. And go back to Slide 3, Figure
14 4. I believe that's the figure at the bottom. Forty-two is the conducting wire
15 or conducting wires. It's unclear to me where that is supposed to be going
16 to.

17 MR. TONG: One of the wires will connect through the anode 49
18 and off -- then off to another part of the circuit.

19 JUDGE WOOD: Am I correct in noting that that is not actually
20 depicted in Figure 4?

21 MR. TONG: That's right, Your Honor. That's not the focus of this
22 figure.

23 JUDGE WOOD: Okay. And Figure 4 depicts anode 49. And then
24 on the other side, there's cathode 50. Wouldn't each LED have an anode and
25 cathode connection?

1 MR. TONG: Yes. That is my understanding, Your Honor. And I
2 -- again, just in this cross section, I don't believe you can see both anode and
3 cathode for each LED chip. It's probably, you know, behind it, into the page
4 or somewhere else.

5 JUDGE WOOD: All right. Okay. Thank you very much.

6 MR. TONG: So Dr. Baker, he has a PhD in electrical engineering.
7 And he is in fact a very skilled generalist. I have retained him as an expert
8 in other matters, that's true, but he does not have the LED packaging
9 experience to offer admissible opinions in this case.

10 Turning to Slide 8, these bullets capture our point about whether or
11 not Dr. Baker is actually qualified here. He has a relevant degree. That's a
12 necessary element here. We don't dispute that. He's got a PhD in electrical
13 engineering. Points two and three are what are at issue here.

14 And we're going to start with point two. Now, we heard in
15 Petitioner's slides that there are various different tweaks as to how you want
16 to exactly phrase this. And yeah, you can dispute the consistency of the
17 wording, that's fine. But they're arguing very minor inconsistencies. The
18 point is, you need to have some experience in the design of LED packages
19 for displays with backlights. That's what this is about. Dr. Baker does not
20 have that in point two. He does not. Also, for point three, for the thermal
21 management claims, Claims 6 and 9, with the heat dissipating means, he
22 doesn't -- Dr. Baker lacks that experience as well.

23 So don't be confused by the sideshow. Dr. Fontecchio is not in this
24 IPR. There is a different set of claims asserted in the District Court. And
25 Dr. Baker's general optoelectronic experience is not enough. And we're

1 making this as a serious motion. We're not just filing this because we can.
2 For example, in co-pending IPRs, we are not bringing a motion to exclude
3 Dr. Neikirk. But here, Dr. Baker's experience really is lacking.

4 They've also brought up the question of why didn't we move to
5 Daubert him? Well, we're just going to grill him on the stand.

6 JUDGE WOOD: Mr. Tong, let me ask you this. How do you
7 respond to Petitioner's point that the level of ordinary skill in the art can't be
8 redefined for each claim so that, you know, Claims 6 and 9 would not have a
9 different level of ordinary skill than the other asserted claims?

10 MR. TONG: Well, I would disagree with that, Your Honor,
11 because it involves a different technology. You can write a broader
12 independent claim covering electrical or packaging technology. And then
13 you can write a dependent claim that further gets into thermal management
14 properties.

15 And if you want to know what a heat dissipating means is, or
16 where they should be added, how it should be -- how the prior art should be
17 modified to include or not include heat dissipating means, where it should
18 go, is it effective, and whether a PHOSITA would really call it a heat
19 dissipating means. Yeah, Your Honor, I would disagree with them and say
20 you need that experience.

21 JUDGE CHERRY: Do you have support for this contention that
22 the definition of a POSITA should vary claim by claim?

23 MR. TONG: Your Honor, I'd be happy to get you a specific case
24 and supplemental briefing. But if you just walk through the factors, you
25 look at what the technology is --

1 JUDGE CHERRY: I guess what gives me a lot of pause is if I
2 look at, for example, analogous art, we look at the field of the invention and
3 we look at the field of, as defined in the patent. Why wouldn't we perform a
4 similar analysis for the POSITA?

5 MR. TONG: Your Honor, the field of the invention and what you
6 just mentioned, it is a great place to start. But when you want to see what
7 technology is being claimed, again, it varies claim by claim. And dependent
8 claims can get much, much narrower than the broader independent claims.
9 So a broader independent claim does not recite any heat dissipating
10 functionality.

11 JUDGE CHERRY: What support do you have that these would be
12 such disparate fields that why wouldn't a person working in this -- would
13 they really have, you know, engineers for thermal management versus the
14 packaging generally, or would someone work in packaging and also deal
15 with the thermal management?

16 MR. TONG: Yes, Your Honor. And Dr. Bretschneider's
17 declaration actually addresses that. He says that LEDs for display packages
18 have very unique challenges, including their thermal management that
19 affects their light, you know, how bright they can get. And Dr. Baker, what
20 we'll see a little bit -- in just a little bit, he even admits in deposition that, no,
21 you'd have a mechanical engineer design these. And he doesn't have that
22 degree.

23 JUDGE CHERRY: But in fact, you've defined it as -- didn't you
24 say that the degree is an electrical engineering degree?

25 MR. TONG: Yes, Your Honor. For most claims, except Claims 3

1 and 9.

2 JUDGE CHERRY: But Claims 3 and 9 depend from the other
3 claims, right? Why would you -- so you wouldn't have -- so the independent
4 claim would have an -- you would need an electrical engineering degree.
5 But the dependent claim, you would need a mechanical degree?

6 MR. TONG: Either that or some relevant experience, Your Honor,
7 yes.

8 JUDGE CHERRY: And why can't -, Dr. Baker has a PhD as a
9 professor of electrical engineering, why doesn't that experience compensate
10 -- that educational experience compensate for, industry experience?

11 MR. TONG: Because, Your Honor, when we asked him basic
12 questions about the principles of heat transfer, he got them confused. For
13 example, we asked him, are you familiar with convective heat transfer? And
14 he thought that was radiative heat transfer. There are three different types of
15 heat transfer. There's convection, radiation, and conduction. And he doesn't
16 know that those are differences.

17 Here on Slide 19, we asked him, are you familiar with Fourier's
18 law for calculating thermal conductivity? The answer was, not right off the
19 top of my head. In other words, no, he doesn't know the basic scientific
20 principles that underlie heat transfer. He is not qualified to opine on which
21 materials are or are not actually acting as heat dissipating means or where a
22 PHOSITA would put these heat sinks.

