

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDIATEK, INC.,
Petitioner,

v.

PARKERVISION, INC.,
Patent Owner.

IPR2024-00796
Patent 7,483,686 B2

Record of Oral Hearing
Held: September 9, 2025

Before MICHAEL R. ZECHER, BART A. GERSTENBLITH, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

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P R O C E E D I N G S

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JUDGE ZECHER: All right. Good morning. My name is Judge Zecher. I have with me my colleagues, Judge Gerstenblith, and Judge Ahmed, who's online here. First off, welcome to the PTAB. I know we had some complications this morning, but hopefully, we've got everything worked out. This oral argument is for IPR2024-00796. The claims at issue are Claims 1 through 22 of U.S. Patent No. 7,483,686, otherwise known as the '686 patent. We have Petitioner MediaTek, Inc., and Patent Owner ParkerVision, Inc.

I'm going to go ahead and start the hearing by taking a roll call for the parties. For those in person, please come up to the lectern and speak into the microphone there.

But let's start with Petitioner MediaTek, Inc.

MS. KAISER: Good morning, Your Honor. Jessica Kaiser, lead counsel for Petitioner MediaTek, Inc., from the law firm Perkins Coie, LLP. And along with me are Evan Day and Kyle Canavera, also from Perkins Coie.

JUDGE ZECHER: Okay. Ms. Kaiser, are you going to be presenting the arguments today?

MS. KAISER: I will be. And Mr. Canavera will be doing a portion of the argument as well.

JUDGE ZECHER: All right. Thank you very much.

Can we hear from Counsel for Patent Owner ParkerVision? Mr. Charkow, can you hear us?

1 USHER: Counsel, you need to unmute your mic before speaking.

2 JUDGE ZECHER: Are we having some technical problems, or?

3 Let's go ahead and go off the record until we get Patent Owner's

4 counsel back online. Thank you.

5 (Whereupon, the above-entitled matter went off the record at 11:02

6 a.m. and resumed at 11:04 a.m.)

7 JUDGE ZECHER: All right. Let's go back on the record.

8 Counsel for Patent Owner, can you -- just to verify that you can hear

9 us?

10 MR. CHARKOW: This is Jason Charkow, and I can hear you.

11 JUDGE ZECHER: Okay. Thank you, Mr. Charkow. Did you hear

12 the introduction here, or do we need to restart?

13 MR. CHARKOW: No, I didn't hear any introduction.

14 JUDGE ZECHER: Okay.

15 MR. CHARKOW: this is the first time I'm hearing the board.

16 JUDGE ZECHER: Okay. Let's go ahead, and we'll recycle this real

17 quick.

18 Can -- is -- Chuck, is the video working here? We're not seeing it on

19 our end.

20 USHER: Yes, sir. Let me double-check here.

21 JUDGE ZECHER: Okay. One more minute.

22 USHER: Let's see. It toggled off. Can you see him now, sir? Maybe

23 just see one more time.

24 JUDGE ZECHER: Yeah, we can see -- he's on the back screen. any

25 way you can put him on the side screen here, Chuck? The monitor doesn't

26 appear to be working.

1 USHER: Yes, it was around here. Stand by please.

2 JUDGE ZECHER: All right.

3 USHER: And you don't see him on the side screen?

4 JUDGE ZECHER: We do not.

5 USHER: Okay. How about now?

6 JUDGE ZECHER: Yes. We see him now. Thank you.

7 USHER: No problem.

8 JUDGE ZECHER: Okay. All right. Let's start this again real quick
9 since we have Mr. Charkow online. I'm going to go ahead and do a quick
10 intro, just so we have it clear for the record. I'm going to ask for
11 appearances from counsel again, and then we'll begin. So this is an oral
12 argument for IPR2024-00796. The claims at issue are Claims 1 through 22
13 of U.S. Patent No. 7,483,686, otherwise known as the '686 patent. We have
14 Petitioner MediaTek, Inc., and we have Patent Owner ParkerVision, Inc. I'd
15 ask that we take appearances from counsel.

