

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HISENSE USA CORPORATION,
Petitioner,

v.

BRIGHTPLUS VENTURES LLC,
Patent Owner.

IPR2023-01168
Patent 9,605,835 B2

Record of Oral Hearing
Held: December 4, 2024

Before BARBARA A. PARVIS, KEVIN C. TROCK, and
JOHN D. HAMANN, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing on Wednesday,
December 4, 2024, commencing at 1:00 p.m. ET, via video teleconference.

P R O C E E D I N G S

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JUDGE PARVIS: Good afternoon, everyone. We are convened for oral arguments in IPR2023-01168, which pertains to the patentability challenges of claims in U.S. Patent 9,605,835 B2. I am Judge Parvis. Judges Trock and Hamann are also with me appearing remotely.

We now turn to appearances for both parties for those who will be arguing today. If anyone else is attending in person or remotely, but will not be speaking, please identify them as well. We'll start with appearances for Petitioner.

MR. FERRARIO: Thank you, Your Honor. Matias Ferrario of Kilpatrick Townsend on behalf of Petitioner Hisense USA. Joining me is back up counsel, Michael Morlock and Sarah Cameron, both of Kilpatrick Townsend. Thank you.

JUDGE PARVIS: Thank you. For Patent Owner?

MR. MASSAND: Your Honor, this is Neal Massand for Patent Owner, and I don't believe anybody else will be joining from our side.

JUDGE PARVIS: Thank you. The hearing today will be conducted in accordance with the guidance provided in the order setting the oral argument, which was entered on November 1, 2024, as paper 31 in this proceeding. We have the parties' demonstratives. Please refer to each demonstrative using its slide number. The court reporter will provide a transcript of the hearing that will become part of the public record in this proceeding.

At the end of the hearing, we're going to ask counsel to stay on the line to answer any questions the court reporter may have. If the parties wish

1 to discuss confidential information, please notify us before discussing
2 anything confidential.

3 As set forth in the oral hearing order, each party will have 60
4 minutes to present argument in this case. Petitioner will open the hearing by
5 presenting its case regarding the challenged claims which the Board
6 instituted at trial. Petitioner also will present its case on its opposition to
7 Patent Owner's revised motion to amend. Thereafter, Patent Owner will
8 respond to Petitioner's argument. Petitioner may reserve rebuttal time to
9 respond to arguments presented by Patent Owner, and Patent Owner may
10 request time for a brief sur-rebuttal.

11 We'll start with Petitioner. Do you wish to reserve any time for
12 rebuttal?

13 MR. FERRARIO: I do, Your Honor. I was hoping to reserve
14 around 20 to 25 minutes if that's acceptable.

15 JUDGE PARVIS: Okay. Yes, Counsel. Anytime you're ready,
16 you may proceed.

17 MR. FERRARIO: Thank you, Your Honor. I will go ahead and
18 share my screen. And is the Board able to see the presentation?

19 JUDGE PARVIS: Yes.

20 MR. FERRARIO: Thank you. Well, as I mentioned, my name is
21 Matias Ferrario here on behalf of Hisense USA. We are the Petitioner. And
22 I wanted to talk -- if it's okay with the Board, I'd like to briefly talk about the
23 challenged patent, but really get right into the core of the arguments and
24 what we view as contested issues.

25 And I've set them forth here on slide 4. Those include the phrase
26 "on", and in particular, how a brightness enhancement film is on a reflector,

1 as used in element Claim 1D, brightness enhancement films, what those are
2 and how they use structured refractive prisms to recycle light.

3 Claims 4 and 8. Claim 4, which uses multiple diffusers, and I'm
4 sorry, Claim 4, which uses an additional optical film, and Claim 8, which
5 uses multiple diffusers. Heat sinks, which were common in these systems,
6 and then talk about the substitute claims as well.

7 So, I will plan to move quickly here, but of course I welcome any
8 questions for -- on any issues that the Board may have. And I wanted to
9 briefly talk and touch on the two grounds that we've submitted here. Ground
10 1 relies primarily on Mok and in combination with Holman and Lamb for all
11 challenge claims. Ground 2, similar combinations, but uses Epstein as the
12 base reference there. And in, as I go through the presentation here today, my
13 hope is to start with Ground 1, although on some of these contested issues, I
14 think they will bleed naturally over to Ground 2 as well. And so, I'll try to,
15 for efficiency purposes, address them together.

16 Starting with Ground 1, I think we set forth clearly in the petition
17 how Mok discloses the bulk of the claim, including a substrate, solid state
18 lighting devices, has the reflector, brightness enhancement film, which I'll
19 refer to as a BEF, reflector between the substrate and the diffuser, and
20 describes what we believe is -- we believe describes recycling light,
21 although that's one of the contested issues we plan to address here.

22 So, I'm going to jump right into the "on" issue. As the Board is
23 aware, we have competing constructions, although I think I would agree that
24 it appears to be more form over substance relative to this. But it does bring
25 into question the issue as to whether an air gap or a space of air is an
26 intervening element. And on this point, and I'm now on slide 26, Your

1 Honor. On this point, I wanted to identify the '835 patent, that's Exhibit
2 1001 at column 6, line 66, where it explains clearly that the element can be a
3 layer, region, or substrate. So, an element is not just a layer. And to contrast
4 that, I wanted to pull up, if I will briefly, slide 6 of Petitioner's slides, where
5 they have made, and they've done this in their argument as well, where they
6 have identified the element as an intervening layer. But it's not just limited
7 to layer. And I wanted to make the Board aware of that.

8 We, for the reasons articulated in the institution decisions, and just
9 as well as the evidence of record, an air gap is an intervening element.
10 There's nothing in the '835 patent in the specification or any of the figures
11 that excludes air from being such an element. An element is -- air is a
12 physical thing. It is a structure. It interacts with light. Figure 5B of the '835
13 even shows embodiments where there are air gaps or layers. And when the
14 applicant wanted to claim direct contact without intervening air element, it
15 was able to do so. You can look at their revised original contingent motion
16 to amend, wherein Claims 22 and 24 are claimed diffuser that directly
17 contacts the reflector.

18 And if you --

19 JUDGE HAMANN: Counsel?

20 MR. FERRARIO: Yes.

21 JUDGE HAMANN: This is Judge Hamann. I just have a quick
22 question. I believe I'm looking at slide 26 is what you have displayed. And
23 I understand, I think, the dispute really is whether, as you say, air gap is an
24 intervening element, whether it's an element or whatnot. So, I understand
25 that as a dispute. But otherwise, what meaningful difference if any, is there
26 between the parties' constructions, you know, looking at them, they don't

1 appear to be all that different. It's really whether or not, you know, we're
2 sort of construing the constructions and whether or not an air gap is an
3 element layer or element or not?

4 MR. FERRARIO: Yes, Your Honor. Thank you for that question.
5 I would agree with that. I think that's -- it may be form over substance. I
6 can tell you that when we propose this, the idea was to make clear that there
7 was, in the case of directly on, it had to be directly on an element. And that
8 is sort of all we were thinking when we proposed the construction. But I do
9 think it's form over substance here, and the real issue is whether air gap is an
10 intervening element.

11 JUDGE HAMANN: Thank you.

12 MR. FERRARIO: Yeah, you're welcome. Now, of course, as the
13 Board's aware, the claims in our view are invalid under either understanding.
14 And so, we'll discuss as we show here on slide 27, start with if air is an
15 intervening element, Mok discloses it. It clearly shows the BEF 18, which is
16 on the diffuser, which is on the reflector. And have not seen Patent Owner
17 really contest this issue. Instead, they just go right into, well, if air is an
18 intervening element, then the prior art doesn't disclose. And then we
19 disagree with that, because not only in Mok, where we think that there's a
20 discussion where the distance between these can be 50 or less. So, let me
21 back up just to be clear. So --

22 JUDGE TROCK: Counsel, this is Judge Trock. Can I ask a
23 question?

24 MR. FERRARIO: Yes.

25 JUDGE TROCK: So, in these competing interpretations of the
26 claim, where's the word "directly" come from in the claim?

