

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

XU PEICHENG (HONG KONG) OPTOELECTRONIC
TECHNOLOGY CO., LIMITED,
Petitioner

v.

SEMISILICON TECHNOLOGY CORP.,
Patent Owner.

IPR2024-00156
Patent 8,884,546 B2

Record of Oral Hearing
Held: February 24, 2025

Before CHARLES J. BOUDREAU, SHEILA F. McSHANE, and RUSSELL
E. CASS, *Administrative Patent Judges*.

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P-R-O-C-E-E-D-I-N-G-S

(1:00 p.m.)

JUDGE MCSHANE: Good afternoon, everybody. I'm Judge McShane. We are here to conduct a hearing in Xu Peicheng, Hong Kong, Optoelectronic Technology Company, Limited, versus Semisilicon Technology Corporation. That's IPR2024-000156.

Along with me, Judges Boudreau and Cass should also be visible. So may we have appearances, please? Who do we have for Petitioner?

MR. HANDY: Good afternoon, Your Honors. This is John Handy for the Petitioner, Xu Peicheng Optoelectronic Technology Company, Limited. Also with me is my co-counsel, Jason Xu. But I will be handling the oral argument today.

JUDGE MCSHANE: Okay. Thank you very much. And who do we have from Patent Owner?

MR. RAJAN: Good morning and good afternoon, Your Honors. My name is Kai Rajan. I'm here on behalf of Patent Owner, Semisilicon Technology Corp. And also joining me is Ming-Tao Yang, who is the lead counsel. And I will be handling the argument today.

JUDGE MCSHANE: Okay. Thank you very much. Okay. Very briefly, here's some general guidance. If at any time during the proceeding you encounter technical or other difficulties, please let us know or contact the team members who provided you with the connection information.

We have the entire record, including the demonstratives. And we don't care if you run your demonstratives and show them on the screen or you just direct us to slide numbers in the demonstratives. But please, regardless of which way you do it, please explicitly call out the slide

1 numbers. This is important for a clear record.

2 The hearing will be conducted as set forth in the oral hearing order.
3 Each side has been allocated 60 minutes of argument time. Petitioner will
4 go first and may reserve rebuttal time. And Patent Owner then goes and
5 presents its response. And Patent Owner may reserve sur-rebuttal time.

6 Does anybody have any questions?

7 MR. HANDY: None for Petitioner, Your Honor.

8 MR. RAJAN: Not for Patent Owner, Your Honor.

9 JUDGE MCSHANE: Okay. Thank you. So, Petitioner, you may
10 proceed. Do you wish to reserve rebuttal time?

11 MR. HANDY: Thank you, Your Honor. Yes. I'd like to reserve ten
12 minutes for rebuttal if I may.

13 JUDGE MCSHANE: Okay. Please proceed.

14 MR. HANDY: And okay. Thank you. I'll just share the slides as I
15 also identify them as I go through. Oops, sorry. Okay. All right. Thank
16 you, Your Honor.

17 So these are the, this, the IPR was instituted on these six separate
18 grounds; Claims 1, 4, and 8 are independent. And just to quickly frame the
19 discussion, the challenged patent, the 546, generally discloses driving
20 apparatuses for LED curtain lamps.

21 And the driving apparatus includes a master/slave configuration,
22 whereby a master control unit will control one or more slave control units
23 that are electrically connected to one or more LED strings.

24 And as explained in the background, and I understand the institution
25 decision cited to this, LED curtain lamps have been well known in the art.
26 So that is not a point of novelty about the curtain lamps or any LED string

1 application of the 546 patent claims.

2 So I want to walk through the principal grounds that are disputed by
3 the Patent Owner during the time we have here today.

4 And first I would like to address the parties' dispute over the term
5 curtain lamp, which appears, for example in Claim 1, and is relevant to
6 Grounds 1 and 3.

7 Ground 1 relating to the Kuang reference, a control network for LED
8 based lighting systems in a transit vehicle. And Ground 3, the Lys reference
9 entitled Methods and Apparatus for Sensor Responses via Illumination of
10 Liquids.

11 There does not seem to be a dispute between Patent Owner and
12 Petitioner over Dr. Schubert, our expert's opinion, that a curtain lamp is
13 commonly understood to be one or more light strings.

14 And by way of example, in the petition, citing Schubert's declaration
15 at Paragraph 34, Figure 1 of Kuang was referenced. And the Items 107 in
16 that figure were identified as a string of LEDs because it involves a plurality
17 arranged on a lighting panel.

18 So in Dr. Schubert's opening opinion, there was no belief in view of
19 the disclosure of the 546 Patent that string per se had any necessary or
20 disclosed structure, whereby a plurality would not meet this limitation.

21 JUDGE MCSHANE: Mr. Handy, I'm sorry –

22 MR. HANDY: Yes.

23 JUDGE MCSHANE: -- to interrupt. I don't know if you were
24 intending to show your slides or not. But I'm not seeing them on my screen.
25 So I can see, I think you were referring to Slide 4 of your slide deck. But –

26 MR. HANDY: Okay. I'm trying to share. Okay. I apologize. Let

1 me try again.

2 JUDGE MCSHANE: We have it now.

3 MR. HANDY: You have it now. I apologize, Your Honor. Thank
4 you so much.

5 JUDGE MCSHANE: No apology necessary. Thank you.

6 MR. HANDY: Okay. Thank you. Okay. So as I was saying, on
7 Slide 4 by way of example, Dr. Schubert cited Figure 1 as an example
8 disclosing a plurality of LEDs, which Dr. Schubert identified as a string of
9 LEDs, identified by Item 107.

10 Now to Slide 5. There were other disclosures in Kuang to support this
11 curtain lamp limitation. By way of example, here Kuang refers to the slave
12 and the LED nodes as being connected in a so called daisy chain fashion.

13 And like Kuang, the point in reply that Dr. Schubert focuses on in
14 response to Dr. Lebby's criticism is that Dr. Schubert's understanding of
15 string does not rely in the 546 patent on some physical attribute of what a
16 string of LEDs must have.

17 And Dr. Schubert cites by way of example Figure 7 in the 546 patent.
18 You know, these are schematics without any description of any physical
19 aspect of strings, which again, the parties seem to agree a current lamp can
20 be understood as one or more LED strings.

21 So because there is nothing in the 546 patent describing or explaining
22 what type of physical attribute a curtain lamp must have, we only have
23 schematics just like the schematics that are disclosed in the prior art by
24 Kuang that we rely on.

25 Going on to Slide 7. The arguments for this in response to Dr.
26 Lebby's critique are very similar. One of the -- Dr. Schubert does

1 emphasize, as also cited in the petition, that LEDs as disclosed in Lys has a
2 very broad meaning assigned to it.

3 Lys makes clear that the term LED is expressly defined to include
4 LEDs of all configurations. And this would make sense, just as it makes
5 sense that Kuang is not limited to vehicle lighting applications, as disclosed
6 in that patent.

7 You know, neither prior art purports to reinvent LEDs in any way or
8 reinvent or any type of lighting already known in the art.

9 Slide 8. Now in response to Dr. Lebby's criticism that critiques the
10 disclosure or the lack of disclosure of string, because of, you know, the
11 plurality of LEDs does not correspond to some physical attribute, Dr.
12 Schubert replies that, you know, even the scope, as we look at the scope of
13 the plurality of LEDs, it is very broad.

14 And Dr. Schubert cites in his reply this statement in the 546 patent
15 that reads, the light emitting diode light light string 30 could include a single
16 light emitting diode.

17 And so, by way of this disclosure, light emitting diode string 30 being
18 really a box in a schematic in Figure 4 of the 546 patent, Dr. Schubert
19 concludes that, you know, the scope could in fact be one LED.

20 Because if you are agreeing that a curtain lamp can be one or more
21 light strings, LED strings, and here we have an express embodiment that
22 describes it as covering just a single LED, then the scope is that broad in Dr.
23 Schubert's opinion, in additional response to Dr. Lebby's criticism.

24 And I would just add that, you know, this is a consistent disclosure,
25 much like the prior art, that never purports to invent lighting per se or a type
26 of lighting.

1 And here in the background of the 546 patent, we already know that
2 curtain lamps were well known. And therefore, the invention is not intended
3 to be so limited to a particular configuration, again consistent with just the
4 schematics as they are disclosed in the 546 patent.

5 JUDGE CASS: Counsel, this is Judge Cass. So going -- if you could
6 go back to the previous slide? So this disclosure in the 546 patent that a
7 light string could include one light emitting diode, would you say that's
8 different from the plain meaning of the term?

9 Because just generally, I don't tend to think of a string as just one
10 thing. I would think of it as a series, or a series of multiple things. But, you
11 know, I see the specification says what it says. So is that something that's
12 kind of the Patentee being their own lexicographer?

13 MR. HANDY: Thank you, Your Honor. That's an excellent point. I
14 think that it would, I think the plain and ordinary meaning would be one or
15 more, for a curtain lamp, is one or more LED strings. And the parties do not
16 seem to dispute that.

17 Now as far as a string and the plain meaning of that, I think that this is
18 an instance where the specification is trying to broaden what an LED light
19 string is and what it can encompass.

20 And it explicitly makes clear that it can include a single LED, which
21 may, you know, I think this is a more narrow disclosure for that.

22 So to the extent it may broaden what would otherwise be understood
23 as a commonly known meaning for string, right, being a plurality for
24 example, right.

25 And that, and a few slides back I discussed what Dr. Schubert
26 identified as a plurality, right. He identified more than one in the first

1 instance for LEDs.

2 But here I, the point here is it's not even that narrow. The
3 specification is further broadening the scope of this Patent's application to a
4 single LED. At least that is Petitioner's read.

5 JUDGE CASS: All right. Thank you.

6 MR. HANDY: Thank you. Okay. The next dispute I'd like to --

7 JUDGE CASS: Counsel, I just thought of another question, so let me
8 interrupt you again. So -- and I understand this may be a hypothetical. But
9 under this sentence here, is there any configuration that would not be a light
10 string?

11 I mean, it seems like if a single light could cover it, doesn't that
12 essentially mean that any time you've got a light, you've got a light string?