16 Petitioner, please approach the lectern and provide your appearances.

17 MS. KAISER: Good morning, Your Honor. Jessica Kaiser on behalf
18 of Petitioner MediaTek. With me is Kyle Canavera and Evan Day. We are
19 all from the law firm of Perkins Coie. And I will be presenting, and Mr.
20 Canavera will be presenting part of the argument. Just for clarity of the
21 record, Your Honor, I believe it's Claims 1 through 20, and so I just wanted
22 to mention that point of clarification.

23 JUDGE ZECHER: Thank you, Ms. Kaiser. You are correct. It's
24 claims 1 through 20. My bad.

25 Can we have appearances from Patent Owner, ParkerVision, Inc.?

26 MR. CHARKOW: Yes, Your Honor. This is Jason Charkow of the

1 Daignault Iyer firm on behalf of ParkerVision, the Patent Owner. With me
2 today I have my colleagues, Stephanie Mandir and Anderson Tome.

3 JUDGE ZECHER: Okay. And Mr. Charkow, are you going to be
4 presenting arguments today?

5 MR. CHARKOW: I will be presenting all the arguments today, yes.

6 JUDGE ZECHER: Okay. Thank you very much.

7 All right. So a few quick housekeeping matters before we get started.
8 We entered the hearing order. I believe it was Paper 25. Each party is going
9 to have 60 minutes of total argument time. I'm going to start the clock at 60
10 minutes, so it's going to count down. You can, of course, reserve whatever
11 rebuttal or surrebuttal that you deem necessary, but we're just going to keep
12 one clock for each party, so you're very much aware of the time that you
13 have left.

14 Regarding who goes first, Petitioner has the burden of persuasion, so
15 they will present their case in chief first. For the benefit of Patent Owner
16 and actually the panel here -- we have to do back-to-back arguments today,
17 so we're going to take some brief breaks. The first one being after Petitioner
18 presents their case in chief, we'll take a quick break. Then Patent Owner
19 will present their responsive arguments, at which point we'll take another
20 quick break, and then we'll let the parties do rebuttal back-to-back. So that's
21 how the hearing is going to play out.

22 We'll go ahead and turn the floor over to Ms. Kaiser to present her
23 arguments.

24 MS. KAISER: Good morning, Your Honor, and may it please the
25 board. I represent Petitioner MediaTek, and this case really is about
26 ParkerVision's repeated attempts to read more into the challenge claims than

1 what is recited and to ignore the level of ordinary skill in the art. For the
2 reasons in our papers and as I'll explain more today, none of these arguments
3 undermine Petitioner's showing of unpatentability.

4 JUDGE ZECHER: Ms. Kaiser, just before you continue, it looks like
5 we're getting some echo in the hearing room. So if you're not otherwise
6 speaking at this time, please mute your mic.

7 MS. KAISER: If we can go to Slide 2, and I'll be referring to the slide
8 numbers in Petitioner's demonstratives. So I'm going to start by giving just a
9 brief overview to set the stage for the arguments, and then I'm going to
10 discuss claim construction, primarily the claim term "energy transfer signal."
11 And then I will turn to issues that are specific to Ground 1, which is the
12 Nevo-Avitabile ground. And then I will turn it over to my colleague, Mr.
13 Canavera, to talk about Ground 2, which is the Young-Estabrook ground.

14 If we can go to Slide 4. As Your Honors are aware, there are three
15 grounds in this proceeding, and I want to make sure that you all have time to
16 ask all the questions that you want about all the grounds, because I
17 understand that now the board will be addressing all the grounds in the final
18 written decision. But really, there's two grounds here because the parties
19 agree that Ground 2B stands or falls with 2A. It was really brought as an
20 alternative in case the public accessibility of the thesis was disputed, and
21 Patent Owner did not dispute that.