1 MR. FERRARIO: It comes from the element, from the definition
2 in the '835 patent of "on", because the '835 patent specifically says when we
3 mean on, we mean it can be directly on or on with intervening elements.
4 And the specific place in the record where that occurs is, if you give me just
5 a moment, is in -- it's column 6, spanning into column 7, starting at line 66.
6 And the word directly is in column 7, where it says it can be directly on or
7 extend directly on to another element.

8 JUDGE TROCK: Okay. Thank you.

9 MR. FERRARIO: You're welcome. So, with Mok, to be clear, as
10 shown on slide 27, the BEF in Mok, element 18, is described by Mok as
11 being preferably directly on the diffuser 16. That's explicit. Now it does
12 say, as you can see in Fig. 1, the space 54, that there can be a space there.
13 But it also says preferably directly on and coupled, optically coupled to.

14 With respect to space 48, Mok says it can be 50 millimeters or less,
15 all right? And, of course, or less can be zero, and it can be directly on.
16 Now, that, to us, says that Mok discloses what would I call a directly stacked
17 arrangement, and it's in the reference itself. However, as the Board's aware,
18 we have alternatively argued that Holman, in combination with Mok, reveals
19 a direct stacked arrangement. And we pointed to a couple embodiments and
20 a couple figures of Holman that describe directly stacking. And Holman
21 doesn't just describe it, but he actually explains why this type of arrangement
22 can be beneficial and can lead to uniform lighting.

23 Now, we've shown that with respect to what I'm showing here on
24 slide 28 as it relates to Figure 7. However, importantly, and I want to point
25 out to the Board, that Figure 7 in Holman is sort of a base figure from which
26 Holman explains that he shows a bunch of iterations starting with Figure 8,

1 then more in particular Figure 13, 14, and 15, where there are all these
2 different variations. And as we pointed out in our reply, that Figure 15 has a
3 number of different arrangements here where the prism sheet, that's 58, you
4 know, are directly stacked on top of a spacer layer, 217, which is directly
5 stacked on top of a diffuser, which is directly stacked on top of the reflector.

6 And Holman even provides exposition on this and explains that in
7 some cases that spacer medium can be air, but in other cases you want it to
8 be a more substantive physical structure such as a dielectric spacer layer.
9 And that these things can be optically coupled, and it provides all the
10 reasoning in terms of how that leads to uniformity within his system. And
11 so, it's our contention that one of skill in the art as Dr. Pattison has explained
12 that would understand Holman and its teachings and could apply them in
13 Mok for this element Claim 1B.

14 JUDGE PARVIS: This is Judge Parvis. The Patent Owner argues
15 for this ground and also the second ground that that reasoning to combine
16 Petitioner should have weighed benefits both lost and gained against one
17 another. They cited the *Winner International Royalty Corporation* case.
18 Would Petitioner like to respond to that?

19 MR. FERRARIO: Yes, Your Honor. Thank you. Yes, and I think
20 that the Petitioner, I mean, sorry, the Patent Owner cited the *Winner* case.
21 We also cited the *Winner* case because both have disclosures, I think, that
22 are relevant. And then the Patent Owner cited an IPR proceeding, Verance
23 Corporation as well without really a whole lot of exposition.

24 Let me back up and start by saying, first of all, Patent Owner says
25 that the '835 patent is directed to uniformity, improving uniformity within
26 the lighting, and makes the statement, in particular by their expert, that the

1 uniformity discussed in the '835 patent relates to the spacing of the layers.
2 That's not correct. The '835 patent doesn't describe anything relative to the
3 spacing of the layers. It doesn't talk about stacking, the benefits of stacking.
4 It doesn't talk about why one would do that if skilled in the art. It doesn't
5 even talk about thin panel designs. It doesn't even discuss it as a
6 consideration. I just want to point that out.

7 But when we get into Mok, and I should say the '835 patent does
8 talk about uniformity in some respects. It talks about a reflector and how
9 that can improve uniformity. It talks about LEDs and how that can improve
10 uniformity. So, just to be clear on that. But as we get into Mok, I think
11 Mok, in particular paragraphs 5 and 6 and 23 and 32, when one looks at
12 those three disclosures of Mok, Mok sets up the pros and cons and says that
13 there are a number of trade-offs. And the idea is to use these considerations
14 to get a uniform system. So, some of those things that it talks about is the
15 spacing of the LEDs. How closely are you spacing them? Another thing it
16 talks about is how wide the spread is. The other thing it talks about is that as
17 you stack these layers, you may increase efficiency, but you may lose some
18 uniformity. But these are never talked about in a particular way, such as to
19 say don't do this and you must include a spacing. Because instead, what
20 Mok says is that you can modify and manage these different inputs into the
21 system to achieve a uniform system.

22 So, I think with that understanding of Mok as a starting point, one
23 then looks to Holman. And Holman in a very similar way, but a slightly
24 different way, discusses all of these same principles and says that, for
25 example, you can use an air layer as an optical mixing chamber to some
26 extent and here's the effect. You can replace it with a physical layer and

1 here's the effect. And you can directly stack and here's the effect. And
2 we've cited all of those teachings. And I think Dr. Pattison pulls that
3 together. In particular, I would refer to Exhibit 1003, paragraph 132, where
4 he explains that one of skill in the art would in fact understand these
5 different trade-offs and would modify Mok's system in light of Holman's
6 teaching.

7 Now, I wanted to turn to the brightness enhancement films briefly
8 if that's okay. Early in the proceedings, there was a lot of discussion and
9 argument over brightness enhancement films, what was disclosed and what
10 wasn't. And I want to be very clear about one thing because there continues
11 to be some, I think, misunderstanding of how we are using Lamb in these
12 proceedings because I've already seen in Petitioner's slide in argument that
13 Lamb doesn't disclose a BEF directly stacked on, well, on a diffuser or
14 reflector. Well, we never used it for that purpose.

15 We use Lamb for the basic purpose that it is -- first it's from 3M,
16 the part, the very entity that makes these off-the-shelf, commercially
17 available brightness enhancement films that are, by the way, referenced
18 across all of the prior art here. Holman specifically refers to them, Lamb
19 specifically refers to them, Epstein specifically refers to them. And Lamb,
20 in paragraph 35, as we've pointed out, describes the property of the BEF in
21 practically the exact same way that the '835 element describes how light of a
22 first orientation is refracted on access towards the viewer, whereas light of a
23 second orientation is internally reflected. And if a reflector is present, will
24 recycle. And Lamb uses that term recycle specifically.

25 Now, recycling is not used in the claims themselves, but the
26 concept of sunlight coming out, being refracted on-axis, and other light

1 being sent back within the system where there is a reflector, will recycle.
2 That's an explicit description in Lamb of light recycling and how BEFs
3 recycle light. And we use that just to augment what was already known in
4 Mok and Epstein, and this is where we're crossing into both grounds,
5 because both recite the same commercially available a 3M BEF film. And
6 in case there's any doubt about what people knew about BEFs, Holman, I
7 thought was really instructive, we cited this in our papers, where they
8 explained that the most common BEF film is the 3M film, so widely known,
9 widely available, and that one of its hallmark properties is recycling light,
10 that is a hallmark of BEF film.

11 And so we don't really think there's any question or doubt here that
12 the BEF in Mok is recycling light. So, we point to Holman to show an
13 augment to explain further that that is explicitly set forth in the record, and
14 that these BEFs do all the things that are claimed in some of the dependent
15 claims, including collimating light, which is directing it on-axis towards the
16 viewer, using structured refractive prisms to do that. And so, that's what I
17 wanted to say about BEFs.

18 Now, I wanted to move on, if I can, to Claims 4 and 8, and I'm on
19 slide 33 here, Your Honors. And Claim 4 relates to an additional layer on
20 the brightness enhancement film. And Claim 8 relates to Claim 1 further
21 comprising a diffuser. And so, we understand that now as being interpreted
22 as having two diffusers.