13 MR. HANDY: I think a single LED could encompass a light string in
14 this context. I do not -- I don't want to add new disclosure. Because I don't
15 know that we refer to it.

16 But I do think there is a Figure 9 that isn't really even talked about,
17 that basically repeats this embodiment. And I think it says something to the
18 effect of the principles are the same as before, okay. Again, I'm not trying
19 to add a new argument or anything.

20 But just to address your question, I think what Dr. Schubert is
21 focusing on here is that there is an express intention to broaden the scope of
22 this application, the idea of strings, to include yes, a single LED.

23 JUDGE CASS: All right. Thank you.

24 MR. HANDY: Sure. Okay. The next dispute between the parties I'd
25 like to review involves this term synchronous signals. And I believe the
26 Institution decision also acknowledged this.

1 This phrase, control signals and synchronous signals, is basically
2 repeated in the patent specification, in the 546 specification. So there's no --
3 there's not much additional explanation, if you will, for this phrase beyond
4 the claim language itself.

5 Slide 10. Of relevance here are three proposed claim constructions,
6 one by the Board in its Institution decision, another by Dr. Schubert and
7 Patent Owner's expert, Dr. Lebby.

8 And Dr. Schubert in reply, and in response to the Board's invitation
9 for additional briefing on this, accepts the Board's construction, okay.

10 Dr. Schubert also opined in his reply declaration that, you know, from
11 his standpoint substantively they are very similar, except that Dr. Schubert
12 incorporated more of the surrounding claim language in his definition.

13 So from Petitioner's standpoint, we agree with the Board's
14 construction of synchronous signals to mean transmitting signals related to
15 an activity or activities occurring at the same time.

16 And that definition incorporates this concept of activities. That it's not
17 just about timing, but it has to be related to some, there is a controlling
18 aspect to the synchronous signals, consistent with Dr. Schubert's proposal.

19 Dr. Lebby opines that this should be defined as signals related to
20 activities governed by synchronized timing. Dr. Schubert's reply is that he's
21 not sure what synchronized timing means.

22 And again, because the Patent itself, the specification does not provide
23 anything more but copying the claim language, Dr. Schubert does not
24 understand where synchronized timing comes into play for this definition.
25 And also critiques it as using a different form of the same word to define
26 what synchronous signals means.

1 Slide 11. The principal dispute between the parties seems to be
2 focused on whether a control signal can also be a synchronous signal, or if
3 they have to be completely separate. And the Board, again as I recall,
4 invited additional briefing on this.

5 And Dr. Schubert opines that, you know, as an initial matter he can
6 find nothing in the 546 patent specification that only discloses a synchronous
7 signal without any corresponding control, or control instructions such as,
8 you know, shutting the LEDs off, executing instructions from multiple LEDs
9 at the same time, okay.

10 Everything that's disclosed relates to some command to the slave
11 nodes. But optionally, they can be simultaneous. They can be quote
12 unquote synchronous.

13 In other words, Dr. Schubert's conclusion essentially is that, you
14 know, a synchronous signal without any associated control would not be
15 meaningful.

16 But it's not just about being meaningful. It's just not understood.
17 And there's nothing in the 546 patent specification to explain what that
18 would be or what that would look like.

19 Slide 12. So here, these are, you know, just some examples of
20 citations in the Kuang reference that show both control signals that are not
21 synchronous and control signals that are synchronous.

22 For example, here on Paragraph 35 you see that the master node may
23 control either individually, which would be a nonsynchronous control signal,
24 or by group, which Dr. Schubert opines would be an example of a
25 synchronous control signal of the individual LED units.

26 Paragraph 54 explains how this may include for example a master

1 light shut off command that is sent to all of the LED and slave nodes to turn
2 them all off at the same time.

3 Okay, so the disclosure in the prior art relates to control signals that
4 may be synchronous. And to Dr. Schubert, in light of the specification in the
5 546 patent this is consistent with all the disclosures of signals being --
6 having some aspect of controlling the slave nodes.

7 But alternatively, some may control one or more LEDs at the same
8 time.

9 JUDGE BOUDREAU: Mr. Handy, this is Judge Boudreau.

10 MR. HANDY: Yes.

11 JUDGE BOUDREAU: Let's go back to that previous slide for just a
12 second. I just had a question about the master light shut off command. Do
13 you understand that to be essentially just cutting the power to all of the
14 LEDs? Or is there actually some kind of a signal that is transmitted that
15 controls the power?

16 In other words, is there any evidence of a signal being transmitted, as
17 opposed to just a switch that's turning off the power to all of the LEDs?

18 MR. HANDY: Right. I think Dr. Schubert in relying on this
19 interpreted the command aspect, if I remember correctly, as being more than
20 just sort of a disconnect, a shutting off of let's say power, I guess maybe in
21 line with your question.

22 So I think by having a shut off command, the command aspect of this
23 disclosure correlates to a control signal. At least, that's my understanding of
24 how this is being interpreted.

25 JUDGE BOUDREAU: Okay. Thank you.

26 MR. HANDY: Okay.

1 JUDGE CASS: This is Judge Cass. So Patent Owner, on their slide,
2 and I'm looking at Slide, this is 11, cites the Dickenson versus Tyco case for
3 the proposition that where a claim lists elements separately the clear
4 application of the claim language is that those elements are distinct
5 components of the patented invention.

6 So what's your response to that? I mean, either with case or the
7 principle. And, you know, are there distinct components here that you're
8 pointing to between the synchronous signals and control signals?

9 MR. HANDY: Yes. So that principle I believe, they're all fact
10 specific, right. It's, the language of the claims in light of what the
11 specification and the other intrinsic record teaches, okay.

12 And so while there may be support in the language where you have
13 two separate limitations, there could be a general understanding that by
14 virtue of being separate, as Your Honor points out, these terms, you know,
15 do not mean the same thing, right. And that's a very, I think that's a very
16 fair presumption.

17 But in light of, but it's always in light, it's not a hard and fast rule. It
18 is always in light of the intrinsic record. And here we have two signals
19 being claimed, control signals and synchronous signals.

20 And if you look at the specification, there is no disclosure besides
21 parroting the claim language of what that means. And the only signals that
22 are disclosed provide some level of control to the slave nodes. So that's all
23 you see. That's all that's disclosed in the 546.

24 And so there's no understanding from the specification as to how you
25 would have only a synchronous signal that has no bearing on the control of
26 the corresponding slave nodes and their electrically connected LEDs.

1 And so I would say that I don't have any quarrel with that over -- that
2 general principle as a matter of claim language. But like all manners of
3 claim construction interpretation it requires, it's not a hard and fast rule.
4 And it requires looking at the specification to discern what the scope of
5 those two separate terms are.

6 And so in this case we're not saying they are the same. Dr. Schubert
7 is not saying well control signals and synchronous signals are equivalent in
8 scope.

9 His argument, our -- as Petitioner our argument is a control signal can
10 be synchronous. But it is not necessarily so. Okay. So there is a difference
11 in scope between those two separate claim terms in the 546 patent in our
12 view.

13 JUDGE CASS: So would it be fair to say here that, you know, you or
14 the patent is not saying that synchronous signals and control signals have to
15 be completely mutually exclusive? But recognize that when you're applying
16 prior art you need to point to kind of one set of signals for the synchronous
17 signals, and another set of signals for the control signals. Is that fair?

18 MR. HANDY: I do think that's fair, Your Honor. And I think that is
19 what we are doing in referencing Kuang's disclosure of control signals that
20 may have a simultaneous timing aspect to them in its control of a plurality of
21 LEDs.

22 But yes. No, I agree with your general proposition. But I think we
23 are doing that in --

24 JUDGE CASS: And that wasn't meant to suggest that you weren't. I
25 just was trying to make sure I understand, you know, what your argument is.

26 MR. HANDY: Okay. All right. Great. All right. Thank you.

1 JUDGE CASS: Thanks.

2 MR. HANDY: And the last point I want to raise on this term, and Dr.
3 Lebbby had raised in opposition an argument that Kuang somehow does not
4 disclose synchronous signals because of a propagation delay.

5 And he pointed to connections from one LED light to another and
6 argued that, well this shows you that this isn't actually simultaneous, but it's
7 occurring in sequence.

8 And just to summarize Dr. Schubert in his reply to this argument,
9 points out that any alleged propagation delay in the schematics of the prior
10 art are similarly, you know, present in the 546 patent schematics.

11 And Dr. Schubert highlighted, you know, the connections between a,
12 you know, each subsequent slave node, and made the point that, well if this,
13 you know, you have the same disclosure in both prior art and the 546 patent.

14 And so, you know, and so therefore that is not a patentable distinction.

15 And Dr. Schubert also went on to describe what this actually means in
16 practice, what this delay may actually amount to.

17 But I think the overarching point here is that if the same schematic,
18 you know, the idea of this propagation delay, if it is all that's disclosed in the
19 546 as well, you know, Dr. Schubert applying Petitioner's position is that
20 that's not a distinction in the prior art that, you know, that's distinct from the
21 scope of this claim term.

22 Slide 14. So just quickly, the arguments for Lys largely are consistent
23 with those in Kuang.

24 One argument that Dr. Schubert directly responds to for this patent is
25 where Dr. Lebbby contends that this quote unquote coordinated fashion of
26 controlling light sources does not meet the synchronous signal limitation

1 because it relates to exchanging control signals with pool devices other than
2 light sources.

3 And so in response, Dr. Schubert points out that what is being
4 disclosed here as far as a coordinated fashion of control in response to some
5 of these accessories, like a, you know, maybe it's a filtration or some
6 circulation system, Lys discloses that these other accessories can trigger
7 synchronous signals, you know.

8 For example, you have this disclosure in Lys where you are changing
9 the illumination conditions, you know, to one or more other particular colors
10 when let's say a blower comes on in a pool or spa environment. Or you may
11 generate a particular illumination condition indicating some other event has
12 occurred.

13 So it's not about coordination with these other accessories. But it's in
14 response to, you know, some event that Lys discloses, you know, signals
15 being sent to one or more light sources at the same time to indicate that the
16 event has taken place.