23 We asked him, here on Slide 17, have you ever designed any sort
24 of thermal management system for an LED system? I don't remember;
25 maybe. In other words, no. And in the follow-up questioning, we asked

1 him, and do electrical engineers typically designed heat sinks, or is that
2 usually the subject of another discipline? And he admits here, well, when I
3 have something that's dissipating a lot of power, I just buy the heat sink and
4 attach it with some thermally conductive grease to what I'm trying to cool
5 off.

6 But if you're talking about the actual design of a specific heat sink,
7 I would guess that's more of a mechanical engineer design, like what's the
8 thickness of the fins or the height of the fins or whatever. So here, he's
9 admitting in deposition, this is not him, it's someone else, he buys it from
10 them.

11 And frankly, he is not the person to tell you where these heat sinks
12 should be going. He doesn't know the difference between radiation and
13 convection. He doesn't know the underlying equations that govern it. It's
14 just inadmissible lay opinion.

15 JUDGE WOOD: I mean, isn't there a difference between
16 designing the heat sink itself and knowing where to place the heat sink on
17 the circuit board?

18 MR. TONG: Yes, Your Honor. There is some difference. But as
19 I will explain later, Dr. Baker's understanding in this area is so lacking that
20 he actually is making just silly combinations that are clearly in hindsight. So
21 he's not qualified. But, you know, the other way to go about this is if the
22 Board doesn't want to Daubert him, then at least recognize that he is making
23 this up in hindsight and he's not credible. That's what we want to say here.

24 So with this, I would like to go back to Slide 12. His closest
25 experience was in the design of these capacitive touch screens. It was from

1 a long time ago, 2013. These are like the touch pads that you sign your
2 name on at the grocery store. These are not like the light-emitting display
3 devices, like monitors or phones.

4 We asked him, so did your work for Cirque, involve the design of
5 LED packages, here in Slide 13. Well, to the extent LEDs were packaged in
6 the display. But I didn't work on the actual mechanical design of the LED
7 package. It was more making sure my solutions didn't interfere with the
8 package.

9 Turning to Slide 14, we asked him -- this was a question suggested
10 by Dr. Bretschneider to see if he was familiar with industry standards and
11 LEDs -- are you familiar with J-E-D-E-C, or JEDEC reliability tests for
12 LEDs? Not right off the top of my head. In other words, another admission,
13 no.

14 Here on Slide 15, we see some more of his testimony. We asked
15 him, have you ever designed an LED package? Yes. Can you describe your
16 LED package experience? His answer was, yes, I currently -- or more
17 recently worked on the design of detectors. So I would design light sources
18 for characterizing the detectors. For example, on Monday, I had a student
19 defend his master's thesis.

20 He's talking about his experience today, Your Honor. This is not
21 2004. It's not relevant at the time of invention. So we asked the follow-up
22 question, do you have any experience designing LED packages in or around
23 the 2004 time frame? Yes. And what was that experience? And he begins,
24 back in the '80s. That's two decades before the relevant time period. And
25 that was for a CRT display. It was not for an LED display.

1 Now, you know, on rebuttal, they might cite some other testimony
2 about how LEDs were in that display, but that's not what he was working on.
3 It was a fundamentally different technology. And if Your Honors were to
4 ask an electrical engineer from 2000 how the technologies and modern
5 LEDs work today, they would not be able to give you an accurate answer
6 because two and a half decades, you know, your information is outdated.

7 Moving to Slide 16, in Slide 6, we see here, this is the claim that
8 gets at the heat dissipating means. This is why we're saying they need at
9 least one year of practical experience in thermal management systems or
10 LEDs, you know. Maybe they have a degree or coursework, fine, yeah, that
11 can substitute, getting at Your Honor's concerns. But you need some sort of
12 real technical and helpful expertise in this area one way or another.

13 We already went through Slides 17 and 18 and 19, so I'm not going
14 to go through these again. And that takes us to claim construction. But
15 before I get there, these are the reasons why Dr. Baker is actually not
16 qualified to offer opinions generally and definitely not qualified to offer
17 opinions about the thermal management issues and combinations and design
18 and locations of heat sinks, with respect to Claims 6 and 9.

19 If there are no questions, then I will move to claim construction
20 here on Slide 20. So very recently, here on Slide 21, the District Court
21 issued its Markman order. There are two important impacts. These affect
22 Claims 3 and 7. And the U.S. Patent Office recently issued its September
23 25th, 2025, memo that instructs the Board to be consistent -- either be
24 consistent with the other agencies or to explain why it would not be
25 consistent.

1 For Claim 3 here, for the term fastener, we're going to explain this
2 in a little bit more detail later. But the petition did not attempt to construe
3 this term, and it lacks a compliant invalidity theory. This was the
4 Petitioner's burden, not our burden, as a Patent Owner. And as Petitioner
5 admitted earlier, this was a moving target throughout the briefing. And
6 that's the Petitioner's problem because the USC requires that all grounds of
7 invalidity be set forth in the petition.

8 Claim 7 poses a different challenge, and that is that, as seen here
9 on Slide 22, for Claim 7 and 10, that District Court said were indefinite, the
10 Board is not allowed to invalidate an indefinite claim based on prior art.
11 That's because the proper analysis, as seen here, is you have to look at the
12 differences between the prior art and the claims. If you don't know what the
13 claims say, then you can't compare them to the prior art. That's the legal
14 theory and --

15 JUDGE CHERRY: Well, it's -- that's not quite the law, right?
16 What about Samsung v. Prisia? The Federal Circuit said, that we can -- if
17 we can ascertain -- if we can sufficiently apply the art, even if the claim is
18 indefinite, we can apply the art to it, correct?

19 MR. TONG: Yes, Your Honor, that would be correct. But that
20 would require the Board here to find more likely than not, that the claims
21 mean something with certainty first. Again, preponderance of the evidence
22 -- at least a preponderance of the evidence standard. But you'd have to do
23 that first before you could say, well, the prior art shows it. So if the Board
24 wants to jump through those extra hoops and explain its difference, you
25 know, you have some leeway to do that, Your Honor.

1 JUDGE WOOD: Mr. Tong, I take it Patent Owner disagrees with
2 the District Court in this regard?

3 MR. TONG: Yes, Your Honor. And we certainly reserve our
4 right to appeal it. But in the meantime, the District Court's claim
5 construction order is what we're stuck with.