23 We want to jump to Ground 2 first. Ground 2, Epstein discloses a
24 contrast projection film filter 668, it's cited there on the slide 33. And this
25 was not contested by the Patent Owner. There's just no argument that this is
26 missing. Similarly with Claim 8, Epstein describes the diffuser layer that

1 has different components comprised of multiple diffusers within the diffuser
2 disclosed in Figure 19A. We put that in the paper, also not contested by the
3 Patent Owner. So, I wanted to start with that first.

4 I did want to address Ground 1 briefly on these two claims. I
5 understand that the Board had some skepticism originally on this, you know,
6 we still believe that Mok discloses one or more light conditioners. We
7 believe, as Dr. Pattison explained, that one of skill in the art understood how
8 to arrange and use multiple conditioners for a variety of purposes, and that
9 the use of an additional diffuser sheet had some logic and some technical
10 underpinning to it. But I didn't want to spend too much time on that unless
11 the Court had any questions.

12 JUDGE PARVIS: Petitioner argues in its reply that the reasoning
13 to combine the Lamb disclosure with the Mok is that that there's an -- it
14 improves light uniformity and brightness. Is that argued in the petition?

15 MR. FERRARIO: Your Honor, I'd have to confirm for that. I
16 thought it -- I do believe it was. I would have to, if i can, hold that question
17 and get back to you on my rebuttal.

18 JUDGE PARVIS: That's fine. And then with respect to Claim 8,
19 Petitioner has one subsection in its reply that addresses both Claims 4 and 8,
20 and Petitioner discusses Lamb, paragraph 58 of Lamb. But if I look at the
21 petition, the petition is organized slightly different. In the petition there's
22 one subsection for Claim 4, and a different subsection for Claim 8, and I
23 didn't see mention of Lamb in the subsection for Claim 8. So, I guess I'm
24 wondering, is that reference to Lamb a new argument for Claim 8?

25 MR. FERRARIO: In the reply, Your Honor?

26 JUDGE PARVIS: Yes.

1 MR. FERRARIO: Well, I apologize if that is the case. I think
2 that, you know, to the extent it might be responding to Patent Owner's
3 arguments in its response, I think that may be permissible. However, I
4 believe that --

5 JUDGE PARVIS: Citing on new disclosure, new disclosure in
6 Lamb. And Lamb -- it's true, Lamb was part of the ground in the petition,
7 but that paragraph was not referred to with respect to Claim 8. Is that
8 correct? Or is it permissible to cite new evidence from a new disclosure
9 from Lamb?

10 MR. FERRARIO: Generally, no, Your Honor, and I wouldn't,
11 unless I think it was responsive to something that the Patent Owner raised.
12 And I think sitting here, we don't have that part of the record in front of me
13 specifically, but I would say that with respect to Claim 8, where we simply
14 need an additional diffuser sheet, we're really relying on Mok's statements of
15 one or more light conditioners. And then augmented with what Dr. Pattison
16 explained one of skill in the art would understand.

17 JUDGE PARVIS: So, the one or more light conditioners in Mok,
18 is that --that embodiment is a single diffuser and brightness enhancement
19 film. Is that correct?

20 MR. FERRARIO: Well, the embodiment in Lamb that is disclosed
21 is a single diffuser and a single brightness enhancement film. However, I
22 think the teaching in Mok is broader than just the one single embodiment. It
23 explains that one can use one or more light conditioners. And as Dr.
24 Pattison explains, that would mean to one of skill in the art that there could
25 be multiple optical films used. And in fact, we see that this is a general state
26 in the art of people using multiple brightness enhancement films. And

1 sometimes you'll see a polarizer on top and sometimes you'll see a dual
2 brightness enhancement film. And sometimes you'll see embodiments with
3 and without those. And so, I think what Dr. Pattison is trying to explain is
4 that one of skill in the art would understand that these off-the-shelf optical
5 films can be used in a variety of configurations. I think that's what Mok is
6 referring to when he says, or she says one or more light conditions.

7 JUDGE PARVIS: Thank you, Counsel.

8 MR. FERRARIO: Thank you, Your Honor. Turning to Claim 14,
9 I wanted to talk about heat sinks. And, oh, and just back on Claims 4 and 8,
10 just so we're clear. On Epstein Ground 2 none of this is contested. So, I'm
11 not even sure we need to reach necessarily Ground 1 on this.

12 With respect to heat sinks on Ground 1, you know, Mok talks
13 about managing heat. All right. This was something known in the art. And
14 Dr. Pattison confirms that and explains that when you're generating light
15 from these solid-state LEDs, you're going to create heat. And Holman
16 specifically talks about managing heat, and it talks about using the base layer
17 as part of that to manage the heat. So, in our view, the combination of Mok
18 and Holman disclose a heat sink, which was something that, as Dr. Pattison
19 explains, well-known, well-understood in the art, commonly used and
20 obvious to use in these situations.

21 Now, Ground 2, Epstein's even more specific about that. In
22 Epstein Ground 2, he talks about a metallic layer. Use it to extract heat in a
23 direction away from the source, that's a heat sink. And we don't really see
24 PO contend anything about that either.

25 Now, we have some slides on motivations here. I think that we've
26 talked a little bit already about combining Mok and Holman, and we've

1 discussed that in relation to the Winner case as well. And so, I don't want to
2 necessarily repeat myself, and I'm on slide 38 for Your Honors' reference.
3 However, I did want to talk briefly about on slide 40 on Patent Owners'
4 discussion related to the Mok and Lamb combination. And Patent Owner
5 makes some contention that Lamb is related to a system that uses cold
6 cathode fluorescent lighting, and that one of skill in the art wouldn't
7 understand combining Lamb with Mok. But of course, after I hope I've
8 explained our use of Lamb and how it explicitly describes what a BEF film
9 does and how it works and what one of skill in the art would understand
10 from that disclosure, that there really isn't a question that Lamb could be
11 combinable in these very similar systems, all direct backlighting systems, all
12 using optical films to condition light to either increase output or uniformity
13 or more efficiency for lighting applications.

14 So, having said that, I am now going to move on to, I would like to
15 move on to, if my computer were cooperating, the revised slides. But I seem
16 to be having a technical issue, so I'm going to, if it's okay, close it and
17 reopen. Apologize for that. Okay. So, I'm going to go to -- well, I'm going
18 to have to close some of my applications here, Your Honors. I apologize for
19 the technical issue.

20 JUDGE TROCK: As a reminder, Counsel, we do have the
21 documents and the demonstratives in front of us. So, if you can't resolve
22 this, we can always follow along if you identify by page number or whatnot.

23 MR. FERRARIO: Thank you, Your Honor. I appreciate that.
24 Well, hopefully, this will take care of it up close, some of the other things I
25 had teed up. And so, hopefully, this should work here. Okay. So, we're
26 going to, I'm on slide 49 here and talking about the revised substitute claims.

1 And we've set them forth here on slides 50 and 51. And yes, it looks like my
2 Adobe is not going to cooperate, so I'm going to take Your Honor up on that.
3 And we're going to go old school, if you will, and we'll go to the papers.
4 Okay.

5 So, I did want to start on slide 52. Your Honor, we've raised a
6 couple of 112 issues with the revised claims. And I wanted to mention that
7 there's no written description support for a tile, a substrate mounted on a
8 lighting tile. If one looks at the '835 patent, all they describe is that a tile
9 may include a printed metal circuit Board, and that's it. Nothing more,
10 nothing less. The only part of the '835 patent where a substrate and a tile is
11 described together is in relation to Figure 2. And that refers to a carrier
12 substrate, and that's not part of the tile. So, we don't believe that they have
13 112 support for this claim limitation.

14 Now, on slide 53, you'll see that they've argued that in relation to
15 Mok, they say, well, the base panel doesn't have a separate lighting tile. So,
16 the substrate doesn't have a separate lighting tile. Well, a separate lighting
17 tile is not claimed to begin with, and the patent itself only ever discloses that
18 a printed circuit board is part of or included in the tile. So similarly, when
19 we get to slide 54, I wanted to talk briefly about the phrase extends to cover
20 the lighting tile and includes a plurality of sidewalls outside of the packaged
21 cell and state lighting devices. Now, there's no description in the '835 patent
22 of anything like that. They do show a figure here where the LED is element
23 12 and 50 as the reflecting layer. But there's no description of that. So,
24 thank you.