17 Slide 15. So the next dispute I'd like to discuss involves master
18 control unit. This relates to ground –

19 JUDGE CASS: Counsel, this is Judge Cass. Before we leave
20 synchronous let me ask you a couple of questions about that.

21 So first, if we were to hypothetically adopt Patent Owner's
22 construction, or at least the aspect of Patent Owner's construction stating
23 that synchronous signals are governed by synchronous timing. Let's put the
24 distinct from control signals issue one side for this question.

25 But if we were to adopt the governed by synchronous timing
26 definition, would your -- would the prior art meet that? Do you have

1 arguments on that?

2 MR. HANDY: Our argument is that it's not clear what synchronized
3 timing means in Dr. Leiby's opinion. On its face it looks as if it is, you
4 know, it parrots the claim language in that synchronized timing should be,
5 you know, at, you know, at the same, occurring at the same time perhaps.

6 So it may be that there's no material distinction in the applicability of
7 the prior art's disclosure to the synchronous signal limitations.

8 But it -- without knowing more, it's unclear to us as Petitioner what
9 exactly that means. But it may be consistent with, you know. At the same
10 time. And if so then it may be a distinction without a difference.

11 JUDGE CASS: So in looking at Patent Owner's Slide 12, it seems
12 that both parties' constructions come out of the Microsoft computer
13 dictionary. And each party is looking at a different part of the definition.

14 So the definition that's cited here is occurring at the same time. In
15 computer transmissions, a reference to activity governed by clock or by
16 synchronous timing, synchronized timing.

17 I guess I'm reading this as synchronized timing means something like
18 a clock. Maybe it's not exactly a clock, but something like that.

19 So is that a -- well let me ask you this. Is that a reasonable
20 understanding of what synchronized timing would be, just looking at the
21 dictionary? Maybe not. Not so much focusing on the declaration, but just
22 looking at the dictionary by itself?

23 MR. HANDY: Sure. So looking at the dictionary by itself, and I may
24 adopt that understanding that it has something to do with a clock, for
25 example.

26 You know, extrinsic evidence. So first of all, there's no rule that a

1 dictionary definition has to be taken verbatim to argue the plain and ordinary
2 meaning of a term.

3 And, you know, for example, many times a definition has five
4 or more different, you know, entries, you know. A party, a Judge will focus
5 on one that is most relevant and consistent with the intrinsic record. And
6 that holds true in any dictionary definition.

7 And so my response to your proposal, Your Honor, would be that by
8 incorporating something like, let's say a clock if that's what synchronized
9 timing is directed to, I would say that is inconsistent with the intrinsic
10 record, that it would import a requirement that does not have any support in
11 the 546 patent specification.

12 And therefore, it would be using the extrinsic evidence to narrowly
13 define a claim term beyond what is supported by the intrinsic evidence.

14 And so I would -- I do -- I would contend that would be impermissibly
15 using extraneous definitions in a way that is inconsistent, and imports a
16 concept that has no basis or description in the 546 patent specification.

17 JUDGE CASS: So the dictionary, the opening clause here, it says, in
18 computer transmissions, a reference to activity governed by a clock in
19 synchronous timing.

20 Would this patent or this claim that's at issue here be considered a
21 computer transmission? And obviously some information was being
22 transmitted. But possibly one might think of a computer transmission as
23 kind of a -- I don't know.

24 Maybe I should just ask the question. Is that a computer
25 transmission? Why or why not?

26 MR. HANDY: I'm sorry, Your Honor. So the definition is the entry

1 as prefaced by saying this is a definition in the context of a computer?

2 JUDGE CASS: Yes. I'll read it to you. So the Microsoft computer
3 dictionary definition, which is Exhibit 3001, which I think was relied on in
4 the Institution Decision says: occurring at the same time. Then in computer
5 transmissions, a reference to activity governed by a clock or by synchronous
6 timing.

7 So the in computer transmissions clause precedes the second part of
8 that definition that Patent Owner appears to be relying on. So that's the
9 context. So in that context I'm asking you, you know, does this claim deal
10 with a computer transmission?

11 MR. HANDY: Well, I think computer is so broad I don't consider it
12 necessarily what I'm speaking to you from today. It encompasses such a
13 broad scope of computing devices.

14 I don't know that off the cuff I have a definitive response for you. But
15 I will say that term itself, computing, or computer, or computing device is
16 very sweeping. So it appears that it may be of relevance to understanding
17 this term.

18 JUDGE CASS: All right. Thank you.

19 MR. HANDY: Okay. Okay. Slide 15. Master control unit. To go
20 over some of the parties' disputes on this claim term.

21 Just by way of background. In our petition for Lys, a master control
22 unit was identified as either a remote user interface, as shown in this figure,
23 or a local user interface, 43, in other embodiments.

24 And in turn it, you know, sent signals to controllers, 34 A to D, which
25 we argued function as claimed slave control units.

26 In opposition, Dr. Lebby critiqued the reliance of the user interface,

1 argued that it's not, you know, it's just buttons, switches, and dials, that this
2 could not cover the claimed master control unit.

3 In response, Dr., you know, as cited in the petition, Dr. Schubert
4 points out that it's not just the button, switches, dials on the local user
5 interface, but the specification in Lys indicates that, you know, this is
6 associated with the controller 34 as shown.

7 And this user interface facilitates user selection of one or more
8 operating modes of the controller, and in turn Light Source 24, okay. So Dr.
9 Schubert's response is he never opined that it was just buttons, switches or
10 dials. But in fact there's more, it is related to selecting one or more
11 operating modes for each controller.

12 JUDGE MCSHANE: Yes. Sorry to interrupt, Mr. Handy. But this is
13 Judge McShane. On this one, one thing I don't understand is that, you
14 know, you refer to this idea about the, well it's written explicitly that the
15 local control interface can be associated with the -- may be associated with
16 the controller.

17 But the, one problem is that you map the controller. And it's shown
18 right on the left there. You map the controller to the -- or controllers to the
19 slave control units. So as you map it they're not part of the master control
20 unit. Do you have a comment on that?

21 MR. HANDY: Yes. Thank you, Your Honor. I agree with you.
22 They are distinct. They are identified as such. The controllers are the slave
23 control units.

24 Here the associated with, it's not Petitioner's understanding that it
25 means that it is somehow encompassed by it. But Dr. Schubert's and our
26 reading of this reference by calling out this association is not saying they are

1 one and the same, or that the remote user interface, for example, includes the
2 controller.

3 Rather it's describing how you can select these operating modes to
4 control the light sources through those controllers. So the association, I
5 don't -- our position is that it's not associated in that these are supposed to
6 be one and the same, or these are -- that the user interface somehow is
7 simply pointing to the controller itself and nothing more.

8 Rather, it's associated in that you can control it through the interface
9 to select multiple operating modes. So we don't see that as conflating, if you
10 will, what we identify as a master control unit and its functionality as
11 described here, what I can choose as a user, and what we identify as the
12 controllers corresponding to the slave control units.

13 JUDGE MCSHANE: Yes. But I guess my point is I think this issue
14 is related to whether Lys teaches this voltage regulator, right. All right?
15 Yeah.

16 MR. HANDY: Okay.

17 JUDGE MCSHANE: So that begs the question, you know, is this
18 sufficient to say okay, well you've got this remote user interface. So, and,
19 you know, it shows just selection buttons, is my recollection for what Lys
20 shows is on the face of this interface.

21 But the question is, I mean, where explicitly is there a, or more
22 explicitly is there a teaching that this 56, I think that's the number, is going
23 to have a voltage regulator?

24 MR. HANDY: Yes. Okay. Exactly. Thank you, Your Honor. And
25 I'll just, if I may, just move to Slide 18. I'd like to directly address that.

26 You know, as you point out that was another critique from Dr. Lebby,

1 you know, because we had pointed to in Lys the selectors 60 A and B as the
2 claimed voltage regulators. And the critique was, well these are simply
3 buttons on the remote user interface.

4 Dr. Schubert in response to these criticisms in his reply explained with
5 this highlighted disclosure means to a person, to a POSITA, and why it
6 corresponds to a voltage regulator.

7 So as shown in this highlighted section, the selectors allow a user to
8 remotely control parameters associated with variable color radiation
9 generated by the one or more light sources.

10 And so Dr. Schubert explains in his reply declaration that Lys is
11 capable, by virtue of this explanation, of changes in lighting color. And
12 color is changed by, you know, modifying the current through LEDs.

13 And Dr. Schubert walks through, you know, why this is associated
14 with a voltage change due to Ohm's law. And because Lys is capable of
15 changing a regulating current, it must be equally capable of changing
16 voltage.

17 So that is the response. And it's relying on this particular disclosure
18 in Lys that identifies the capability in Lys of changes in lighting color. And
19 Dr. Schubert tries to further explain in response to the criticisms by Dr.
20 Lebby why this necessitates regulation in voltages.

21 JUDGE MCSHANE: Yes. Well on that one, Mr. Handy, here's my
22 question. If you go back to the previous slide, Slide 17, right. So if you
23 look in the lower left hand side there, that 56, right, that's what we're talking
24 about.

25 And in there what I see is there's a communication upwards, but it
26 goes to a, what is that called, a data connection network it's called.

1 So, you know, my, so it appears just in general that at least based on
2 this figure that you're going to have a signal coming out, right. Mr. Handy,
3 are you still –

4 MR. HANDY: Yes.

5 JUDGE MCSHANE: Okay.

6 MR. HANDY: Right.

7 JUDGE MCSHANE: So you have an explanation for that, by any
8 chance?

9 MR. HANDY: Why there is a signal coming out? There's a signal
10 coming out because it's facilitating the selection of multiple operating
11 modes to the plurality of controllers.

12 JUDGE MCSHANE: Right. But I guess that would, my question is,
13 would that make, if there's a signal coming out would that necessitate that
14 there be a voltage regulator in this remote user interface?

15 MR. HANDY: I don't think that figure would necessitate the
16 disclosure of a voltage regulator, which is why on the next slide Dr.
17 Schubert relies on Figure 6 with further -- which provides further detail of
18 what is encompassed within the remote user face, 56.

19 And its discussion of the selectors is where Dr. Schubert opines that,
20 you know, this, these satisfy the voltage regulator limitation by virtue of
21 their ability to change lighting color.