22 So it really boils down to two grounds here. And as far as those two
23 grounds, the teachings of the primary references also really are not disputed.
24 It's really the teachings of the secondary references that Petitioner relies on
25 for the down conversion circuit or the frequency translation module that are
26 at issue.

1 And if we go to Slide 5, in my introduction, I mentioned briefly about
2 the person of ordinary skill in the art. And I just want to highlight here,
3 there's pretty long articulations of the definitions, but they're essentially the
4 same. And it's important to recognize that both require specific experience
5 in the field of RF circuit design or RF circuit systems. And so the person of
6 ordinary skill looking at these references and looking at the combinations of
7 references is not, you know, someone just -- your grandma off the street.
8 This is someone who knows about these systems. If we go to Slide 6, it's
9 also --

10 JUDGE AHMED: Ms. Kaiser --

11 MS. KAISER: Yes?

12 JUDGE AHMED: Let me interrupt you. This is Judge Ahmed. So
13 when you say RF circuits for the person of ordinary skill in the art, does that
14 include radar systems as well?

15 MS. KAISER: I don't think there's evidence in the record about that,
16 Your Honor. But if you're referring to the Avitabile reference, it also
17 references communication systems, and certainly, RF circuits would
18 encompass that.

19 JUDGE AHMED: Okay. Thank you.

20 MS. KAISER: Going back to Slide 6, it's also important to note there
21 are no disputed issues with the dependent claims. So really, all the disputed
22 issues here only have to do with the independent claims. Claim 11 being the
23 method claim, and Claim 11 actually has a few additional limitations that
24 aren't present in Claim 1, that is the apparatus claim. And featuring
25 prominently in the parties' briefs is the claim term "energy transfer signal"
26 that you see here in Limitation FTM-1.2. And it's important to note the

1 context of that limitation, which is not just an energy transfer signal, but a
2 switch configured to operate according to an energy transfer signal.

3 So I want to turn to that. And if we go to Slide 11, this is the parties'
4 proposed constructions in this proceeding. And so MediaTek proposed in its
5 petition a plain and ordinary meaning for this term, whereas ParkerVision
6 really has a quite lengthy construction that tries to read in four different
7 limitations into this one term. And so ParkerVision's construction would
8 require an independent control input, an energy transfer system, pulses, and
9 non-negligible apertures. Now, if you look at Slide 12, in the co-pending
10 District Court involving the same parties, the same patent, both parties
11 agreed that this term should be given its plain and ordinary meaning. But if
12 you --

13 JUDGE ZECHER: Ms. Kaiser, just so I'm clear, the plain and
14 ordinary meaning being a signal that transfers energy; is that what we're
15 saying?

16 MS. KAISER: Generally, Your Honor. I would nuance that slightly
17 and say that it would be a signal that controls the switch and causes it to
18 transfer non-negligible amounts of energy.

19 JUDGE ZECHER: And that's in the context of Claim 11?

20 MS. KAISER: Correct, Your Honor.

21 JUDGE ZECHER: Okay.

22 MS. KAISER: And so if we go to Slide 13, ParkerVision in the
23 -- again, in the co-pending District Court litigation, attempted to read two of
24 the limitations that it wants here for energy transfer signal into the same
25 Claim 11 but through different terms. So ParkerVision wanted to read
26 independent control signal in through its construction of switch, and it

1 wanted to read energy transfer system in through its construction of storage
2 module. The District Court didn't adopt either of these constructions.
3 Rejected them both. And that was, first, the report or recommendation of
4 the special master and then adopted by the District Court. The reasoning
5 from the District Court applies equally here. If we go to Slide 14 --

6 JUDGE AHMED: Ms. Kaiser, let me ask a question. These are based
7 on our prior constructions that the Federal Circuit has affirmed, but they are
8 different terms. And what Patent Owner is arguing is that the energy
9 transfer signal is a very different term, and you have to do a separate
10 analysis. So my question to you is, how much weight do we give to these
11 prior constructions, given that it's an entirely different term?