25 All right. So, so let me get into then if I can.

26 JUDGE PARVIS: Counsel, but the lighting tile, lighting tile 10, is

1 that just a tile that's used that has lighting elements? The patent describes
2 that the lighting elements are mounted on the tile. Is that what makes it a
3 lighting tile, the fact that the lighting elements are mounted on the lighting
4 tile?

5 MR. FERRARIO: Unclear to me, Your Honor, based on what's
6 disclosed in the patent. And maybe the Patent Owner can describe that a
7 little bit more. Tile is used and shown in Figure 1, and then it's sort of
8 abandoned through the rest of the patent, and not really talked about, and
9 more of the focus is on the substrate. Unlike some of the prior art we'll talk
10 about, like Epstein and others, where they really do talk about what a tile is,
11 and they say these tiles can be arranged in two-dimensional arrays. They
12 can be used for mounting LEDs on and constructing the overall array of the
13 lighting back panel, all of that's missing from the '835 patent. We don't see
14 it.

15 JUDGE PARVIS: And the patent describes that a lighting
16 element, a solid-state lighting element may include a carrier substrate. So is
17 that -- is the substrate -- is the substrate then included as part of the lighting
18 element? Is that your understanding?

19 MR. FERRARIO: You know, yeah, I mean, I think that's where
20 part of the confusion for us arises, because that's the only place where, in the
21 patent, in relation to Figure 2, where substrate and tile are discussed. And I
22 don't, you know, we don't, we don't know. We don't know what this carrier
23 substrate is. And is it the substrate that's also shown in other figures.
24 There's no explanation. There's no exposition of that. I don't think there's
25 enough in the patent that would inform one of skill in the art how they're
26 going to be able to claim that portion of it. And if they claimed Figure 2,

1 and they wanted to claim a, you say, a packaged lighting element comprised
2 of, and then, you know, built the layers up, okay, that's one thing. But they
3 seem to be conflating and mixing between these two different disclosures,
4 and they don't line up. And that's the problem we've had looking at those
5 elements.

6 Now, I'm kind of into my -- the time I wanted to reserve for
7 rebuttal, but, and so I would be even super faster here. There's just a handful
8 of points I wanted to raise on this. And that is, on slide 70, if you will, Your
9 Honors, one point I wanted to make clear, because we were talking about tile
10 and what the disclosure in the '835 patent is. And what struck us was that
11 when we lined up the disclosures of the '835 and Mok, which of course,
12 Patent Owner says doesn't disclose, you know, this claim element, they're
13 the same. The disclosures are the same. The '835 says the lighting tile may
14 include PCB. And Mok says the base panel may include a PCB. So, these
15 are the same. And even more particularly, as one gets into Epstein, which
16 you can see on slide 71 of the presentation, here, as I kind of alluded to
17 earlier, Epstein describes specifically how you can have a tile that's
18 comprised of a number of different layers and that these can be built together
19 in these 2D arrays and that LEDs can be mounted on these tiles. So, we
20 think these clearly (CROSSTALK) --

21 JUDGE PARVIS: The question I have for Petitioner, when
22 looking at this slide, your slide 68. And this is the same as, and very similar
23 to a summary chart in the opposition. Let's see, I think -- it says page 22 of
24 the opposition. In this summary chart, or in -- it shows grounds -- it shows
25 the art. It's at Ground 1 and Ground 2, and then the art for elements A
26 through H. And there's a lot of and/or. Element 21(a) is Mok, Holman,

1 Lamb, Park, and/or Li. 21(g) is Ayabe, Park, and/or Li. We have four
2 references cited for 21(h). Looking at the reasoning to combine in the
3 opposition, it's pages 22 through 25, it seems like the reasoning to combine
4 is one reference, Park, the reason to combine Park with the Ground 1
5 references, the reason to combine Park with the Ground 2 references. I'm
6 wondering, can Petitioner explain why -- is Petitioner meaning this and/or to
7 be an and, or is this just really alternative art where we consider wanting the
8 list but not all of them?

9 MR. FERRARIO: Yes, thank you, Your Honor. Good question. I
10 think that the issue here primarily is that these additional elements are all
11 over the art. And so, we find them in all different references. And so, we
12 have identified in those references where those new elements are. And I
13 hope, and I think we did, explain why they would be combinable with the
14 existing grounds. And so, I think to answer your question, it is that each one
15 would sort of form its own invalidity stream, supplemented by perhaps
16 depending on other elements in other parts of the claims. And so, the reason
17 I say it that way is because I want to be clear. For example, for Claims 21(e)
18 and (f), these are the Mueller and Grootes references, right? Because what
19 we have here is a claim that's just gone from originally citing component
20 structures of LEDs and lighting elements and optical films to now electronic
21 circuitry and connections and things like that. So, for those elements, the
22 electrical connections, we've identified Mueller and Grootes that disclose all
23 of these control circuits and controlling strings and things of that nature.
24 And those should be combinable in line with, for example, the Park line that
25 goes all the way through all elements of the claim, Li as well, and
26 depending. And so, and that was the intention behind these combinations.

1 So I hope that's clear.

2 JUDGE PARVIS: Another question. Petitioner relies on -- if we
3 look in the element-by-element analysis, Petitioner relies on Mok for 21(d),
4 which is the -- that's the lens mounted over the patched solid state lighting
5 device. And then, Petitioner relies on Mok or Holman or Park as
6 alternatives. And then, if we look at element 21(h), and that's the element
7 that the reflector extends to cover the lighting tile and it has side walls that
8 are angled. Petitioner relies on Epstein and Holman, but I don't see a
9 reliance on Mok here. And so, I guess the question is, it seems like one
10 element Petitioner is relying on Mok and another element to show the line at
11 Epstein, there's no -- is there any reasoning articulated to combine Mok and
12 Epstein?

13 MR. FERRARIO: No. I don't -- I do not believe we've articulated
14 that. We've treated Mok and Epstein as primaries for their respective
15 grounds, Your Honor.

16 JUDGE PARVIS: Thank you.

17 MR. FERRARIO: Well, Your Honor, I did want to reserve some
18 time for rebuttal. I think if I were to identify any other element here in the
19 revised claims that I wanted to specifically call out, we've talked about
20 21(a), (b), and (c). Don't see that elements 21(b) or (e) are contested, at least
21 in Petitioner's presentation. With respect to element 21(g), I want to point
22 out on our slides that separately on slide 78, there is disclosure of Mok with
23 the reflector parallel to the principal plane of the lighting board, not with
24 respect to the substrate. Because as the Court may recall from the
25 preliminary guidance, there's a number of observations on this claim
26 limitation where the reflector had to have a certain orientation relative to the

1 substrate. Well, they removed that. Now they're still arguing for that, but
2 they've removed that claim element.

3 Now, there was some distinctions made in the preliminary
4 guidance that are particularly related to Ayabe, I believe maybe Saccomanno
5 as well, where the criticism was, well, it doesn't show a substrate. Well, that
6 criticism is no longer applicable. We just wanted to make sure the Board
7 was aware that since they changed that, we believe and as we've explained in
8 our papers, all of that art becomes relevant again, particularly as it relates to
9 this particular claim element. And that's why you're seeing it again. I didn't
10 want you to think that we're not paying attention to it.

11 The other thing I wanted to point out, if I can, and that is with
12 respect to Claim 23, so page 80 of the presentation, and I'll be brief on this.
13 But as we're preparing today, we noticed in that slide 80 that we replicated
14 Figure 13 of Holman that has sidewalls that are sloped and then angled at 90
15 degrees. Now, we've shown how they contact a diffuser, but I wanted to
16 make sure I pointed out that in the papers for this claim, we specifically
17 actually cited Figures 14 and 15 as well. And Figure 14 shows slope-angled
18 sidewalls. So, to the extent that the Patent Owner is going to argue that a
19 90-degree angle is not an angled sidewall, which it is, Figures 14 and 15 of
20 Holman show those obliquely angled continuous sidewalls contacting the
21 diffuser.