6 So with that, I'll start to address the first ground, Uekusa under
7 section 102. And I want to start here on Slide 24.

8 JUDGE WOOD: Mr. Tong, before you move on, the final
9 construction for fastener, do you accept the Court's construction of fastener?
10 Should we apply it in this case?

11 MR. TONG: My answer to that is applying it in this case, if we
12 assume it applies, Petitioner has not met its burdens, so we're happy with the
13 Board applying this construction.

14 JUDGE WOOD: Thank you.

15 JUDGE CHERRY: But do you accept it?

16 MR. TONG: I think this was agreed upon by the parties, so this is
17 what we're using in District Court. And we accept the same use here, Your
18 Honor.

19 JUDGE CHERRY: Okay. Thank you.

20 MR. TONG: Moving to Ground 1 then.

21 JUDGE WOOD: I'm sorry to interrupt again. Just getting back to
22 substantially L-shaped structure, do the parties have a dispute regarding the
23 construction of that term?

24 MR. TONG: I think we're both using plain and ordinary meaning,
25 and I don't think it comes up meaningfully in the arguments, Your Honor.

1 JUDGE WOOD: All right. I'm just trying to understand the point
2 that you were making earlier about Petitioner's burden. Are you saying that
3 they should have been more explicit in construing that term?

4 MR. TONG: Not for the L-shaped structure, Your Honor. The
5 dispute in this case is going to be about what gets to be included in the term
6 fastener.

7 JUDGE WOOD: All right. Thank you.

8 MR. TONG: Okay. So turning back to Ground 1, Uekusa, there
9 are two main issues here, one is that for the independent claims, specifically
10 the underlying independent Claim 3, they are trying to call a resin structure a
11 fastener, even though it's not part of the fastener and it's not doing any
12 fastening.

13 And then for Claim 5, Claim 5 is lacking -- Uekusa is lacking the
14 claimed connection that is recited in Dependent Claim 5. So here on Slide
15 24, this explains what Uekusa was originally getting at. This is one of the
16 later figures in Uekusa that shows what Uekusa considered to be
17 conventional prior art.

18 There was a T-shaped device. This was mounted underneath the
19 circuit board. And it would be soldered underneath. And there was the
20 extension -- the resin extension cavity, facing the bottom right. The LED
21 would be placed inside of that. It would emit light toward the bottom right.
22 And the problem with this design of Uekusa was that it was unbalanced.
23 That resin hanging -- that resin section would add extra weight to one side,
24 and it may cause it to tilt so that the LED was not emitting light straight into
25 the light guiding plate.

1 So turning to Slide 25, we see what Uekusa said was the solution
2 to this tipping problem. The resin section was extended a little bit, and it
3 prevents further tipping in one direction. This is simply anti-tipping
4 technology. It cannot further tilt in one direction. You could very well tilt it
5 in the other direction if you tried, if you just touched it. But, you know, you
6 can't push it further into the board.

7 Turning to Slide 26, we see here the separate components and what
8 are and are not connected or doing any fastening. Now here on the left, the
9 upright portion, there's a core 32 and there's two blue electrodes. And we're
10 all in agreement that the LED is in fact fastened to the electrode 33a -- and
11 we'll see that in a little bit -- but only the left side it is what is probably
12 considered to be the fastener. And when you look at it from the front, it's a
13 T. When you look at it from the side, it's just an I, it's not L-shaped.

14 So in order to forcibly find something that they can call an L, the
15 Petitioner is pointing to the resin cavity that is on the right side. Resin
16 cavity, as shown on the right, there's a cavity that the LED sits inside of.
17 The resin doesn't touch the LED. It doesn't hold the LED in place, it doesn't
18 fix the LED, does not touch the LED at all.

19 There's a question, what is this resin sectioning attaching or
20 fastening or holding in place? And the answer is nothing. It does not meet
21 the District Court's claim construction.

22 We can see here on Slide 27, the next slide, the LED chip is sitting
23 on one blue electrode. Yes, it's fastened by that electrode and maybe the
24 core. That electrode is then soldered to the motherboard. It is attached and
25 fixed in a certain position with respect to the motherboard. There's no

1 dispute about that.

2 The thing in red is doing nothing to fasten or support the LED. It's
3 not holding the LED. It's not touching the LED. It's described as a -- parts
4 of it are either reflective or translucent. Its purpose is to focus the light that
5 is coming out of the LED and direct that light into the waveguide. That's
6 what Uekusa says its purpose is. It's not to fasten, not to hold. There's
7 simply no -- nothing in the specification that calls this a fastener.

8 So let's look at this, again, from just another perspective. Here on
9 Slide 27, the parts that are highlighted in green, those are the points of
10 connection or attachment or fastening. That is how the structure is fastened
11 or connected to the motherboard. That is solder. The ends of that core are
12 soldered to the motherboard. The purple resin extension thing, again, it's
13 there. And no, you can't push it further in one direction because it's an anti-
14 tipping stop, but it's not actually fastened.

15 And I would like the Board to consider this in view of the claim
16 construction. So by way of analogy, okay, let's say if I were to just lean
17 against this podium, you wouldn't say I'm fastened to the podium. I'm not
18 attached to the podium, right? This podium is certainly preventing me from
19 moving forward if I put my hand here. But I can easily take my hand off
20 and step back. Now, if I were handcuffed to this podium, that's a fastener.
21 If I were tied with a rope, maybe glued to it, I'm fastened to it.

22 And that's like what the solder is here. Only that T-shaped portion,
23 the I-shaped portion, the electrode, yes, that thing is a fastener. There is a
24 connection. But without that, I'm free to move in the other direction. I'm
25 not fastened to this podium. And just because there's something else

1 extending from the podium -- for example, again, if I'm holding this podium,
2 there's this microphone boom, you would not say that this is also a fastener
3 because it's attached to the podium and I can't push this way anymore, Your
4 Honors. The podium is not a fastener. The microphone boom extension is
5 not an extension of a fastener. You're missing the rope, the chain, the
6 handcuffs, the glue, the nail, the screws, whatever it is that is actually doing
7 fastening. That's what we traditionally think of as a fastener.

8 JUDGE CHERRY: Mr. Tong, my understanding of Petitioner's
9 position is that we should look at the combination of structures. The T-
10 shaped portion and the extension 41, the mounted platform 42, specifically,
11 together as the fastener. Why would -- is that incorrect?