22 JUDGE MCSHANE: Okay. Thank you. And just a quick reminder
23 here, you're probably about seven or eight minutes away from going into
24 your rebuttal time. So, sorry.

25 MR. HANDY: All right. Thank you so much. Okay. The next term
26 is transistor. So there does not seem to be a dispute of Dr. Schubert's

1 understanding of a transistor as an electrical switch or valve. And oops, I'm
2 sorry. And Dr. Schubert cites some extrinsic evidence in support of that
3 definition.

4 What I'd like to focus on here is an argument that Dr. Schubert makes
5 in response to Dr. Lebby's opinion in his reply declaration.

6 Dr. Lebby opines that the obviousness combination that Dr. Schubert
7 proffered in the opening, that Petitioner had in the opening declaration, you
8 know, doesn't -- there wouldn't be a motivation to combine, because Kuang
9 and Lys already disclose a transistor.

10 And so Kuang's system already has the capabilities of an electronic
11 switch or valve, because it can switch power to the LEDs and dim the light
12 output, from Dr. Lebby's explanation.

13 Similarly, Lys discloses a controller 23 that changes lighting
14 parameters without modification, such as by adjusting a PWM signal or
15 providing variable analog signals. Therefore, Lys already has a type of
16 electronic switch or valve.

17 So in addition to the arguments made in Dr. Schubert's opening
18 position, Dr. Schubert opines that, in response to this and the citations, the
19 evidence that Dr. Lebby cites to in these prior art references, that he agrees.

20 He agrees that in the alternative to the 103 combinations originally
21 proposed, Dr. Schubert agrees that both prior art references to a POSITA can
22 independently disclose the transistor limitation without necessarily
23 combining with Debevec.

24 And one thing I would just add is I do think that this is an example. I
25 know that there's a lot of statements. And the Board will assess, you know,
26 reply arguments obviously when formulating its final opinion.

1 But the idea of, just a simple idea in a reply of adopting a position
2 from the other side, adopting a position taken in opposition. And that's a
3 very, I mean, by definition that is the most direct response you can have.
4 It's done routinely.

5 And I don't see a difference if it's in the PTAB or any District Court.
6 If the other side makes an argument that I agree with, you know, that should
7 be a sufficient responsive argument. And that's what Dr. Schubert is
8 opining here, that he does agree in the alternative with that explanation.

9 Okay. I'm going to try to quickly go through some of these other
10 disputes. Pin. The Board invited additional briefing on this issue. And so
11 Dr. Schubert opines that the words terminal and pin typically imply an
12 electrical end point at which an electrical connection is made to another unit.

13 And so he provides some extrinsic, you know, technical definitions in
14 support of this, that a terminal is a point of connection for two or more
15 conductors, for example, and a pin can be defined as a terminal on an
16 electron to semiconductor integrated circuit, plug, or connector.

17 JUDGE MCSHANE: So, Mr. Handy, if I might interrupt. On this
18 one Patent Owner makes the argument that, you know, the claim recites
19 terminal pin. So they're using that term specifically. So, you know, their
20 argument is, are you conflating the meaning of the terms?

21 MR. HANDY: Right. And so I think -- so the response to that is, the
22 meaning of the term should be understood in view of extrinsic evidence that
23 is consistent with the intrinsic record in this case.

24 And so, if you, one of the things that we point out in our reply is that
25 the 546 patent does not describe the physical structure of any claimed pins.
26 It only provides schematics. There's no further discussion or depiction of

1 the physical nature of the claimed pins.

2 And what Dr. Schubert as POSITA responds with is that in view of
3 technical definitions that do not necessarily impose a, let's say a sharp
4 pointed edge end to the definition of a pin or a terminal, that his definition is
5 consistent with the broad disclosure in the 546 patent that does not anywhere
6 describe these claimed pins as needing to have this physical, let's say
7 pointed, structure.

8 And so given that all you have in the 546 patent are schematics,
9 in view of the extrinsic evidence, and keep in mind Dr. Schubert is not
10 saying that a pin cannot mean, right, that it's pointed. That's not the
11 argument. Nobody's saying that.

12 But what Dr. Schubert is pointing out is that his understanding, in
13 view of the 546 patent, and in light of definitions that don't necessarily
14 require that physical aspect, if all you have are schematics that are silent on
15 what the pin looks like, you know, Dr. Schubert opines that a POSITA
16 would understand Hiroyuki to disclaim these pins because the terminals can
17 encompass pins as broadly referenced in the 546 patent. And so that is the, I
18 hope that, I think that's the general argument here. That if there's no
19 support in the intrinsic evidence for a particular physical nature, structure of
20 pins, that Hiroyuki should not be distinguished because it discloses terminals
21 in a way that can be understood by some extrinsic evidence as,
22 corresponding to pins, not necessarily tied to a physical shape.

23 JUDGE MCSHANE: Okay, all right. Thank you, Mr. Handy. And
24 just to advise you are going to start running into rebuttal time here shortly.

25 MR. HANDY: Okay. Okay. Thank you so much. Okay. I'll try to
26 quickly speak to signal processor. And then I'll have to reserve my ten

1 minutes if I may.

2 The parties disputed whether Hiroyuki discloses a signal processor.
3 In reply, Dr. Schubert -- I believe the Board allowed additional briefing.

4 A signal processor is any device inserted into or added onto a system
5 to modify an input or output signal. And to make a long story, well not so
6 long story, even shorter, Dr. Schubert responds to opinions of Dr. Lebby,
7 and explains why a filtering of an electronic signal is an act of processing
8 the signal.

9 And he goes through a series of technical documentation describing
10 filtering in the context of signal processors, and uses Dr. Schubert's, I'm
11 sorry, Dr. Lebby's explanation, for example, in Paragraph 121 describing the
12 function performed by Hiroyuki's constant current circuit unit, so the Unit
13 72 as essentially a filter. And Dr. Schubert correlates and says, yes I agree
14 that is a filter. But as I'm explaining, that is an act of processing a signal.

15 And so I think with that, Your Honor, it looks like --

16 JUDGE MCSHANE: Yes. Mr. Handy, on this one I have a question.
17 So when, on Slide 29 you're referring to this constant current circuit. And
18 so my understanding of the reference is that this maintains this constant
19 current.

20 But isn't the goal current, you know, whatever it's trying to achieve,
21 isn't that sent by a different signal?

22 MR. HANDY: Goal current? I apologize, Your Honor. Could you
23 try just rephrasing that? I don't know if I -- I don't think I fully understood.

24 JUDGE MCSHANE: Yes. There's a disclosure. And if you look at
25 Paragraph 30 -- and you can respond to this in your rebuttal time too if you
26 need to look it up.

1 MR. HANDY: Okay.

2 JUDGE MCSHANE: Is, in Paragraph 30 it says that it maintains a
3 constant current. But it appears there's a goal current that's being set. And
4 I'm wondering, is that being sent by a control signal? So that's the question.

5 MR. HANDY: Okay. Okay. All right, I will look that up. And I will
6 try to respond during my ten minute rebuttal, if that is okay.

7 JUDGE MCSHANE: Okay. Well you're a little less than that. We'll
8 give you seven minutes. And if we need to, we've been asking a lot of
9 questions. So if we need to be flexible, we'll be flexible on that. Okay?

10 MR. HANDY: Okay.

11 JUDGE MCSHANE: So you have seven minutes at least as a starting
12 point. Okay. And now, anything else, Mr. Handy? I'm sorry. I didn't
13 mean to interrupt.

14 MR. HANDY: No. Not at this time, Your Honor. Thank you.

15 JUDGE MCSHANE: Okay. Thank you. And now we turn it over to
16 Patent Owner's Counsel. And you may proceed. And do you wish to
17 reserve sur-rebuttal time?

18 MR. RAJAN: Yes, Your Honor, ten minutes.

19 JUDGE MCSHANE: Okay. Thank you.

20 MR. RAJAN: Thank you and good morning, and good afternoon,
21 Your Honors. May it please the Board. My name is Kai Rajan, and I
22 represent the Patent Owner, Semisilicon Technology Corp. Semisilicon is
23 entering its 30th year of business this year, designing and making integrated
24 circuit controllers for a range of electronic devices, such as, in this case,
25 LED lighting. And I'd like to take a couple minutes to give an overview of
26 the petition grounds and how those grounds changed in this proceeding and

1 then discuss some of the recurring issues that we've seen across the grounds.

2 Turning to Slide 2, we have a table here of the grounds that appeared
3 in the petition. And as you can see, several of those grounds relied on a
4 single reference, in combination with the knowledge of a POSITA. Ground
5 1 was the basis for institution in this case, and some of the other grounds
6 were found to be deficient in the Institution Decision.

7 On Slide 3, we have an illustration here of how these petition grounds
8 changed from the petition to the Petitioner reply. And as illustrated here, the
9 petition grounds are not the same bases for invalidity that were argued in the
10 Petitioner's reply. For example, in Grounds 1, 3 and 5 in the petition, the
11 Petitioner relied on the knowledge of a POSITA, but the grounds didn't
12 actually identify what differences there were between the claims and the
13 references, to explain what was being borrowed from the knowledge of a
14 POSITA that wasn't already in those references.

15 Now in the Petitioner's reply, we did not see an explanation
16 supporting that original combination, but instead the Petitioner just argued
17 obviousness based on the base reference alone. And if we look to Grounds 2
18 and 4, the petition originally relied on the Debevec reference to provide a
19 component that the Petitioner admitted was missing from Kuang and Lys.

20 But then in the Petitioner's reply, we saw a complete one-eighty,
21 where the Petitioner now argues that Lys and Kuang alone meet the claim,
22 yet they haven't provided a proper obviousness analysis, or any anticipation
23 analysis. And as we also explained in our surreply, there are several other
24 new theories that the Petitioner raised for the first time in their reply, that
25 were absent from the petition and not supported by it.

26 Turning to Slide 4, we have a table that organizes the technical

1 deficiencies of the references, and as you can see, there's multiple reasons
2 why the Board could find for the Patent Owner on almost every challenged
3 claim here.