22 So with that, I think I have some time left. I'm going to reserve
23 that unless the Board has any further questions. And I thank the Board for --

24 JUDGE PARVIS: No further questions.

25 MR. FERRARIO: Yes. Okay. Thank you. I appreciate it.

26 JUDGE PARVIS: So I have -- the Petitioner has 18 minutes for

1 rebuttal. Patent owner, any time you're ready, you may proceed. How much
2 time would Patent Owner like to reserve for sur-rebuttal? I can't hear you.

3 MR. MASSAND: Yeah, Your Honor, I'd like to reserve 20
4 minutes if I can.

5 JUDGE PARVIS: Okay. Thank you.

6 MR. MASSAND: All right. And just to make sure, can you all
7 see what I'm sharing?

8 JUDGE PARVIS: Yes.

9 MR. MASSAND: Okay. So --

10 JUDGE HAMANN: Counsel, this is Judge Hamann. Just before
11 you begin, and I recognize you're displaying the slides for us, which is
12 helpful, but I was trying and looking through these, because as I said, we
13 have a copy ourselves, I don't see -- I bring this up because I know, I believe
14 I see more hearings between the parties, I don't see page numbers on each
15 slide. Am I just missing them somewhere? Or were those inadvertently left
16 off?

17 MR. MASSAND: They were inadvertently left off, Your Honor.
18 Apparently, when I printed this, I had an issue printing what was in the
19 footer, and I didn't realize it until a few minutes ago that that didn't print.

20 JUDGE HAMANN: No worries. I would just ask for, if there's
21 future hearings between the parties that you endeavor to make sure we have
22 them, because it's easier to follow along, potentially.

23 MR. MASSAND: Okay. And in case it's helpful, I'm starting off
24 on what's the 10th slide of 20, so page 10 of this presentation.

25 JUDGE HAMANN: Thank you.

26 MR. MASSAND: So, Your Honor, first off, with regard to our

1 proposed revised claim amendments, we contend that there is written
2 description support. The -- I'd also like to note that we had made citations to
3 the specification of the '835 patent that is identical to the original disclosure,
4 which is included at in Exhibit 1002 at pages 282 to 330.

5 Moving on to the next slide, slide 11. The first element that I'd
6 like to discuss is in Claim 21, Element A, comprising a metal core circuit, a
7 metal core printed circuit Board having traces formed thereon mounted on a
8 lighting tile. We contend that this element is supported by the specification.
9 We think Petitioner is wrong in claiming that there's no disclosure of a
10 separate lighting tile. First off, I feel that Petitioner gave the impression that
11 the lighting tile is not discussed at length in the '835 patent. A tile is
12 referenced like 100 times in the specification of the '835 patent, and it's clear
13 to us that around column 8, lines 20 and following for the next few
14 paragraphs, it's pretty clear that the lighting tile is a base that a substrate and
15 other elements can be, you know, may be placed on. Now, some -- and
16 there's a quote around column 8, line 55, that says, in some embodiments,
17 the lighting element is -- are chip onboard clusters, including one or more
18 LEDs configured to emit blue or UV spectrum. This is in paragraph 64 of
19 the original disclosure, and as I said, at the specification of the patent at
20 lines -- column 8, lines 55 through 58. And so, we think this is clearly
21 showing that, you know, a chip on board, it doesn't say chip on tile cluster.
22 So, this is making a distinction between the tile and a, for example, PCB or a
23 board. And --

24 JUDGE PARVIS: This is Judge Parvis. I'm looking at the tile --
25 the specification, first of all it says it's a solid-state lighting tile 10. And it
26 says it's shown it may be used as a functional building block to create a large

1 area planar light source. And then it says the tile may include, for example,
2 a printed circuit board, and that circuit board may have a metal core. It uses
3 the word include, that the tile may include a printed circuit board with a
4 metal core. I'm unclear as to how the word include is the same as mounted
5 on. Would you address that?

6 MR. MASSAND: Your Honor, you're correct that the word
7 include is used there. But I think if reading this essentially section, these
8 few paragraphs in context, it's clear that the PCB is a distinct element from
9 the tile. I mean it even describes the fact that the board can be commercially
10 purchased, the PCB can be commercially purchased and give some examples
11 of boards that can be commercially purchased. So, this is clearly described
12 as something that's distinct from the tile.

13 JUDGE PARVIS: But it says that just because the board can be
14 commercially purchased, how does that make it distinct from the tile?

15 MR. MASSAND: It's a separate thing that can be purchased
16 discretely. So, it's a separate item.

17 JUDGE PARVIS: But the tile, it says that the tile includes the
18 board, and that it has lighting elements mounted on the board. So, it's
19 formed, it's true it's formed of something that's commercially available. But
20 it says here, a tile may include a metal core with a polymer coating and
21 patterned metal traces. It's describing the tile itself. Is that correct?

22 MR. MASSAND: I think the metal core portion is actually
23 describing the PCB, the metal core.

24 JUDGE PARVIS: Isn't it just -- it says the tile may include a metal
25 core PCB. Isn't it -- I mean, how is that not describing the tile itself?

26 MR. MASSAND: I think it does say include, Your Honor, but I

1 think the fact that the metal core PCB is actually a distinct element, we think
2 that there's a separable tile that's described in this column and in the
3 specification that's not inclusive in terms of an indistinct structure that's a
4 PCB.

5 JUDGE PARVIS: Is there any figure that illustrates?

6 MR. MASSAND: This discussion is Figure 1. There is not a
7 separate figure that I'm aware of that discusses this.

8 JUDGE PARVIS: And Figure 1 has solid state lighting tile 10. Is
9 that correct?

10 MR. MASSAND: Yes, it does describe that.

11 JUDGE PARVIS: And it describes the lighting tile as a functional
12 building block that creates a large area planar source. Doesn't a printed
13 circuit board provide a large area planar source?

14 MR. MASSAND: Not necessarily, Your Honor. I think this is
15 intended to be a large block that other elements, including the PCB, can be
16 mounted to.

17 JUDGE PARVIS: What's the basis for that?

18 MR. MASSAND: I think this statement about a large planar
19 lighting source that may include one tile, for example, if it's a large tile, then
20 the tile can include thereon a number of solid-state lighting elements
21 arranged in a regular shape, et cetera. That language, I believe, is describing
22 placing, you know, elements on top of this large planar tile.

23 JUDGE PARVIS: Lighting elements 12. Is that correct?

24 MR. MASSAND: Yes, I mean, that's what's described here. But I
25 think that the language, our reading of the language is that it's broader. It
26 would include the PCB as well.

1 JUDGE PARVIS: With the substrate, with respect to the substrate,
2 if we look at Figure 2. We have a lighting device 12, and the substrate is
3 shown, carrier substrate 13 is shown with respect to lighting device 12. If
4 we look at Figure 1, lighting device 12 is one lighting device on this large
5 planar area. The substrate then is just that small portion of 13 that's within
6 the lighting element 12 that's mounted on this tile 10. Is that correct?

7 MR. MASSAND: I think with respect to Figure 2, that's correct.
8 And I think what Figure 2 is showing is a packaged lighting element, a
9 discrete component that could include a carrier substrate. So, it's within that
10 item 12, or within what's described as 12. You know, our contention is that
11 there may be a separate, you know, substrate that could be on the tile.
12 That's -- that that's not necessarily referring to something outside of what's
13 inside element 12 essentially.

14 JUDGE PARVIS: So, Patent Owner is not relying on Figure 2 or a
15 substrate 13 as written description support for 21(a) that recites a substrate
16 comprising a metal core?

17 MR. MASSAND: I think that the -- in terms of the description,
18 you know, the disclosure of the substrate in general, I think that there is --
19 that is a substrate that's disclosed, but in terms of like the idea that they were
20 being be a substrate outside of a package that that Figure 2 I don't believe is
21 what we're discussing.

22 JUDGE PARVIS: So, what disclosure is Patent Owner relying
23 for -- relying on for written description support for this 21(a)? At least one
24 substrate comprising a metal core.