12 MR. TONG: That is incorrect, Your Honor, because the extension
13 portion is not doing any fastening. Again, it's something -- it's an extension,
14 but it is not serving any fastening purpose. It's not holding anything in
15 place. It is not attaching. Like, what is the thing that it is attaching to, Your
16 Honor?

17 JUDGE CHERRY: But why -- it's -- the fastener, overall, has to
18 do the fastening, right?

19 MR. TONG: Right. So I suppose the best argument would be that,
20 you know, the purple extension is fastening the rest of the fastener. But
21 that's kind of self -- you know, then you're saying you're fastening a fastener,
22 or the fastener is fastening some portion of itself and that's a very weird
23 interpretation of what a fastener is.

24 JUDGE CHERRY: But the structure overall is the fastener. And
25 it has two portions, right?

1 MR. TONG: Well, Your Honor, we would disagree that the
2 structure, overall, is a fastener. And I think --

3 JUDGE CHERRY: No. I'm saying the claim structure.

4 MR. TONG: Right.

5 JUDGE CHERRY: I'm not talking about Uekusa for a moment.
6 I'm just talking about the claim claims a fastener. And that's what has to do
7 this -- what meets the District Court construction, right?

8 MR. TONG: Right.

9 JUDGE CHERRY: The fastener, overall, has to do that, right?

10 MR. TONG: Right, Your Honor.

11 JUDGE CHERRY: And then it had defined -- and then it says it
12 has a first portion and second portion. And it tells us about the first portion
13 and the second portion, but it doesn't say that both of them have to do
14 fastening or anything about what -- how they function, right?

15 MR. TONG: Well, the District Court's construction of the word
16 fastener, including both portions of the fastener, you know, that's what's
17 encompassed by this construction. It's a feature that holds or -- that attaches
18 or holds something in place. If we --

19 JUDGE CHERRY: But that's the whole thing overall. It doesn't
20 say that the second portion has to attach and hold, right?

21 MR. TONG: The second portion is inherently a part of the
22 fastener, Your Honor.

23 JUDGE CHERRY: But, for example, you agree, like, under this
24 screw could be a fastener?

25 MR. TONG: It wouldn't be L-shaped but yes, it would be a

1 fastener, Your Honor.

2 JUDGE CHERRY: And for example, the head of the screw isn't
3 fastening. But it's part of the screw, right?

4 MR. TONG: I mean, Your Honor, I would disagree with that
5 because when the head of the screw makes contact with the surface, it -- and
6 the rest of the -- I don't know what you call them but, like, the spirals and the
7 screw, they all make frictional -- they all provide frictional fastening.

8 And I think, Your Honor, it's getting at this figure here on the left.
9 In this L-shaped fastener, all of it is doing fastening. Because the bottom is
10 fastened to the PCB, the vertical portion is fastened to the LED chip, and the
11 entire structure is providing fastening to that LED chip with respect to the
12 rest of the circuit. Again, very much like how that, you know, the blue
13 electrode is providing fastening to the LED chip, you know, it's holding it,
14 it's soldered. But the red part is not doing any fastening. And --

15 JUDGE CHERRY: Well, I mean really what's fastening the LED
16 chip to this structure is the solder, right?

17 MR. TONG: The solder and the electrode, Your Honor, yes. And
18 just, I would say, you know, stepping back two big picture questions is, let's
19 say, if you asked a PHOSITA, who was not paid to be a Petitioner expert, do
20 you think they would really look at a light guiding residue cabin (sic) and
21 say yes, this thing is fastening the LED? And the answer to that is no. And
22 that's what we're asking ourselves, like, how would a PHOSITA interpret
23 this?

24 JUDGE CHERRY: Would agree that that overall structure is
25 fastening the LED, right?

1 MR. TONG: Which overall structure?

2 JUDGE CHERRY: That whole thing.

3 MR. TONG: I would agree that a part of it -- that part of it is
4 fastening the LED, and there is an extension that is doing something else. It
5 is focusing light, that's what Uekusa says it does. It reflects light. As you
6 can see in the bottom right --

7 JUDGE CHERRY: It serves a mechanical function too, right?

8 MR. TONG: Right.

9 JUDGE CHERRY: It's mechanically stabilizing.

10 MR. TONG: It provides anti-tipping technology in one direction
11 only, just like me pushing against this podium. I can't press further into the
12 podium but I'm free to move away in the other direction. I'm not fastening --

13 JUDGE CHERRY: I mean isn't it at least fastening it in that
14 direction, then?

15 MR. TONG: I would say it stops movement in that direction, but
16 it does not -- it's not attached, it's not held in place because it can move
17 away. That's what the District Court construed fastener to do. Big picture,
18 there we have the L-shaped fastener; Uekusa is anti-tipping technology.
19 Would a -- I guess the Board has to seriously ask itself, you know, if a
20 PHOSITA, a person of ordinary skill in the art, you show them this figure,
21 they see Uekusa, they see where Uekusa says that this is a resin cavity, it
22 focuses light and it provides anti-tipping functionality, is the PHOSITA
23 going to say, yes, that is a part of the fastener? How would a person of
24 ordinary skill in the art look at this? Not can the Petitioner force some read
25 in hindsight? That's the wrong question, Your Honor.

1 I'm going to skip a few slides. Uekusa does say this is a T-shaped
2 fastener and it -- you know, the extension is a U-shaped cavity.

3 But I want to get to Slide 36 and address Claim 5. So here, it says
4 the circuit board connecting the second portion, referring to the horizontal
5 portion, it's separately -- right below that, in Claim 5, it says -- it uses the
6 word coupling. So the words connecting and coupling, they mean different
7 things. This claim does not say merely touching, which is how Petitioner
8 would like to construe the word connecting.

9 But the only points of connection, as the Board noted earlier, were
10 really these, the solder joints. The rest of it, at best, touches if it is being
11 tilted in that direction by the force of gravity. But that there is no actual
12 connection. We'll concede that it could be, you know, touching, but that's it.
13 We're not arguing that there needs to be an electrical connection, but it has
14 to be more than touching. That's the issue here.

15 JUDGE WOOD: And that's based on teaching in the '842 Patent
16 or --

17 MR. TONG: Not that --

18 JUDGE WOOD: -- is there, you know, specific meaning in the art
19 for this term?

20 MR. TONG: That's based both on the claim differentiation that we
21 just saw in Claim 5, where it separately uses the words connecting and
22 coupling. And it's also just -- if you look on the left here, again, the L-
23 shaped fastener, the horizontal portion is connected to that PCB, right? It's
24 right there.