4 JUDGE MCSHANE: Mr. Rajan, on this Slide, if you go back to Slide
5 4, please. Yeah. One thing that I didn't see is, you have for Lys, you have
6 listed no master control unit. And I see you've listed Claim 1 there,
7 properly, of the independent claims. But I could not find any discussion—as
8 you know, Claims 1 and 8 are different—I could not see any discussion for
9 Claim 8 specific to the master control unit in your Patent Owner response.
10 So if you could, and you don't have to, you know, in your discussion now,
11 but in your surrebuttal, if you could point me to where that is, I'd appreciate
12 it.

13 MR. RAJAN: Sure. Thank you, Your Honor. So looking at Slide 5, I
14 also wanted to highlight that all of the grounds in this proceeding are
15 obviousness grounds. And yet none of the grounds addressed the
16 requirement of establishing that a POSITA would have had a reasonable
17 expectation of success in making any of the modifications or combinations.

18 And as we can see in the right-hand column here of Slide 5, half of the
19 six grounds didn't have any mention of reasonable expectation of success.
20 And the other half mention those words, but they didn't provide a
21 substantive explanation of reasonable expectation of success. This analysis
22 was lacking from the petition, and also from Dr. Schubert's declaration,
23 because it mainly parroted what was in the petition.

24 Dr. Lebby, on the other hand, which is Patent Owner's expert, had
25 raised several questions, and discussed issues, addressing why a POSITA
26 may not have reasonably expected success in making these modifications to

1 the references. Now this is a widespread issue across all the six grounds and
2 could be a basis for the Board to find for us on all six style-basis grounds,
3 separate from the technical issues.

4 Turning to an overview of the '546 patent, here on Slide 6. The patent
5 discloses embodiments of a driving apparatus for an LED curtain lamp. And
6 the patent improves upon conventional LED curtain lamps, where, in a first
7 version, there are LED current lamps that lack any microcontroller, so
8 they're basically simple on/off circuits, where all the lights turn on or off just
9 based on the presence of power. And the patent refers to this as having dull
10 lighting. It's basically boring lighting.

11 There's another version, in the conventional devices, that have a
12 microcontroller, and then they have all the LEDs that are in loops, all tied
13 back to that same microcontroller. So there's maybe three or four circuit
14 loops. And the patent also says that this results in dull lighting. It's
15 basically boring lighting, where you might have a couple of switched strings
16 of lights.

17 So the solution to the '546 patent is to have this master slave
18 configuration in the driving apparatus, where you have a master control unit,
19 slave control units, that are connected to that master control unit by a
20 transmission line, and the transmission line carries control signals and
21 synchronous signals.

22 So the slave control units then have the LEDs attached to them which
23 are highlighted in yellow on this slide here. If we look to Slide 7, the '546
24 patent also includes examples, with a second curtain lamp that's electrically
25 connected to that master control unit of the first curtain lamp.

26 And with this master slave configuration, as well as the transmission

1 of the control signals and the synchronous signals, this configuration allows
2 for each light string to be driven separately, and can have different
3 behaviors, such as different brightnesses. They can be driven in turn, but
4 they can also be driven rhythmically, as the patent discusses. And the
5 patent, in this respect, calls this vivid lighting, that the disclosed
6 embodiments provide.

7 Looking at Slides 8 and 9, the first topic I'd like to address is the lack
8 of synchronous signals in Kuang and Lys. And turning to 10 -- I'm sorry,
9 Slide 9. This relates to Ground 1 and Ground 3. So looking at Slide 10, the
10 term synchronous signals was the only term that was formally construed in
11 this proceeding, and it was construed by the Board in the institution
12 decision, where the Board also requested additional briefing on this term.

13 So our Patent Owner response had explained that the language of
14 Claim 1 requires both synchronous signals and control signals, raising a
15 presumption that the claim requires two distinct types of signals. And I'm
16 going to address this a little bit more in the next slide, but I'd like to
17 emphasize here that, if the Board could write a decision finding for the
18 Patent Owner on this claim interpretation alone without having to decide the
19 precise meaning of synchronous signals.

20 But if the Board does believe that a formal construction's still
21 necessary, then we propose a construction of signals related to activities
22 governed by synchronized timing. On the right-hand column of the slide,
23 we just wanted to note that the Petitioner didn't provide briefing explaining
24 why the Board's construction was correct but instead focused on disputing
25 the Patent Owner's construction of synchronous signals.

26 And, Judge Cass, you asked before of Petitioner, if the Board had

1 adopted the Patent Owner's construction, how might that play out? And I'd
2 like to note that I don't believe I've seen briefing from the Petitioner's side
3 where they explain how the prior art meets Patent Owner's construction, if
4 that is adopted by the Board.

5 JUDGE MCSHANE: Well, on the other hand, Mr. Rajan, I haven't
6 seen any briefing from you, from Patent Owner, as to why the prior art --
7 just based on this construction, right, that you're proposing here -- I don't
8 really see why a specific argument as to why the difference in this claim
9 construction necessarily leads to a problem. Just a difference in addressing
10 the merits of the prior art.

11 I understand your arguments about whether something is
12 synchronized. I understand your arguments related to the idea that
13 synchronization signals and control signals are different, but I didn't really
14 see anything specifically related to your construction in your papers -- your
15 proposed construction.

16 MR. RAJAN: Are you asking, Your Honor, about the differences
17 between our construction and the Board's construction?

18 JUDGE MCSHANE: Yeah. Indirectly, yes. What are the
19 differences?

20 MR. RAJAN: Okay. And that's a very good question. So the Board's
21 construction of occurring at the same time implies that there's something like
22 a clock, or some other kind of timing mechanism, at both ends of both
23 devices that are in communication, such that there's going to be activities
24 that happen at both devices at the same time. So they both know what the
25 time is, and that they can act at the same time. And we submit that that's a
26 very narrow construction of synchronous signals, especially when we saw

1 the context of the computer transmissions that's discussed in the Microsoft
2 Computer Dictionary.

3 So with the Computer Dictionary in mind, and the context of the
4 claim language, we propose governed by synchronized timing, which does
5 also involve an aspect of keeping a track of timing, which could be by a
6 clock, but it could be with other mechanisms, as well. But one of the
7 differences here is that synchronized by governed -- sorry, governed by
8 synchronized timing could involve activities that don't occur at the same
9 time. They occur at different times. But they are occurring relative to one
10 another on some kind of time scale. And an example of that in the '546
11 patent is that the '546 patent discusses driving the lights in a rhythmic way.

12 JUDGE MCSHANE: Okay. Thank you. I've got your gist. Thanks.

13 MR. RAJAN: Thank you, Your Honor. So on Slide 11, we have the
14 claim language of 1(d), that's shown on the right side, and the claim
15 language is clear that there are both control signals and synchronous signals
16 that are transited over a transmission line. And as the Federal Circuit has
17 held, and as Judge Cass noted before, that, when the claim lists things
18 separately, there's a clear implication that those elements are distinct
19 components of the patented invention. And --

20 JUDGE CASS: I'm sorry. This is Judge Cass. If you're in the
21 middle of a thought, feel free to continue it.

22 MR. RAJAN: No, please.

23 JUDGE CASS: I did want to break in and ask a question. So the
24 question I asked, I'm going to ask you a variant of the question I asked of
25 Petitioner's counsel. So would it be permissible if we interpreted -- well, let
26 me put it this way. The control signals and synchronous signals have

1 different -- I think everybody agrees that those terms mean different things.
2 They don't have the same meaning. But obviously you could have some
3 overlap. You could have control signals that are synchronous signals. And
4 you can also have control signals that are not synchronous signals.

5 So, if someone were to point for the control signals part of the claim,
6 you know, one set of signals that are control signals, but they might not be
7 synchronous. They might or might not. And then a second set of signals
8 that are synchronous signals and they might also be control signals, but
9 they're synchronous signals and they're different signals than the first set of
10 signals. Would that be sufficient to meet this claim? And why or why not?

11 MR. RAJAN: Thank you, Your Honor. So I think, if we had a
12 situation where there was an explanation of how there is a group of signals
13 disclosed in the prior art that are control signals, and there is a group, or a
14 type, of signals in the prior art that also have either some kind of
15 synchronized timing, or there's a showing that there are activities occurring
16 at the same time, then I think we'd be in a different situation than what we're
17 in here.

18 As to the mutual exclusiveness of these two terms, like I said, there's a
19 presumption that these two terms should be treated separately and should
20 require a showing of both limitations in the prior art. The specification
21 doesn't go into conflating control signals and synchronous signals.

22 And to what Mr. Handy was saying earlier, about the examples in the
23 spec, there aren't examples in the specification where there are control
24 signals that are discussed as also being synchronous or having a time aspect
25 to them. There's the examples that Mr. Handy pointed to earlier are
26 examples of control signals. They don't discuss timing.

1 So to sum this up, I think that there could be a situation where there
2 are signals that have timing and control aspects, but what we're dealing with
3 here is the claim requirement of a showing of both types of signals, and there
4 hasn't been anything on the record that explains that.

5 JUDGE CASS: But couldn't -- so looking at this claim language,
6 couldn't a response be, from Petitioner's side -- well, so we are following this
7 because the first set of signals, we're looking at the first set of signals as
8 control signals. And then a distinct second set of signals we're identifying
9 as synchronously, so we're not pointing to the exact same signals and saying
10 these same signals qualify for both of these claim limitations. They are
11 pointing to distinct sets of signals. Why isn't that good enough?

12 MR. RAJAN: From my recollection of the record, Your Honor, I
13 have not seen that there was an explanation of identifying separate sets of
14 signals where the Petitioner also explained why one of those sets of signals
15 had anything to do with events at the same time or synchronized timing.

16 JUDGE CASS: Okay. I'm not sure that I really -- that doesn't quite
17 answer the question I have, and I apologize if I'm not being very clear, but I
18 was really trying to go more at the principal in the *Dickinson* case. Where if
19 you point to distinct sets of signals, why isn't that good enough to satisfy this
20 principle?

21 MR. RAJAN: Yes, Your Honor. Thanks for clarifying. So it
22 certainly could be good enough. I agree that if there was a -- if the Petitioner
23 had pointed to separate signals that could meet these types of signals, then
24 that could be enough, yes.