25 MR. MASSAND: Just give me one moment. Your Honor, we
26 think that it is supportive of the substrate as it appears in, you know, in the

1 claim, although that in that particular embodiment, the substrate is described
2 as within the package.

3 JUDGE PARVIS: So, is that, is there an embodiment that shows a
4 substrate comprising a metal core printed circuit board?

5 MR. MASSAND: I don't believe we have that, Your Honor. Not
6 in that exact language, no. I believe that --

7 JUDGE PARVIS: (CROSSTALK) description support for
8 element 21(a).

9 MR. MASSAND: So, we believe that this language starting at
10 eight -- column 8, line 20, down to roughly column 9, line 15 provides
11 support for the substrate that comprise that, you know, meets the claimed
12 requirements.

13 JUDGE PARVIS: That -- but the substrate, the only substrate
14 described in the portions of the specification that you just referred to,
15 column 8 and column 9, is that substrate 13 that you said is just within the
16 package. Is that correct?

17 MR. MASSAND: That's correct, Your honor.

18 JUDGE PARVIS: Is there anything else in columns 8 and 9 that
19 Petitioner is relying on written description support for element 21(a)?

20 MR. MASSAND: I -- if you just give me a moment, Your Honor,
21 I can confirm. I don't believe there is, Your Honor. If you don't mind, I will
22 just confirm that that's our position and inform you on our sur-rebuttal time.

23 JUDGE PARVIS: Thank you. And so, if I understand Patent
24 Owner's position correctly then, Patent Owner's position is that this column
25 7, lines 20 to 31 that it shows that the specification of the '835 patent it's
26 broad enough that it would allow for embodiments of a substrate comprising

1 a metal core printed circuit board. But if I understand correctly, Patent
2 Owner has not identified a disclosure in the '835 patent of a specific
3 substrate comprising a metal printed circuit board. Is that correct?

4 MR. MASSAND: That's -- I mean, Your Honor, I think that the
5 disclosure in Figure 2 does describe a substrate that is a -- it does describe a
6 substrate. But I think you're correct that in terms of a specific disclosure of a
7 metal core PCB described as a substrate in the specification, I don't think we
8 have a specific citation to that.

9 JUDGE PARVIS: Thank you.

10 MR. MASSAND: Okay. So, I think in terms of our contention
11 that a separate lighting tile from the -- that's distinct from the PCB is
12 disclosed, I think I left off with our stating our position on that. So, then
13 moving on to the next element, which is extends to cover the lighting tile
14 and includes a plurality of sidewalls outside of the packaged lighting
15 devices. We contend that Figures 5A and 7 in the original disclosure and in
16 the patent show this. And then in the specification there is a description of
17 the reflector that says in some embodiments, the apertures 42, which are
18 referring to apertures in the reflector, may be circular apertures, and they
19 may have a sidewall 42A that is angled with respect to the surface of the
20 tiles, thereby forming reflective optical cavities around the lighting elements
21 12. And that's in paragraph 82 of the original disclosure and column 11 of
22 the patent and column 9 describes item 12 as potentially a package discrete
23 electronic component. So that, you know, we believe then it's clear that
24 there is disclosure for this element of extending to cover the lighting tile,
25 including a plurality of sidewalls outside of the package solid state lighting
26 devices.

1 Now, with respect to the various grounds against the revised
2 claims, the revised amended claims, and now I'm on slide 12. So, for Claim
3 21(a), this element of comprising a metal core printed circuit board having
4 traces formed thereon mounted on a lighting tile, we don't believe that Mok
5 discloses a base panel that's mounted on a lighting tile, so we don't think that
6 this element is disclosed by Mok. And Epstein does not disclose a lighting
7 tile to which a substrate is mounted either, so we don't think that this
8 element is disclosed by Epstein. None of the other references describe
9 mounting a PCB to a lighting tile as claimed.

10 Now moving to slide 13, for elements 21(b) and (c), which are
11 wherein the plurality of strings of packaged solid state lighting devices is
12 mounted on the lighting tile. Again, we have stated that we don't believe
13 any of the references disclose a plurality of strings of lighting devices
14 mounted on a lighting tile. We don't think that Mok or Holman disclosed a
15 lighting tile at all. And Epstein does not disclose that the lighting elements
16 are mounted to a tile or that there are layers to the tile other than what's
17 described as 308, 310, and 312. And so, nothing again mounted to the
18 lighting tile.

19 With respect to elements (e) and (f), if neither Mueller nor Grootes
20 disclose a single controller controlling a plurality of strings, they just
21 disclose multiple controllers. With respect to element (g), and now I'm on
22 slide 14, again, this one is a reflector mounted the lighting tile on the end on
23 the first side of at least one substrate, the reflector being outside the package
24 solid state lighting devices. Here, we think, again, the reflector must be
25 mounted to a lighting tile, and we don't believe that Mok or Epstein disclose
26 a lighting tile or reflector mounted to one. And we also don't think Li shows

1 a reflector mounted to a lighting tile.

2 With respect to 21, element (h), this one reads, wherein the
3 reflector extends over the lighting tile and includes a plurality of sidewalls
4 outside of the package solid state lighting device that are angled with respect
5 to the principal plane of the lighting panel. We, again, don't think that any
6 of the prior art teaches the lighting tile as claimed. Basically, in Holman,
7 there's reference to several of the figures, for example, in Figure 14 the
8 reflector there is shown as one of the elements of the package. It's not
9 something that's outside of the package which is required in the claims.
10 None of the references show an angled reflector that's outside of the package
11 as we've claimed here.

12 With respect to Claim 22, here the additional limitation is wherein
13 the lens surrounds each of the package solid state lighting devices. This
14 requires a surrounding. So, a lens that's merely just on top of an LED as
15 shown in Mok, Park, and Li does not meet this requirement.

16 With respect to Claim 23, this one requires generally planar
17 diffuser contacting the sidewalls, or that contacts the sidewalls of the
18 reflector with no intervening elements. And there's no disclosure of a disk --
19 of a diffuser contacting sidewalls in Epstein, and the same is true in Holman,
20 the diffuser is not in contact of the sidewalls or with the sidewalls. So, we
21 don't think that these elements are shown in the prior art, either.

22 With respect to the remaining claims, I think we'll rely on our
23 papers for the remaining claims, but I think I'd now like to jump to our
24 original claims.

25 So, starting off with this issue about "on" and whether or not an air
26 gap can be an intervening element or an intervening layer. Reading the

1 language at paragraph -- or column 6, line 66 through column 7, line 12, we
2 think that this language makes it pretty -- very clear that an air gap can't be
3 an intervening layer. What's being described there is essentially an element
4 being directly on if it basically touches something, and being on if it touches
5 something in between that if there's something -- if it touches something that
6 touches something. That's the way that that language reads, and I think if
7 you include an air gap there as a potential something that as potentially
8 falling into something that could be on another, we would say that it makes
9 that language kind of meaningless.

10 And now with respect --

11 JUDGE HAMANN: Counsel, this is Judge Hamann. Just a couple
12 quick questions. Why exactly can air not be an element? I know we're
13 saying air gap, but it really just means a segment of air, a portion of air.
14 Why is that not an element?

15 MR. MASSAND: I mean, it's essentially a, you know, there is
16 nothing structural there. I mean, it's a -- there's no -- it's basically just a gap,
17 right? These things aren't in a vacuum. There's -- it's not a, you know, in
18 terms of being an element of the structure, I would say an air gap is more
19 indicative of the absence of an element. It's not an element itself.

20 JUDGE TROCK: This is Judge Trock. I'm sorry to intervene.
21 This is Judge Trock. But you raise an interesting point there because you
22 used the word vacuum. Is there a difference between air and vacuum?

23 MR. MASSAND: I would think so. I mean, I think air is the
24 absence of -- or vacuum is the absence of air.

25 JUDGE TROCK: Thank you. So, air would be something then,
26 certainly not a vacuum?

1 MR. MASSAND: Correct. I mean, I agree with that. But I don't
2 think that it would satisfy the requirements of being an element.