25 JUDGE WOOD: Do we know how? I mean --

1 MR. TONG: It doesn't go into detail. But presumably, you can't
2 just, you know, separate them or the LED would fall off.

3 JUDGE WOOD: Thank you.

4 MR. TONG: So I'd like to move on to these heat dissipating
5 claims, these are in Claims 6 and 9, you know. We generally agree that it
6 refers to at least one of these plates. The Board doesn't need to construe
7 exactly how many there are. And we're not proposing any type of implicit
8 requirements, we just ask that the Board apply common sense that Dr.
9 Bretschneider asks us to do, as he explains.

10 What we see here on Slide 41, the ends of these electrodes are not
11 heat dissipating plates. This is something made up in hindsight. There's
12 multiple problems with this. Dr. Bretschneider pointed out here on Slide 42,
13 well, first of all, that one on the right isn't even thermally connected to your
14 LED. That's the first problem.

15 Then on Slide 43, the other issue is that if this were actually
16 meaningfully dissipating any amount of heat, it would melt the solder.
17 That's what Dr. Bretschneider said in his opinion. It's not actually doing
18 that. What Dr. Bretschneider has explained, that the portion of the electrode,
19 that is the only portion of the electrode doing any amount of meaningful heat
20 dissipation is right there underneath the LED. That is why there is a resin
21 cavity, some space around it, it's because heat doesn't really dissipate
22 anywhere else, otherwise the resin would burn too. We have a picture of
23 that elsewhere and we'll get to that.

24 Moving to Ground 2, this is the combination of Uekusa and Isoda.
25 There's more evidence of hindsight. This was Isoda's teaching to put a heat

1 sink directly on the other side of the PCB. This is efficient. It's how you
2 remove heat. So how would you apply this in hindsight? Well, if you take
3 Uekusa and Isoda, Figure 4, that's what you get on the right side with no
4 hindsight. How do you get from the left side to the right side? You apply
5 hindsight. You look at the claims and try and map it to the claims.

6 Now, they've said, okay, well maybe let's look at Figure 8, okay?
7 This picture is -- Figure 8 is cited in, like, one passing citation in their
8 petition. This wasn't their real theory. Again, they built it up in hindsight,
9 through the case, based on our criticisms. But even this has problems
10 because the Uekusa system does not support this. It doesn't, you know, have
11 it. If you were to try and do something like this, you would burn the solder,
12 burn the resin. And, you know, keep in mind the whole purpose of putting
13 the heat sink where it is, is to cut off that little extra space to make your
14 bezel smaller.

15 And what have they done? Well, in this monstrosity, they've
16 added these giant heat dissipating plates off to the side, wasting a bunch of
17 room. And not only that, but they admitted that this is not optional. So you
18 don't get size, you don't get space, you get nothing. Well, I mean you get a
19 mapping to the claims, but that's only because they're doing it in hindsight.

20 Same thing here. You can see just how much space is wasted.
21 And again, they've admitted this is not efficient in terms of heat transfer.
22 And Dr. Bretschneider definitely agrees with that.

23 I'm going to skip over Ground 3. There's been a Federal Circuit
24 case saying you can't consider AAPA anymore, that's in the briefing. And
25 I'd like to address Kurokawa. So Kurokawa is fundamentally different.

1 Here on Slide 60, you know, it's about bending a metal PCB to reorient the
2 LED chips, not mounting -- not using a separate L-shaped fastener.
3 Kurokawa says that number seven is the metallic wiring board. That is how
4 a PHOSITA would interpret the claims, that's here in paragraphs 10 and 11.

5 If we look at some of these theories. Let's go over them. They
6 said, oh, well, maybe this cover is an L-shaped fastener. And you can see
7 the red and the orange portions there. This is from the petition. And they
8 said, well the LED, it's on the PCB and indirectly, the claims allow this to be
9 disposed on your L-shaped fastener because they're all coupled together.
10 No. Disposed on means -- it doesn't mean coupled, it means more directly.
11 You would be reading out, like, the main purpose of the L-shaped fastener
12 and allow your LED to be mounted on the PCB instead. And the claims also
13 say that, you know, it has to be not just on the -- disposed on the fastener but
14 the specific vertical portion of the fastener.

15 Some other silly things are that these ribs are not heat dissipating
16 means -- you can see in this picture here, they're not even touching the
17 -- thermally touching the LEDs.

18 And again, because I'm limited on time, I'm going to move quickly
19 into Ground 4. They seem to recognize that saying those ribs are heat
20 dissipating means are kind of silly. So they proposed this backup theory
21 where they said, oh, this is what they drew in their petition, they covered up
22 the hole, okay? So originally, you had great ventilation. Some heat was
23 being dissipated out the backside of the metal circuit board. That's the
24 whole purpose of using this metal board, you don't need separate heat
25 dissipating means. But, you know, they're going to modify it nonetheless to

1 meet the claims.

2 And then, you know, in the reply, after looking at our criticisms,
3 they say oh, no, no, no, maybe there's a little bit of room underneath these
4 ribs between these holes. Look how little room there is, come on. No
5 PHOSITA is going to add a tiny fin over there unless they're working in
6 hindsight.

7 And Dr. Bretschneider has also explained, again using his actual
8 experience in thermal management, that Dr. Baker has identified positions
9 where heat dissipation is likely to be minimal or non-existent. Why? It's
10 because all the necessary heat dissipates out the backside right there and
11 very little of it will conduct through the rest of the circuit board to where
12 they are saying you should add these, you know, additional heat sinks.

13 So to sum it up, they have an unqualified expert. They're forcing
14 reads of the prior art onto this, not through the lens of an actual person of
15 ordinary skill in the art but forcing things to map on the claims as only, you
16 know, a Petitioner motivated to invalidate the claims would do.

17 I'm happy to take any other questions the Board may have.

18 JUDGE WOOD: I don't think we have any more questions. We
19 did ask many questions during your presentation. So we'll give you five
20 extra minutes so you can have some rebuttal time.