25 JUDGE CASS: Okay. Thank you.

26 MR. RAJAN: And turning to --

1 JUDGE CASS: I guess, I'll follow up, too on the -- well, now they
2 have the Microsoft Computer Dictionary up, and maybe you were going to
3 get there --

4 MR. RAJAN: Oh.

5 JUDGE CASS: -- anyways. I asked Petitioner's counsel, does this
6 claim deal with computer transmissions? Is there a reason why we should be
7 adopting the governed by synchronous timing definition instead of the
8 occurring at the same time definition? And I'd like to hear your response to
9 that.

10 MR. RAJAN: Yes, Your Honor. Thank you. And I think this slide
11 does help illustrate why we believe that the claim language does involve
12 computer transmissions. The claim language here has a transmission line
13 that's electrically connected to a master control unit and slave control units,
14 and that transmission line is used to transit these control signals and
15 synchronous signals.

16 Now I agree with what Mr. Handy said earlier, that when we're talking
17 about computer transmissions, that's a very broad -- there's a very broad
18 scope to that. And I would say that yes, this claim language does involve
19 computer transmissions. And that is one of the core reasons why the Board
20 should consider the entire scope of this definition, which has that particular
21 context of computer transmissions relating to synchronized timing.

22 JUDGE CASS: All right. Thank you.

23 JUDGE BOUDREAU: Sorry, Mr. Rajan. This is Judge Boudreau. I
24 just want to make sure that I understand the distinction that your drawing
25 here. So, governed by synchronized timing, you're simply saying that that
26 means that the signals need to be in time with, say, a clock, as opposed to

1 being at the same time? Is that correct?

2 MR. RAJAN: Your Honor, yes, that sounds correct. What we're
3 saying is that there could be a clock or another kind of timing mechanism,
4 but the takeaway here is that synchronous signals are going to relate to
5 activities that are governed by synchronized timing. So there's a timing
6 aspect, but they don't necessarily have to be at the same time, which is what
7 the first part of this definition is saying.

8 JUDGE BOUDREAU: So for instance, if the clock had a frequency,
9 let's just say one hertz, so one per second, Light A could turn on at T equals
10 one second, Light B could turn on at T equals two seconds, Light C could
11 turn on at T equals three seconds, and that would be synchronized because
12 they're in line with the clock frequency. Would that be correct?

13 MR. RAJAN: Yes, Your Honor. That would relate to synchronized
14 timing, and that's also consistent with the patent discussing driving the LEDs
15 in turn and also driving them according to a rhythm.

16 JUDGE BOUDREAU: And the flip side of that is that if all of the
17 lights turned on simultaneously, but at a time that didn't correspond to one of
18 the clock cycles, that that would not be considered synchronized. Is that
19 correct?

20 MR. RAJAN: If all of the -- if the lights turned on at the same time
21 but not corresponding to clock signals, I suppose that that could be at the
22 same time, but --

23 JUDGE BOUDREAU: Right.

24 MR. RAJAN: -- not necessarily governed by synchronized timing.

25 JUDGE BOUDREAU: All right. Thank you.

26 MR. RAJAN: Thank you, Your Honor. Let's see. Now as to the

1 references themselves, on Slide 13 we have a page from the petition, where
2 the petition maps the Kuang reference to the claimed control and
3 synchronous signals. The takeaway from this page is that all of these signals
4 on this page in Kuang are types of control signals. And the petition focused
5 specifically on master light shut off command in Kuang.

6 The petition tries to say that this master shut off command is a
7 synchronous signal because it tells all of the slave nodes to turn off. But
8 this, again, is just a control signal. There's no basis for finding that Kuang's
9 slave nodes act on the master shutoff command to turn off at the same time,
10 or according to synchronized timing.

11 And if I could just briefly flip over to, this is Petitioner's
12 demonstrative, Slide 12. The Petitioner showed a couple excerpts from the
13 Kuang reference discussing this master shut off command, and it's worth
14 noting that there's nothing in these paragraphs here that discuss the slave
15 nodes turning off at the same time, or according to any synchronized timing.

16 Turning back to Patent Owner's demonstratives, on Slide 14, at the
17 left side here, we have a diagram from Dr. Lebby's declaration, based on
18 Figure 1 of Kuang. And on the right side we have some disclosure from
19 Paragraph 34 of Kuang, which described how the signals are transmitted. So
20 at the top left of this diagram we can see that the master shutoff command is
21 sent from a controller to a first node, which in turn sends the shutoff
22 command to the next node, and so forth, until reaching the last node.

23 What this means, Your Honors, is that the shut off command is not
24 sent to every node at the same time, and the slave nodes do not act at the
25 same time. Instead, the signal propagates and stops at each node along the
26 way, in a sequence. And Dr. Lebby explained that this transmission scheme

1 would introduce time delays between the master node and each of these
2 slave nodes. And Dr. Schubert actually did not dispute any of this, and he
3 agreed that there would be a time delay. His only response is that the delay
4 would be very short.

5 And he based this position based on calculations in his declaration,
6 but those calculations aren't actually supported by Kuang's disclosure. The
7 way he calculated time delays in his declaration only considered how fast a
8 signal could possibly travel uninterrupted, but had nothing to account for the
9 additional time that it would take for each slave node in Kuang to receive
10 that shutoff command, process it, and determine whether to propagate the
11 signal to the next node.

12 So the bottom line here is that there's no dispute between the parties
13 that there will be time delays in this transmission of the master shutoff
14 command, but there also will be time delays as each slave node receives the
15 command, executes it, and then propagates the command to the next node.
16 Even if that time delay is small.

17 So, in summary, looking at Slide 15, the master shut off command
18 that Petitioner maps to both types of signals in the claims doesn't meet any
19 of the proposed constructions because Kuang does not disclose that this
20 master shutoff command relates to events that occur at the same. So it
21 doesn't meet the Board's preliminary construction.

22 And instead, any shut off activity is going to happen sequentially with
23 time delays as the command propagates from one slave node to the next
24 slave node. So Kuang also doesn't disclose any activities that are governed
25 by synchronized timing, and it doesn't meet Patent Owner's proposed
26 construction either.

1 JUDGE CASS: So counsel, this is Judge Cass. Can you go back to
2 your Slide 13? I'm looking at this excerpt from pages 16 to 17 of the
3 petition. And just reading this, I guess it seems to me that what Petitioner's
4 arguing is that Kuang sends lots of different types of control signals to the
5 slave nodes. And among those many types of control signals are certain
6 synchronous signals, including, for instance, the master light shut off
7 command and -- let's see. Dimming, dimming all the lights. You know,
8 those two being examples.

9 And so if we put aside, for now, the question of whose party's
10 construction is right on whether synchronous means at the same time or
11 according to a clock, we put that aside for now. Isn't what Petitioner doing
12 here is saying, pointing to one set of signals -- in other words, kind of, you
13 know, the one they specifically say here as synchronous signals, and saying
14 another signals meaning kind of everything else, that's control signals.
15 Would that be a fair characterization of the petition?

16 MR. RAJAN: Thank you, Your Honor. So what Kuang has is it has
17 these commands or queries which are mentioned at the top of this page here.
18 And then what Petitioner's doing is they're pointing to one type of that
19 command or query and they're saying that this is a synchronous signal. I
20 haven't seen that they necessarily separate, differentiate, different types of
21 signals in Kuang, and then they explain how one is synchronous, and one is
22 the control. They all seem to be control signals.

23 JUDGE CASS: Well I mean here, if they don't expressly do it, and
24 maybe they could have been clearer, but I mean the import of it does seem to
25 suggest that they're kind of looking at two sets of signals. Or at least that
26 there are, in Kuang, you know, you could look at Kuang as having two sets

1 of signals. What they identify as the synchronous signals. Which are a
2 subset of all the control signals.

3 MR. RAJAN: Sure.

4 JUDGE CASS: And all the other kind of control signals that are not
5 synchronous, which they would map to the control signal's claim limitation.

6 MR. RAJAN: I think that's a fair -- yes. I think that's a fair
7 interpretation of what the Petitioner's done here. I think the main issue,
8 Your Honor, is whether there's been any showing of this master shut off
9 command being a synchronous signal.

10 JUDGE CASS: Okay. Yeah, I understand that issue. Okay, thank
11 you.

12 MR. RAJAN: Now turning to Slide 16, I'd like to turn to the Lys
13 reference, and this is the primary reference applied in the other grounds for
14 Claim 1, and there's a couple different theories in the petition for Lys's
15 disclosure of synchronous signals. I'd like to focus on the second theory
16 here, which is the coordinated fashion which Mr. Handy had discussed
17 earlier.

18 But first, I'd like to just note again, looking at Slide 17, that the
19 Petitioner's reply directly acknowledged that what the Petitioner is relying
20 on here for their claim interpretation is that the claim does not require
21 different types of signals, and they're saying that the control signals may be
22 synchronous signals. But like the Kuang referenced, the Petitioner is only
23 really identifying what could be control signals, and they haven't shown that
24 there are also synchronous signals in Lys.

25 Now on Slide 20, we addressed the petition's -- the second theory for
26 Lys and synchronous signals. At the top of the slide is a fragmented quote

1 from Lys that's cited in the petition about controlling lights in a coordinated
2 fashion. When we look at the larger quote though, from Lys, which is at the
3 bottom of the slide, we can see that what Lys is really talking about is
4 exchanging control signals between lights and pool accessories, such as
5 heaters, blowers, filters and circulation. But this passage doesn't discuss the
6 lights being coordinated with one another according to some kind of timing,
7 or that there is any kind of actual synchronization happening between the
8 different devices in Lys.

9 JUDGE MCSHANE: Well, Counsel, what do you say to Petitioner's
10 argument where they go on further in that column of Lys, where it talks
11 about the lights individually turning certain colors, if the heater is on, for
12 instance.

13 MR. RAJAN: Yes, Your Honor. So I think that's similar to what I
14 discussed with Kuang, where there could be a signal or command that's sent
15 out, and then the device will act on that signal when it receives it or
16 according to other processing delays. But there's not necessarily any aspect
17 of things happening at the same time or happening on any kind of
18 synchronized timing.