3 JUDGE TROCK: And so, what do you base that on? Where is the
4 element here being described or defined?

5 MR. MASSAND: So, it's being described here in column,
6 primarily 7, but a part of it is on 6.

7 JUDGE TROCK: Right. And so, I'm looking at the language at
8 the bottom of 6, which says, when an element, and it has examples here,
9 such as a layer or a region or a substrate. Those are examples, right?

10 MR. MASSAND: Correct.

11 JUDGE TROCK: That's not a definition. Those are examples.

12 MR. MASSAND: Those are examples of elements, right? But I
13 would say that an air gap is basically just essentially what's between
14 elements. It's not the element itself.

15 JUDGE TROCK: So, is it your position that air cannot be a
16 region? And if so, what do you base that on?

17 MR. MASSAND: Your Honor, we believe that in terms of this
18 description, you know, for something to be on another, we wouldn't think
19 that an air gap is included as what's part of a region, that there could be a
20 region of something. It would have to be something structural in our view.
21 Essentially, it's -- the language is for something to be on or extending onto
22 another element. It can be directly on or extend directly onto the other
23 element or intervening elements may be present. And essentially, like, you
24 know, we read that as saying something must be there other than air or
25 vacuum, that there must be something structural present.

26 JUDGE TROCK: Okay. Thank you.

1 JUDGE HAMANN: Counsel, this is Judge Hamann again. So, it
2 seems like, as I understand it, Patent Owner's position is that element can be
3 structural in this context. Is that fair?

4 MR. MASSAND: Yes. Yes, that's right.

5 JUDGE HAMANN: Okay. And then another question. I'm
6 focused, I believe it's on Patent Owner's slide 6, but this, I think, just
7 basically sets out both parties' constructions for "on". And as I alluded to or
8 spoke to Petitioner's counsel, I'm not sure I see meaningful difference in the
9 proposed constructions. I recognize there's a dispute over air gap, the
10 whether there's an element, but what's the meaningful difference between
11 these proposed constructions, if any, and does Patent Owner object to, you
12 know, either of them. In other words, does it matter which construction
13 that's put set forward that we adopt?

14 MR. MASSAND: In terms of like a meaningful difference as to
15 meaningfully like in fact the outcome of this, I don't think there is one. I
16 think grammatically, ours kind of makes more sense and is more consistent
17 with the spec. But in terms of what would actually impact this case in terms
18 of the construction, the issue to us is really whether an air gap would fall
19 into the intervening element definition, not really the language here in terms
20 of "on".

21 JUDGE HAMANN: Thank you.

22 MR. MASSAND: Okay. Now, so, you know, based on our
23 construction of "on", we think that there is no disclosure in Mok, Holman, or
24 Lamb of a brightness enhancement film being on a reflector. And we think
25 that there is no -- also no motivation to combine Mok with Lamb as
26 described in paper 7, the institution decision on page 30. We think that

1 what, you know, to address some of Petitioner's arguments today, because
2 Lamb relates to fluorescent lighting and edge lighting and these very basic
3 fundamental differences, we don't think that a POSITA would look to Lamb
4 in the first place to address the issues that are being addressed in the '835
5 patent. And so, you know, we don't think that that is a combination of where
6 there would be a motivation to combine.

7 Now, again, based on our interpretation of intervening element,
8 neither Epstein nor Ko or Kretman, or the combination of Epstein with
9 Holman and Lamb, disclose a brightness enhancement film on the reflector.
10 They are definitely, they are spaced apart. So, we think that those
11 elements -- those references are not invalidating as well.

12 Now, with respect to some of the arguments that were made by
13 Petitioner, we think that the fact that the --

14 JUDGE PARVIS: This is Judge Parvis. We look at Mok, on Mok,
15 paragraph 24, describes the brightness enhancer 18. It comprises a
16 brightness enhanced film available from 3M and sold under the registered
17 trademark V-I-K-U-I-T-I. If we look at Lamb, and Lamb describes that
18 there's a brightness enhancement film. The name is V-I-K-U-I-T-I, and it
19 describes it's available from 3M Company. Would one of ordinary skill in
20 the art understand those to be the same brightness enhancement film?

21 MR. MASSAND: I don't think, Your Honor, that that is a fair
22 statement. My understanding is that without knowing a specific part
23 number, that there can be differences in how films even sold under the same
24 trade name work. I believe there was some depo testimony that kind of
25 touched on this, but I don't think it's as simple as saying 3M brightness
26 enhancement film, or the Vikuiti brightness enhancement film and assuming

1 that they all work the same. That's not necessarily the case. And so, I don't
2 think that the fact that they are referred to as coming from 3M is enough.
3 And I think one aspect that hasn't really been discussed here is Claim 1
4 describes, you know, some characteristics of the brightness enhancement
5 film, like reflecting light at a certain angle and not light at a certain other
6 angle. And it's not clear from these disclosures how these brightness
7 enhancement films work. And in the claim, there is some configured to
8 language that kind of specifies that. Now --

9 JUDGE PARVIS: But a person of ordinary skill in the art is
10 reading Mok and reads that the brightness enhancer 18 comprises the
11 brightness enhancement film available from 3M. And the language also
12 says that other brightness enhancers could be used. So, I'm reading that and
13 as a person of ordinary skill in the art reading that would they -- isn't it fair
14 though to just say that they'd say, well, hmm, look for a brightness
15 enhancement film, a film available from 3M and under this trademark that
16 that would motivate a person of ordinary skill in the art to look at Lamb and
17 then this brightness enhancement film, specific film that's described in more
18 detail in Lamb and say, oh, this is a brightness enhancement film I can use as
19 brightness enhancer 18 in the Mok structure. Is that fair?

20 MR. MASSAND: Your Honor, our position is, and I don't think
21 that when you're talking about essentially like something that we're
22 contending is far afield that Lamb has to do with edge lighting and
23 fluorescent lighting and it's not something that somebody would be -- who's
24 addressing these problems of the '835 patent would be, you know, would be
25 looking to that they wouldn't go there in the first place is our contention to
26 Lamb.

1 JUDGE PARVIS: So that's Patent Owner's position?

2 MR. MASSAND: Yes.

3 JUDGE PARVIS: Okay. Thank you.

4 MR. MASSAND: Now, Your Honor, I wanted to go back to your
5 question about the substrate and just make sure that I've articulated our
6 position correctly. And so, the way that I read the language at column 9,
7 lines essentially 6 through 15, is that a packaged discrete electronic
8 component that includes the carrier substrate is an example of what item 12
9 could be. And that it could also be a solid-state lighting element, essentially
10 unpackaged, and that that would separately have its own carrier substrate not
11 included in the package. So, we think that there is disclosure of the
12 substrate. This example that's provided about a potentially packaged one
13 identifies the substrate, the carrier substrate specifically. But in terms of it
14 being limited or the carrier substrate not being somehow being limited based
15 on that language, we don't think that it should be read that way.

16 JUDGE PARVIS: Is there a disclosure of the lighting element that
17 does not include the packaged discrete electronic component?

18 MR. MASSAND: Well, the way that this language reads in
19 Figure -- the preceding sentences before the description of Figure 2, there is,
20 I think, a description of a lighting element that it may not be a packaged
21 lighting element the way that that's described.

22 JUDGE PARVIS: But is there a disclosure of the structure of a not
23 packaged lighting element?

24 MR. MASSAND: I do not believe so, Your Honor.

25 JUDGE PARVIS: Thank you.

26 MR. MASSAND: All right. Your Honor, we have -- I have

1 nothing further at this time.

2 JUDGE PARVIS: Thank you. And the Patent Owner has 20
3 minutes remaining.

4 MR. FERRARIO: Thank you, Your Honor. I'm going to try and
5 share my screen again. Hopefully, it goes a little smoother. But I wanted to
6 address some of the questions on Holman, I'm sorry, on 3M brightness
7 enhancement films first because we think Lamb and Mok and Epstein all
8 refer to the same film and people of skill in the art know exactly how they
9 work and what they are. And just to point out something, Kenneth A.
10 Epstein, inventor on Epstein, he is an inventor in Lamb. Both patents belong
11 to 3M.