21 MR. TONG: Thank you, Your Honor. I appreciate it.

22 JUDGE WOOD: Mr. Saulnier, you can begin whenever you're
23 ready.

24 MR. SAULNIER: Thank you, Your Honor. First, if the Board has
25 any questions, I'd like to address those or else I'll just go and I've got a few

1 points I'd like to make. So the first thing I'd like to address is their
2 description of what is invented by the patent. They spend a lot of time
3 discussing how this L-shaped fastener was incredibly inventive and there
4 was nothing like it in the prior art.

5 But they disclaimed Claim 3 in response to our petition, and that
6 specifically talks about the L-shaped fastener. So this is an implicit
7 recognition that this patent, to the extent it's about anything, is about the
8 system as a whole. L-shaped fasteners were well known at this time.

9 I think the second thing that I'd like to discuss is just related to the
10 field of art. Petitioner argues that each claim is limited to -- or each claim
11 cannot be its own field of invention. This is the entire field of invention as a
12 whole. And they put the background of the invention up there right now. It
13 generally relates to the packaging of light-emitting device backlights. You'll
14 notice, one, it doesn't say light-emitting diodes. Dr. Bretschneider is
15 exclusively talking about light-emitting diodes throughout his criticisms of
16 Dr. Baker, and Patent Owner is laser-focused on this light-emitting diodes.

17 JUDGE WOOD: Isn't that a reasonable inference, though, from
18 the entire patent, that it's specific to LED backlighting? I can't -- I find it
19 hard to believe that a person of ordinary skill in the art would read this
20 patent as encompassing compact fluorescents, for example.

21 MR. SAULNIER: I think that if it had been -- Your Honor, I agree
22 that the title does say light-emitting diodes, but this -- they could have used
23 light-emitting diodes throughout the rest of the specification, and they chose
24 not to. They used light-emitting device in recognition of those other kind of
25 compact fluorescents or other types of backlights that would be relevant for

1 this. I mean, compact fluorescents also generate heat. There's also a need
2 for having -- putting them in specific orientations. And so the scope of this
3 patent, regardless, it could have been limited to light-emitting diodes, but it's
4 not. It's light of any devices and the backlight packages as a whole.

5 The other thing you'll see in the field of invention, there's no
6 discussion of heat transferring. A lot of the citations to Dr. Baker's
7 depositions are questions about specific heat transfer, that's not discussed.
8 The patent discusses, you know where you need to dissipate heat from. And
9 you use heat dissipating means, and you attach it to dissipate that heat.
10 Specific calculations of Fourier's law, or things like that, are required.

11 That experience of utilizing heat sinks to get rid of heat in
12 components, that is something that an electrical engineer would understand.
13 And Dr. Baker has a lot of experience with that. He has experience with
14 those larger system designs. And as you saw in his deposition, when I have
15 a place that needs to dissipate heat, I use a heat sink. And so that kind of
16 selection and recognition of places where you need to do that are all that is
17 required by the field, not the specific design of those.

18 JUDGE CHERRY: Even if we find that he is competent to testify,
19 why shouldn't we diminish the weight we give to his testimony about, you
20 know, the heat sinks and where they would be placed if he doesn't really -- if
21 he admits he doesn't really understand or is familiar with them.

22 MR. SAULNIER: I think that's not quite a correct characterization
23 of what Dr. Baker said. Dr. Baker is experienced with doing exactly what's
24 asked for in the patent, and that's utilizing heat sinks depending on the
25 eventual application of the device. As Dr. Baker discussed, there's LED

1 drive circuits, other things that generate heat that would need to be
2 dissipated throughout. And that is typical in all electronic system design.

3 And so the specific -- for example, JEDEC reliability standards,
4 that is unrelated to the design of the backlight as a whole. That's specific to
5 light-emitting diodes or LEDs. And the patent just says using a heat
6 dissipating means. There's no further description, requirement, or even
7 amount. It would depend on the eventual application. So that system design
8 experience is the most relevant.

9 JUDGE CHERRY: But in the particular references we're dealing
10 with, they all are using LEDs, right?

11 MR. SAULNIER: That is correct, Your Honor.

12 JUDGE CHERRY: So knowledge of LEDs and heat dissipation
13 issues with them would be relevant in terms of discussing modifying those
14 devices, right?

15 MR. SAULNIER: And that is correct, Your Honor. And Dr.
16 Baker has that experience. So that's more clearly laid out in the Patent
17 Owner's reply, related to utilizing heat sinks for high powered LEDs and to
18 dissipate heat from those LEDs as well as the general system. And again,
19 this is related to using LEDs, not designing LEDs.

20 The next thing I wanted to bring the Board's attention to was
21 related to the question that the Board had earlier about where is it described
22 in the petition that related to the heat fins and the heat dissipating means. So
23 I displayed here, this is in -- on page 26 of the petition, where it specifically
24 described that the POSITA would have understood portions of the substrate
25 electrodes are the claimed heat dissipating plates and why they meet the

1 claim structures.

2 JUDGE CHERRY: I read that as an assertion. I don't see the
3 explanation.

4 MR. SAULNIER: I mean, I -- the plates having the indentations
5 that result in the plates or metal fins are that structure. I mean, they're heat
6 dissipating plates. And a POSITA, again, would understand that the
7 substrate electrodes are metal and would dissipate heat.

8 JUDGE CHERRY: I guess, was -- on what basis would a POSITA
9 know that the electrodes would be the heat dissipating means? --I mean a
10 solder alloy generally melts at a lower temperature. Why would a POSITA
11 think that that's a heat dissipation -- that I should use that for heat
12 dissipation?

13 MR. SAULNIER: So I think part of it is related to the general
14 package design that they're -- that is being described. So if you look at the
15 Nichia example, there aren't heat dissipating plates. In fact, in his
16 deposition, Dr. Bretschneider agreed that, one, he hadn't seen a system that
17 -- where it had a module that included heat dissipating plates or things like
18 that. And so I think a POSITA would reasonably understand that there
19 -- that would be a way to dissipate heat from the LED.

20 JUDGE CHERRY: But it's the electrode, not -- so you're saying
21 any structure that could carry heat away from the LED -- I mean, so any
22 structure in contact with it would be a heat dissipating means?

23 MR. SAULNIER: No. That's not what I'm saying, Your Honor.

24 JUDGE CHERRY: So then why -- I guess if that's not the case,
25 then why would the electrodes, which are just the electrodes, be -- why

1 would they be the heat -- like, what evidence do you have to support this
2 contention they would be heat dissipating means or just electrodes?