19 JUDGE MCSHANE: Thank you.

20 MR. RAJAN: Let's see. I'd like to flip to Slide 23. Now shown on
21 Slides 23 and 24, these slides address the lack of a curtain lamp in Kuang
22 and Lys, and, for the most part, I think we're comfortable resting on our
23 briefing in the papers on these issues. But I wanted to address one particular
24 point on this topic. And that is on Slide 27.

25 Now in the petition, and Dr. Schubert's original declaration, they said
26 that a curtain lamp is understood to be one or more light strings. This

1 position was stated several times, and every time there was a discussion of
2 this interpretation, there was always a discussion of the references having
3 multiple LEDs. So given the number of issues already in this proceeding,
4 we didn't dispute the Petitioner's interpretation of curtain lamp as it was set
5 forth in the petition, but we did contest the petition's mapping of the prior
6 art, and their explanation of how the Kuang or Lys disclosed strings of
7 lights.

8 Now, in the eleventh hour of this proceeding, and after seeing our
9 Patent Owner response, the Petitioner, Dr. Schubert, revealed this entirely
10 new interpretation, and are now saying that a curtain lamp can be just a
11 single LED. And we submit that this is not supported by the '546 patent,
12 and it's also a late position that we hadn't seen until the Petitioner's reply.

13 Turning to Slide 28, we can see why this position and this
14 interpretation is wrong. The '546 patent never describes, illustrates, or even
15 suggests that a curtain lamp could be a single LED. And in the paragraph
16 shown in the middle of this slide, the paragraph mentions that Light String
17 30 could include single, light-emitting diode. And then the sentence after
18 the highlighted sentence here gives that embodiment a special name.

19 But nowhere in this passage, or anywhere else in the '546 patent, is
20 there an example of a single LED being an entire curtain lamp. And I also
21 want to point out that this passage of the '546 patent also wasn't cited by the
22 Petitioner or Dr. Schubert until the Petitioner's reply stage.

23 So if you look at the figures on this slide, every circuit diagram of a
24 curtain lamp that's in the '546 patent shows multiple LEDs that are arranged
25 in strings. And at his deposition, Dr. Schubert looked at these figures, and
26 he agreed that the figures show diagrams with multiple LEDs.

1 It's also worth noting here that Dr. Schubert testified that his original
2 declaration contained the entirety of his opinions at the time, at the petition
3 stage. And he told us that he read the '546 patent, front to back. He referred
4 to the specifications several times to determine the meaning of the claim
5 terms. And yet we never saw the single LED theory until the Petitioner's
6 reply.

7 So this is a situation where either the Petitioner came up with this
8 interpretation after the Patent Owner phase, or they were hiding the ball until
9 the last moment and then sprung this on us as a kind of a gotcha, where we
10 didn't dispute the one or more strings interpretation, and they're trying to
11 now swap that out for a different interpretation that Patent Owner had not
12 agreed to.

13 And before I move off of the slide, I just -- Judge Cass, you had asked
14 before about whether a single LED -- a curtain lamp could be a single LED.
15 And to answer your question, also, I would say, based on everything I've
16 explained here, no. A single LED could not be a curtain lamp, and that
17 would be inconsistent with an understanding of the claim nor meaning of
18 that term.

19 JUDGE CASS: Yes, this is Judge Cass. I'm trying to think through
20 all of this, and it seems a bit difficult because if you haven't, for whatever
21 reason, disputed that a curtain lamp is one or more light strings, and if we
22 were to follow this portion of the specification, saying that a light-emitting
23 diode string could include a single light-emitting diode. You know, if we
24 give, you know --

25 Basically I think, as we talked about in my exchange with Petitioner's
26 counsel, we consider that to be the Patent Owner, or Patentee, acting as their

1 own lexicographer. You know, wouldn't that lead us to the conclusion that a
2 single, light-emitting diode could be a curtain lamp? Because it would be
3 one or more light strings? I'm trying to figure out here, where is the
4 argument in response to that? In a set of logical progression?

5 MR. RAJAN: Yes. Thank you. So respectfully, Your Honor, I
6 would say that a single LED being a curtain lamp is not something that's
7 contemplated anywhere in the '546 patent. And this paragraph here, I think
8 what this sentence is saying, if it's really saying anything, is that, if we look
9 at these diagrams of LED strings that are shown in Figures 7 and Figures 8,
10 there could be a string -- the strings could have different lengths. So you
11 could have a string that has one light, but the entire curtain lamp is not just
12 that one light. There are other strings with lights on them as well. So I
13 believe that's how this sentence fits into the disclosure of the '546 patent.

14 JUDGE CASS: Okay. Thank you, Your Honor. Thank you, Counsel.

15 MR. RAJAN: So turning to Slide 29, and then 30, the next topic I'd
16 like to discuss is that there's no reason to add a transistor to the Kuang or
17 Lys references, referring to Grounds 2 and 4. Looking at Slide 31, the
18 petition acknowledged that both Kuang and Lys do not disclose a slave
19 control unit that has a transistor electrically connected to the signal
20 processor. So for both of these grounds, the petition combines Kuang and
21 Lys with the Debevec reference.

22 Looking at Slide 32, it's worth nothing that Debevec was applied in an
23 office action during prosecution, and the examiner had rejected Claim 1,
24 based on Debevec. In the same office action, the examiner also allowed
25 Claim 3 of the '546 patent, which was numbered as Claim 4 during
26 prosecution, allowed this claim over Debevec during examination. And just

1 as Claim 3 was found allowable over Debevec during prosecution, this claim
2 should also be found patentable over Debevec in this proceeding.

3 Skipping to Slide 35. Now the petition cited for Debevec to provide
4 a transistor that the petition acknowledged was missing from Kuang and
5 Lys. And Debevec discloses a transistor that's used in a feedback circuit
6 used to calibrate the brightness of the LEDs based on temperature. So the
7 petition pointed to this LED brightness control as the reason for adding a
8 transistor to Kuang and Lys, which is shown at the bottom half of the slide.

9 But the problem, Your Honors, is that Kuang and Lys already have
10 their own brightness control mechanisms. And if we look at Slide 36, we
11 can see that Kuang has brightness control. Kuang discloses controlling LED
12 intensity by a pulse-width modulation of the signals that are sent to the
13 LEDs. And Kuang also has the temperature feedback circuit that adjusts
14 LEDs for brightness control.

15 So because Kuang has this functionality of brightness control, the
16 reasons that Petitioner gave for adding a transistor to Kuang are really moot.
17 And a POSITA wouldn't have had found it obvious to modify Kuang, based
18 on the Debevec reference in Ground 2.

19 On Slide 37, the same is true with respect to Ground 4, and the Lys
20 reference. Lys discloses controlling LEDs, using pulse-width modulated
21 signals, and it has a controller that adjusts LED output intensity. So, again,
22 Lys has this functionality of LED brightness control using other components
23 and other mechanisms. So, a POSITA wouldn't have found it obvious to
24 now add a transistor from Debevec.

25 Now after seeing the Patent Owner's arguments on this topic, the
26 Petitioner took an eraser to its grounds, and wiped out the Debevec

1 reference, as we see on Slide 38. In the Petitioner's reply, they raise this
2 new argument that Kuang and Lys each meet Claim 3 without needing
3 Debevec. This is a new theory that wasn't in the petition grounds, but it also
4 directly contradicts the petition stating, and admitting, that Lys and Kuang
5 both do not disclose the claim transistor.

6 Now at the bottom right hand of the slide, this is still -- whether or not
7 Lys and Kuang have the functionality of brightness control, doesn't go to the
8 core issue here that there's still no showing that it would have been obvious
9 to add a transistor to either reference. And specifically there's no showing
10 that the references have this transistor that's electrically connected to a signal
11 processor in the slave control unit of Claim 3.

12 I'd like to go to Slide 48, discussing the Hiroyuki reference, and three
13 issues with respect to the Hiroyuki grounds. The first issue, starting at Slide
14 49, is that Hiroyuki lacks pins. And on Slide 50, we have the language of
15 independent Claim 4, and we can see there are multiple recitations of pins,
16 and some of these pins in the claim are called terminal pins. The petition
17 had asserted that terminals in Hiroyuki meet the pins of Claim 4, but there's
18 multiple problems with this.

19 The first problem is that the claim language has both the words
20 terminal and pin, and again, like we saw with the signals, controlling
21 synchronous signals, the presence of both of these words raises the
22 presumption that they should have different meanings and should be given
23 individual weight in consideration.

24 Turning to Slide 51, the second issue is that Petitioner hasn't
25 established how Hiroyuki discloses the claimed pins under some of their
26 own interpretations and definitions that they gave for pin. But Dr. Schubert

1 has testified that a pin can be understood as a pointed terminal, and the
2 Petitioner also cited a definition on the right hand of Slide 51, that says a pin
3 can be a short pointed wire, which is consistent with Dr. Schubert's
4 testimony of a pin being a pointed terminal.

5 On Slide 52, however, we can see that what Hiroyuki shows, which is
6 Figure 1 of Hiroyuki on the slide here, and Hiroyuki doesn't show pointed
7 terminals or pointed pins -- pointed wires, that is. Item 64, which are the red
8 dots in this figure, are circled, and this is what Hiroyuki calls terminals in
9 the reference. Now Hiroyuki doesn't say that these terminals are pointed or
10 that they're pointed wires.

11 Now earlier, Mr. Handy was discussing about various definitions of a
12 pin being a terminal, and a terminal being a point of connection for the
13 conductors. And the Petitioner also tried to draw parallels between
14 schematics in the '546 patent and Hiroyuki. But there's two important
15 distinctions here.

16 First, it's true that the '546 patent -- the patent doesn't have reference
17 numbers in the figures for pins and terminals. So it's true that the patent
18 doesn't discuss or show the physical elements, but it also doesn't have those
19 items in the figures, and then, say that these are terminals or that these are
20 pins. So there are differences between Hiroyuki's figures and disclosures,
21 and the '546 patent.

22 Second, the Petitioner is again conflating multiple claim terms into
23 one by trying to define a pin as a terminal and then determine define a
24 terminal as something that's very broad. So because the claim language has
25 both words in it, those words need to be given individual weight and
26 consideration, which the Petitioner's tried to avoid.