12 The other thing I wanted to point out is Holman, who talks about
13 this. And I'm sharing my screen, and I want to point to two specific areas
14 that I think are worth having a look at. The first is on page -- PDF, page
15 122, which I believe we cite, too, as Holman's 121. And just to orient
16 ourselves, I want to scroll up and understand that we are in the section 8.2.1,
17 prism sheets and their geometries. So, this whole section is about prism
18 sheets. In fact, a lot of Holman is about prism sheets. And he's talking,
19 Holman is talking about his prism sheets 58 and 60, and talks about and
20 identifies 3M's BEFs.

21 And even before this section, on page 118 of Holman, I'm sorry,
22 118 of the PDF, I'm sorry, 119 of the PDF, 118 of Holman in section 8.1, is
23 entitled Brightness Enhancement Films and Their Use in Standard
24 Backlights. So, this is a description as a class. And he says, the most
25 common prism sheets used to enhance backlight brightness are
26 manufactured by 3M under the trade name BEF. He goes on to explain how

1 these things work. The most common prism sheets.

2 These were well-known prism sheets. And they were described
3 and characterized as a class. The properties were well-known. And as you
4 go through Holman, all of the pages in these different sections, there is even
5 a section on PDF page, as I scroll through here, I appreciate your patience,
6 PDF page 126, Holman 125, in the section, internally reflected light and it's
7 recycling. And this is exactly the property of light of a first orientation,
8 refracting, and being directed towards the viewer in light of a second
9 orientation, internally reflected back down, and if there's a reflector, creating
10 recycling. And here, Holman references the internal reflections that we just
11 described, and that when combined with a reflective return mechanism,
12 constitutes the basis, the basis, for the backlighting specific brightness
13 enhancement that has been a hallmark of 3M's commercial prism array films
14 BEF. It is a hallmark of the most common off-the-shelf basic brightness
15 enhancement. This is a fulsome description in Holman which one doesn't
16 even really need to get to, although we identified it in response to some of
17 the arguments made by Patent Owner. One doesn't even need to get there
18 because Lamb explicitly describes that characteristic of the commercially
19 available 3M brightness enhancement films, which we've been, the
20 trademark we've been pronouncing as the Vikuiti, as a play on acuity. And
21 it's the same one that's referenced in Epstein, and Epstein, of course, is an
22 inventor on Lamb.

23 Now, Your Honor, I did want to address, I think we had, there
24 were two questions you asked me earlier. I wanted to get back to you, Your
25 Honor, Judge Parvis. And that is, if I recall correctly, you had a question
26 about our combining in our reply Claims 4 and 8. And I had a chance to

1 look at that. And I appreciate the question. I wanted to make sure that the
2 record is clear. With respect to Claim 4, we do identify Mok and Lamb and
3 in combination for that claim. But with respect to Claim 8, we're relying
4 simply on Mok and Dr. Pattison. And if there's some confusion, because we
5 had it under the same section, I apologize. But I think those paragraphs
6 pretty clearly set forth that one discusses Mok and Lamb, and the other one
7 is just Mok and Dr. Pattison. So, I wanted to get back to you on that.

8 JUDGE PARVIS: Thank you.

9 MR. FERRARIO: I believe there was also a question as to where
10 and whether we discuss issues related to uniformity as it relates to Mok,
11 Holman, and Lamb in the petition. And I wanted to direct your attention to
12 pages 13 to 14 to 15 of the petition where we also cite, for example, among
13 other things, paragraphs 135 and 138 of Dr. Pattison's declaration, Exhibit
14 number 1003. And there is a discussion of some of these different
15 considerations relating to light uniformity, and why one of skill in the art
16 would combine and understand combining these references was not only
17 feasible but desirable.

18 I think that I wanted to, you know, there may be instances here
19 throughout the record and some of the questions earlier today may have been
20 directed to this. And I just want to address this where we think we've had to
21 make some arguments in response by pointing to additional disclosures
22 within the grounds that we have on the prior art that we have. And I -- we
23 were very careful about that and always wanted to make sure that those,
24 pointing to those additional disclosures were consistent with our legal
25 theories and consistent with what we've already pointed to. And we think
26 that that's permissible. And I just wanted to highlight to Your Honors just a

1 couple case law citations, including *Chamberlain Group*, 944 F.3d at 919,
2 specifically 925, which is a Fed Circuit case. There's also cases where we,
3 for example, *Apple v. Andrea Electronics*, 949 F.3d, 697 at 706. That's a
4 Federal Circuit case 2020. And I think that one of the cases I thought was
5 helpful for me in understanding this was a *Rembrandt v. Alere*, it's 76 F.4th,
6 1376. That's a 2023 decision. I don't know if it's -- it may not be
7 precedential or it's unclear to me, but I think it sets forth there a lot of the
8 principles that guided us in terms of identifying arguments and when we can
9 cite to new stuff and when we didn't. And I hope that we were, we have
10 some fidelity to that, such that the Board has clarity on what we were citing
11 and what we didn't. Okay, I've got just 10 minutes. Maybe I won't use it all
12 because I wanted to just touch on a couple other things.

13 Air is an element. I heard that question from Your Honors and I
14 appreciated that. It is a physical layer and it has optical meaning. One can
15 see this in Holman and this is in part why we cited Holman for the
16 proposition because within Holman's structures and embodiments it treats
17 and understands air as having a physical effect on the light as it's going
18 through the system. So, I think that that's an important consideration and I
19 can go directly to, I think it is -- I'll get my pages mixed up here probably,
20 but it's going to be 40 and it's going to be at least in -- and this is just one
21 example, because there are other discussions within Holman about the effect
22 of air and how it's treated within the system. So, this is PDF page number
23 41, which is page 40 of the reference. And it discusses this layer G1 as
24 being air or a transparent dielectric. And there's ideas of substituting the air
25 layer, if you will, with another structural, if you will, component for a
26 number of reasons and discussions about matching refractive indexes and

1 things of that nature. And so, this thing, air, this layer, this region, is treated
2 as a component of the system because it has a real world effect on the light
3 that passes through the system, including the thickness of the panel, which is
4 one of the reasons why there's a lot of consideration of either reducing that
5 or in some cases increasing it, all dependent on your spacing an LED,
6 thickness of your diffuser, all of these variables known to those of skill in
7 the art, as Dr. Pattison explains, well within the skill of an ordinary person to
8 tweak and modify relative to the claims here.

9 I want to say one final thing before we go. I appreciate the time. I
10 apologize for the technical issues earlier. The record on the revised claims is
11 pretty large. And we saw some of the presentation here by the Patent Owner
12 disagree. And I could go through and point through each place where not
13 only do we think that what they showed on the screen is incorrect, but we
14 also have a number of other prior art that discloses each of these other
15 elements.

16 And so, with that, just simply because we're running at a time and
17 I'm not going to be able to address every single issue here on the revised
18 claims, given the way that they've changed, the number of elements they've
19 tried to basically jam in there, but all of that is described and disclosed in the
20 prior art in all very conventional ways.

21 And with that, I thank Your Honors for your time today.

22 JUDGE PARVIS: Thank you, Counsel. Patent Owner?

23 MR. MASSAND: Your Honor, I have nothing in terms of direct
24 sur-rebuttal. I did want to mention that I believe you asked me earlier about
25 where essentially structural elements outside the package are shown or
26 something along those lines. And I just wanted to point to Figures 5A, 5B,

1 and 7 as essentially descriptions of the invention outside of the packaged
2 lighting element.

3 And so with that, we have nothing further, Your Honor.

4 JUDGE PARVIS: Thank you, Counsel. Thank you to both parties
5 for appearing today and answering our questions. We will take this case
6 under advisement and issue our decision in due course. Please stay on the
7 line to answer any questions the court reporter may have.

8 We are adjourned.

9 (Whereupon the above-entitled matter went off the record at 2:41
10 p.m. ET)

IPR2023-01168
Patent 9,605,835 B2

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