3 MR. SAULNIER: I mean, I think, Your Honor, it would just be
4 understanding based on the fact that they're metal, and that metal would
5 dissipate heat.

6 JUDGE CHERRY: Okay. (INDISCERNIBLE - TECHNICAL
7 DIFFICULTY)

8 MR. SAULNIER: The next thing I'd like to briefly discuss is
9 Uekusa's fasteners, which discloses that it attaches or holds. I think as a
10 preliminary matter, they're pointing to structures that aren't -- that are not
11 included in Petitioner's mapping. For example, the 36, that U-shaped thing,
12 that's not a part of what we mapped to the fastener. And I mean, there was
13 an -- they agreed that the LED is attached to the substrate electrode. And
14 one of the -- one of Petitioner's mappings is that substrate electrode, in
15 combination with the resin portions, as the claimed fastener.

16 In the District Court, as you saw in our initial slide, they argued for
17 this narrow attachment requirement. And the District Court rejected it,
18 which is why they agreed to this hold in place as well. And so it's just not
19 credible that they're now going back and saying, well, really, we meant
20 attachment because they didn't challenge it, and they agreed to that
21 construction of holding in place.

22 And Uekusa is clear that it is a three -- it's a -- one, it's a -- it's
23 mounted. It specifically states mounting, in the petition. It's not just
24 touching. And it's holding that entire structure in place and specifically the
25 LED. And that's all that is required by the agreed claim construction, which

1 they appear to agree with and then have been arguing against.

2 And additionally, the emphasis on solder is completely misplaced.
3 That's not required in the specification. It's not commensurate with the
4 scope of the specification in the claims. Relatedly, with the -- connecting to
5 the second portion, it seems like they have dropped the reliance on the
6 electrically connecting to, which we agree. But similarly here, the only
7 words that are used in the patent to describe the relationship between them
8 are disposed on. It's not glued, it's not soldered, it's not whatever type of
9 attachment that they appear to want to include in that.

10 The other thing that was discussed that I'd like to briefly respond to
11 is this requirement of a thermal connection to the LED and to just dissipate
12 heat from the LED. That's not required. But even if it was, this combination
13 of Uekusa and Isoda discloses that, particularly the combination in the top
14 right that I pointed to earlier.

15 And as we were talking about earlier, the heat dissipating means
16 aren't located in the most efficient place in the '842 Patent. That's not
17 required. The point of the '842 Patent is to minimize space. And so the
18 location that they put the heat dissipating points are inherently going to be
19 less efficient at dissipating.

20 And so similarly, it's not required that a person of ordinary skill
21 would put the plates in the most efficient location, but that it would be an
22 obvious location. And a POSITA, again, would understand, as Dr. Baker
23 has explained, this would depend substantially on the application of what
24 you're putting the light-emitting device into and the backlight into and where
25 -- what kind of electronic circuits are included in those light-emitting

1 devices or the backlight.

2 JUDGE CHERRY: Well, back --

3 MR. SAULNIER: Yeah.

4 JUDGE CHERRY: If you go back, which one of the combination
5 -- which one of the ones on the right are you relying on based on Figure 8 of
6 Isoda?

7 MR. SAULNIER: I think the -- specifically the -- let me zoom in
8 -- oops, that's not zooming in. It's a little bit small but this structure here,
9 that's kind of to the left of there. But the other structures are presumably
10 taught as well because the teachings of Isoda, based on Figure 8, are that the
11 location of the heat dissipating plates would be dependent on the application.
12 It doesn't have to be located directly behind the heat source. And so again,
13 you're putting these heat dissipating plates where they need to be, depending
14 on where the heat needs to be dissipated from and what the end application
15 for the devices.

16 The other brief thing that I'd like to respond to related to the
17 Kurokawa reference is, first, they point to paragraphs 10 and 11, which just
18 talk about the PCB7. But this ignores the teaching in the rest of Kurokawa
19 that I showed, where it specifically delineates printed wiring board 72 and
20 metal plate 71. So this just -- it runs contrary to the teachings of the patent
21 as a whole.

22 Similarly, one of the large complaints, specifically related to the
23 combination of Isoda and Kurokawa, is that Dr. Baker would have put it in
24 an incorrect location because he didn't consider the fact that you're covering
25 the holes. And this is specifically dealt with in paragraph 237 of Dr. Baker's

1 opening expert report and discussed at the cites in the petition.

2 Specifically, he states that a POSITA would have understood that
3 it's common to attach heat sinks to the circuit board around active circuits
4 and would have placed the heat sinks that it did not interfere with active
5 circuits and leave space for hole 7C that might be integrated into board 7 of
6 Kurokawa. This isn't hindsight. And again, this is just a demonstrative on
7 the left. It's not showing the entire -- you know, the entirety of the multiple
8 heat dissipating spaces there can be in the right.

9 And I just want to highlight this point about dissipating heat from a
10 circuit board. This is something that any electrical engineer who is
11 designing any circuit board does. This isn't something that is unique and
12 complicated and convoluted. This is just a part of electronic system design.
13 If you have a hot chip or you have a hot circuit, you put a heat sink and you
14 select a heat sink that would do what you need it to do. This isn't anything
15 that's outside of the scope of, one, Dr. Baker's experience or, two,
16 specifically, the teachings in the '842 Patent.

17 And paragraph -- and I do want to highlight one more time,
18 paragraph 237, it specifically does say other electronic circuits on the board
19 72. And so this, at least this combination, is squarely within the experience
20 of Dr. Baker even if he doesn't -- even if the Board found that he didn't have
21 specific experience with designing heat sinks for LEDs.

22 Unless the Board, you know -- there's one thing that -- one final
23 thing that I'd like to just mention, and there's a question related to the
24 indefiniteness issue. And Patent Owner, specifically -- sorry, a little bit
25 -- let's see, related to the sufficiency of the prior art, so here the

1 indefiniteness is not dispositive because it -- the claims are definite and
2 sufficient to apply the prior art to the prior art in this case. This was
3 specifically addressed in the petition. The construction of above was
4 explicitly discussed. It was explicitly applied.

5 Again, Patent Owner disclaimed Claim 4, which was the other,
6 above (INDISCERNIBLE - TECHNICAL DIFFICULTY), in response to
7 the petition. And the petition specifically discloses all orientations that
8 could encompass above. So that's why it's sufficiently definite to apply the
9 prior art to, even if it is not definite as a factual matter for the District Court.