1 JUDGE MCSHANE: Counsel. Just a quick one. I'm sorry I didn't
2 give you a prior notice, but you're going to start to run into your rebuttal
3 time fairly soon, say, in about four minutes or so. And you can --

4 MR. RAJAN: Okay. Thank you.

5 JUDGE MCSHANE: -- you can go over if you'd like, but you're
6 going to start to eat away at your rebuttal. Okay.

7 MR. RAJAN: Thank you. Thank you, Your Honor. Thank you.
8 Turning to Slide 53, Hiroyuki lacks a signal processor. So on Slide 54, we
9 have the language of Claim 8 at the top, which recites a slave control unit
10 that includes a signal processor. On the right hand of this slide, we see
11 Figure 6 from the '546 patent with an example of a slave control unit
12 showing the signal processor in blue.

13 Now the Board had asked for the parties briefing on signal processor,
14 and our papers explained that a signal processor in this case is a processor
15 that handles signals. And the signals are more than just electrical power. In
16 this case, the signals transmit information related to the operation of the
17 LED lights.

18 Now this is supported by the claim language, which says that there are
19 control signals and there's synchronous signals. And this is also supported
20 by the Microsoft Computer Dictionary definition of signals, which say that a
21 signal is an electrical quantity that can be used to transmit information. So
22 again, a signal is more than just power.

23 Looking at Slide 55, the petition points to what Hiroyuki calls a
24 constant current circuit, and the Petitioner said that this acts as a signal
25 processor. What this constant current circuit is in Hiroyuki is a combination
26 of a transistor and a resistor, but the petition didn't explain why this

1 transistor resistor combination that is used to regulate a power supply meets
2 the signal processor of Claim 8.

3 And I'd like to just point out here that in other grounds, in the petition,
4 the Petitioner did map an actual processor of other references to the signal
5 processor in the claims, and we didn't argue those other mappings. But with
6 respect to this mapping, the Board should maintain its preliminary finding
7 that the petition was deficient.

8 Looking at Slide 56, it's also important to note that the circuit that
9 appears in Hiroyuki, which the Petitioner maps to the signal processor,
10 which is this transistor resistor combination, also appears in examples in the
11 '546 patent. And on Figure 6 here, from the '546 patent, we can see that
12 there's a transistor resistor circuit circled in green and purple, and that's
13 different from the blue signal processor in this figure. And we believe this is
14 another reason why the '546 patent distinguishes a signal processor from a
15 transistor resistor combination, which is in Hiroyuki.

16 On Slide 57 is the third topic about Hiroyuki, and that is that there's
17 no motivation to add a microcontroller to Hiroyuki. At Slide 58, at the top,
18 we have the language of dependent Claim 5 and independent Claim 8,
19 stating that there's a master control unit that includes a microcontroller. And
20 at the bottom of the slide, we can see that the Petitioner acknowledged that
21 Hiroyuki lacks the microcontroller. So the dispute here is whether it would
22 have been obvious to add a microcontroller to Hiroyuki.

23 Turning to Slide 59, we submit that there is no motivation to add a
24 microcontroller to Hiroyuki. Shown on this slide, again, is Figure 1 from the
25 Hiroyuki reference, and what this figure shows is a complete circuit of a
26 completed device. Hiroyuki discloses this complete device and lists all the

1 components that are needed for it, on the right hand side. And if one were to
2 add a microcontroller, it's not clear where someone would add the
3 microcontroller in the circuit, or how they would add it, and how the rest of
4 the circuit would change if you had a microcontroller.

5 Now these are questions that Dr. Lebbby had highlighted, and the
6 Petitioner and Dr. Schubert never answered, which leaves open questions
7 about the obviousness of modifying Hiroyuki, and this also goes to the issue
8 of there not being a showing of a reasonable expectation of success in
9 modifying Hiroyuki.

10 But in Slide 60, and more importantly, adding a microcontroller
11 would be contrary to Hiroyuki 's teachings. Hiroyuki discloses through
12 several passages that are shown on the right-hand side here, a lighting device
13 that is low cost, nature, thin and designed to be a simple circuit structure.

14 Turning to Slide 61, we can see that adding a microcontroller would
15 run contrary to all of those goals in Hiroyuki. And Petitioner doesn't dispute
16 that adding a microcontroller could increase the cost, likely increase the size
17 of the device, and also add complexity. Because Dr. Schubert himself
18 indicated that adding a microcontroller would then also require
19 programming the microcontroller, and would involve tuning of Hiroyuki's
20 device, which would really create something different from what the simple
21 circuit that Hiroyuki disclosed is. And for these reasons, and the additional
22 reasons in our briefing, we submit that a POSITA wouldn't have modified
23 Hiroyuki to add this microcontroller.

24 So to summarize, Your Honors, on Slide 62 we have all six grounds
25 shown again. We ask that the Board reverse its preliminary finding,
26 regarding Claims 1 and 2, and Ground 1, and uphold its findings with

1 respect to Grounds 5 and 6, and find that all claims and all the grounds are
2 patentable. I know I didn't touch on all areas of our slides, but we're
3 comfortable resting on the briefing with respect to the other issues.

4 JUDGE MCSHANE: Okay. Well, thank you, Counsel. You're going
5 to have, let's say, ten minutes for rebuttal -- or surrebuttal.

6 MR. RAJAN: Thank you.

7 JUDGE MCSHANE: And with that, we'll turn it over, back to Mr.
8 Handy.

9 MR. HANDY: Thank you, Your Honor. Just a few points I do want
10 to respond to. I heard the phrase, you know, gotcha, and we're dropping new
11 arguments out of the blue, such as the LED string argument. I just wanted to
12 point out, and I don't think anything I'm saying is quite, you know,
13 instructive. The Board understands, understands this, understands the proper
14 scope of replies. But everything in Dr. Schubert's declaration is being, has
15 been, provided in direct response to arguments from Dr. Lebby.

16 Now, there's nothing that is out of the blue and isn't responsive to
17 critiques in opposition. And as far as the LED argument is concerned,
18 there's certainly no gotcha there. The response was in view of Patent
19 Owner's characterization of string, as a term, apparently being limited to
20 some sort of physical configuration. And so all Dr. Schubert opined in reply
21 was that, to the extent there's an argument here, that it must be limited to
22 some physical attribute.

23 Again, there's a lot of attempts to limit these terms to physical
24 structures that aren't disclosed. But for with respect to string, to the extent
25 that is a principle argument of distinction with the prior art. Dr. Schubert
26 makes the point in response that the scope of this term can encompass a

1 single LED. And so we contend that there's no gotcha moments here. And
2 everything that Dr. Schubert opines is in, you know, direct response.

3 I did want to -- I know that I was asked about Hiroyuki, and I was
4 asked a question about the current in the, what's Item 72 being a constant
5 current circuit? And yes, if I'm understanding it, does output a constant
6 output. I believe that, you know, we understand this to be filtering because
7 it modifies, say, an input. You know, say a variations in an AC power
8 supply, it modifies the input, say a voltage signal, into one that is constant,
9 and so that type of modification or filtering, in our opinion, satisfies the
10 signal processor limitation in Hiroyuki.

11 I mean, if there's anything in particular, there's a lot of arguments that
12 have been thrown in this hearing, and at this point I'm happy to follow up on
13 anything that, you know, the Board may have. If there are particular
14 arguments that the Board could use. I guess one last thing I would say is,
15 you know, to the extent there are arguments in the papers over, you know,
16 obviousness and arguments, much like, you know, the reply standard that
17 Patent Owner is imposing, or trying to impose.

18 You know, there isn't a magic word here, over say, likelihood of
19 success. And if Dr. Schubert is explicitly calling out as such, he has done
20 so. If he has not, certainly arguments supporting a motivation to combine
21 have often been found, by the Board or in other courts, as being indicative of
22 a likelihood of success. So there isn't some bright line delineation of these
23 arguments in relation to obviousness.

24 And so all we ask is that, you know, is the Board will take a look at
25 Dr. Schubert's opinions, his motivations to combine, and appreciate that, you
26 know, it's not about buzzwords all the time. It's not about having a strict

1 delineation of what arguments relate to motivation to combine versus
2 likelihood of success. But in view of disclosures in the prior art, you know,
3 that is the question is whether or not the Petitioner has met its burden. So
4 with that, again, I guess I will stop talking. But if there's anything specific,
5 I'm happy to try to address it now.

6 JUDGE MCSHANE: Okay. Well thank you, Mr. Handy. I'm not
7 hearing anything from my colleagues, so with that, I'll turn it back to Mr.
8 Rajan. And so you're going to have ten minutes. But actually, if I will note,
9 an answer reply, generally -- well, you're limited to presenting surreply to
10 Petitioner's reply, and then I think I asked you one question, so you can
11 address that too.

12 MR. RAJAN: Yes. Thank you, Your Honor. And that is the only
13 thing that I really wanted to address on surreply. We did have in our table
14 Claim 8 for Lys and master control unit. You're right, Your Honor. We
15 didn't raise specific arguments on Claim 8, so that -- I believe that was a
16 typo. The issue there had to do more with the voltage regulator and the
17 microcontroller aspects of the master control unit, which related to Claim 1
18 and its dependents. So yes, we do not specifically call out the lack of a
19 master control unit for Claim 8, for Lys.

20 JUDGE MCSHANE: Thank you.

21 MR. RAJAN: Thank you, Your Honor.

22 JUDGE MCSHANE: Any other questions, colleagues? Seeing "no"
23 nods. Okay. So the case is submitted and taken under advisement. We
24 thank the parties for your excellent argument, and all the preparation that
25 went into the argument. We know that there's a lot of material that you had
26 to cover here, and we do appreciate you working within the time constraints

1 that we have. So thank you. And the judges are going to drop off now, but
2 if the parties could stay on the line because the court reporter may have
3 some spelling questions for you and the like. So, with that, we're adjourned
4 and thank you all very much.

5 (Whereupon, the above-entitled matter went off the record at 2:53
6 p.m.)

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Patent 8,884,546 B2

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