10 Unless the Board has any further questions, I cede the rest of my
11 time.

12 JUDGE CHERRY: Did Petitioner in the District Court argue that
13 above is indefinite?

14 MR. SAULNIER: No. The Petitioner District Court argued that
15 -- or sorry, excuse me, yes. Petitioner argued that it was indefinite in the
16 District Court, but that's because it's indefinite as applied to a specific
17 device. And so that's why it's a factual matter. It's not indefinite as applied
18 to the prior art, which has been consistent from the beginning.

19 JUDGE CHERRY: Okay. Thank you.

20 JUDGE WOOD: Mr. Tong, you have five minutes.

21 MR. TONG: Thank you, Your Honors. Peter Tong for Patent
22 Owner. A couple of issues I want to address, one was the disclaimer of
23 Claim 3. The reason this was disclaimed is because Claim 5 recites the
24 circuit board, which provides necessary context to really understand the
25 claim. So it -- we still haven't seen a clear L-shaped fastener in the prior art.

1 You can't change that because there was a disclaimer of Claim 3.

2 Next, there was some discussion of what is a heat dissipating
3 means. If we look at the petition, this is their theory, any such conduction
4 constitutes heat dissipation. This is wrong. They are essentially saying
5 every single material in the universe, by the laws of entropy, will dissipate
6 energy. And they're saying everything is heat dissipation. Now, heat
7 dissipation -- and they've also confused dissipation of heat into the air versus
8 conduction within the material itself. And again, this all stems from Dr.
9 Baker's lack of expertise in this area.

10 On page 25 of the, you know, sur-reply, we did dispute the
11 construction of what is disposed on what. They have not responded under
12 the correct theory of Kurokawa. The whole thing is a metallic wiring board.
13 Even if you were to read that there were individual layers, their problem is
14 that what they point to does not meet the requirements of Claim 5.

15 And then I want to go back to the issue, the main issue, in Uekusa,
16 you know. They raise the question of what is holding the LED. Again,
17 stepping back, reasonable PHOSITA, who is not involved in this litigation,
18 if you show them the prior art and ask them what is holding the LED, what
19 is holding it in place? They will say, well, it's the connection, you know,
20 from the PCB. You've got the solder joint and the electrode, maybe the core
21 is providing some structural support. That's what they would tell you. And
22 they would say the rest of it is doing a different function.

23 And again, I would remind you of the example, me leaning against
24 this podium. I'm not attached to or fastened to the podium. Even if you
25 thought this podium were a fastener of me, this microphone boom is not. It

1 is doing something completely different. And that's what Isoda describes, its
2 resin portion, as doing something completely different. It's to direct light. It
3 is to provide anti-tipping technology.

4 JUDGE DANG: Mr. Tong, I have a question. You're, I guess,
5 trying to define fastener, but I guess the claim just said it's a fastener. It
6 doesn't say fasten to what. It doesn't say fasten the LED to something. It
7 just said a fastener. And then it has two portions, and one of it has the LED.
8 So, you know, can you define a little bit more, why you're trying to say that
9 fasteners cannot be just touching?

10 MR. TONG: Yes, Your Honor. Certainly, the claim construction
11 from the District Court's Markman order says a feature that attaches or holds
12 something in place. We clearly understand that that is met when you are
13 fastening the LED with respect to the motherboard. That's implicit in
14 everybody's arguments. The question is, what is the resin fastening? And if
15 your answer -- if Your Honor does not have a clear answer to that in your
16 mind right now, then Petitioner has not met its burden of persuading you that
17 the prior art reads on this.

18 JUDGE DANG: I guess, I'm questioning the claim language then.
19 If you say a fastener, it doesn't say you fasten an LED.

20 MR. TONG: If we look at the claim language, Your Honor, it
21 does. If you look at Claim 3 --

22 JUDGE WOOD: Yes.

23 MR. TONG: -- so the fastener -- it says the last element, a light-
24 emitting device, disposed on the first portion of the first fastener. That's
25 what's being fastened, Your Honor.

1 JUDGE DANG: But it's disposed on the fastener. So the fastener
2 is not doing this -- the fastening of the LED.

3 MR. TONG: It is fastening the LED with respect to the
4 motherboard, Your Honor. So, you know, if your motherboard moves
5 -- again, that could be, like, your computer monitor, the LED moves along
6 with it, that's this PCB that you see here in blue 45. If you move that PCB,
7 the LED is fastened to that and moves along with it.

8 JUDGE DANG: Well, yeah, I understand if you describe the
9 figure or so. But I guess I'm reading the claim and I'm not seeing that the
10 LED is being fastened. The LED is part of the fastener.

11 MR. TONG: And so, right, the LED is disposed on the fastener.
12 It's fastened to that fastener. And Claim 5 provides a little bit more context.
13 It says the circuit board connecting the second portion of that fastener. So
14 we have this fastener, the vertical portion is connected to the LED, the
15 horizontal portion is connected to the circuit board. That's what's
16 envisioned. L-shaped fastener connects the LED to the motherboard, resin
17 plays no part in that, Your Honor.

18 JUDGE DANG: Okay. Thank you.

19 MR. TONG: I would like to go to Slide 61 for my last point -- two
20 last points, one is I want to remind the Board, this whole discussion of
21 Kurokawa and the proposed modifications, paragraph 10. Because a
22 metallic wiring board is used as a printed wiring board 7, the thermal
23 conductivity of the printed wiring board can be improved compared to that
24 of a glass epoxy-based wiring board. When you're using metal, you don't
25 need it.

1 And the prior art that they're trying to modify is one of those
2 epoxy-based, you know, just traditional motherboards. It doesn't say it's a
3 metal motherboard. And so you can't conduct or you can't put heatsinks far
4 away and get conduction there. It's not going to be efficient. You waste
5 space and you don't get good thermal management, so you wouldn't do that
6 at all.

7 And with that, I'm happy to take any other questions that the Board
8 has.

9 JUDGE WOOD: I don't think we have any more questions, Mr.
10 Tong. So thank you for your remarks.

11 MR. TONG: All right. Thank you very much.

12 JUDGE WOOD: I believe that concludes the hearing for
13 IPR2024-01130.

14 (Whereupon, the above-entitled matter went off the record at 10:52
15 a.m.)

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