12 MS. KAISER: Well, Your Honor, I think it's important to consider
13 the prior constructions because all of these are related patents and
14 ParkerVision made similar arguments. But I agree that you have to look at
15 these particular claims, and, you know, when you do -- and we can sort of
16 take each part of ParkerVision's proposed construction and talk about that.

17 And maybe I'll start with energy transfer system, because
18 ParkerVision argues that through our plain and ordinary meaning that we're
19 reading out the term energy transfer, and that's just not true. If you look at
20 these claims, Claim 11, and you look at the transfer of energy that is recited,
21 it is the transfer of energy between the switch -- or from the input signal
22 through the switch to the capacitor. And the signal that goes to the switch
23 that causes it to close is what's causing that transfer of energy. And there's
24 no dispute that the amount of energy that is transferred in any of the -- in any
25 of our prior references, the two secondary references, is non-negligible. And
26 so that signal that's applied to the switch in the context of Claim 11 is an

1 energy transfer signal.

2 It's also important to think about what does energy transfer modify,
3 and ParkerVision would like it to modify an entire system that it didn't recite
4 in its claim. But what it actually modifies in the claim is the signal. And
5 again, it causes the switch to close and causes energy to be transferred from
6 the input signal to the storage module, and that's exactly how we're
7 proposing to construe energy transfer signal. So there's really no basis to
8 read in other components of an energy transfer system, which ParkerVision
9 doesn't really even tell us what components of a system they want to read in
10 through energy transfer signal.

11 And I suppose on the energy transfer system, I'll note that in the 2023
12 Federal Circuit case involving a related patent, the Federal Circuit declined
13 to read an entire system and energy transfer system into a single component.

14 JUDGE AHMED: And Patent Owner's argument on that is that
15 construction was based on lexicography, and that is missing here, so we
16 don't have to be consistent with that in construction. How do you respond to
17 that?

18 MS. KAISER: It's true that part -- that construction was based on
19 lexicography for storage module, but it also was based on looking at the
20 specification. And I think the Federal Circuit's rationale that there's no basis
21 to read an entire system into a single component, that still holds true here,
22 particularly where, again, energy transfer modifies the signal, the signal that
23 the switch operates, according to you. It doesn't modify the apparatus. And
24 it is recited in Claim 1 as well, the energy transfer signal, which doesn't even
25 recite a storage module.

26 I want to turn quickly to the issue of the independent control input and

1 just note here, again, that this was rejected in the context of the switch and
2 -- both by the District Court and then, in addition, in the prior IPR, the 2021-
3 00346, which was affirmed by the Federal Circuit. And here, the claim term
4 again is -- sorry, I want to be precise about this -- a switch configured to
5 operate according to an energy transfer signal. And the District Court did
6 not agree that the switch has to have an independent control input, but if you
7 read independent control input into the energy transfer signal, that would
8 essentially be the same thing. So ParkerVision is trying to bring in a
9 construction that it lost at the District Court through a different term, but
10 really, in actuality, it's the same term.

11 In addition, in our briefs, MediaTek pointed out that there are embodiments
12 in the spec that don't have an independent control input as Patent Owner and
13 its expert defined that term, namely a signal that's separate from the input
14 signal into the switch and the signal output from the switch. There are
15 embodiments that include, for example, feedback loops to the control signal.
16 So for that reason, in addition, an independent control input would not be
17 appropriate to read into energy transfer signal.

18 JUDGE AHMED: So I guess you --

19 MS. KAISER: Go ahead.

20 JUDGE AHMED: Let me interrupt you there. So I guess you're
21 referring to Figure 47. Is it your position that if there is a feedback loop, that
22 signal is no longer independent?

23 MS. KAISER: So if we go to Slide 16, so independent isn't a claim
24 term, and I don't believe it's ever -- an independent control signal is ever
25 discussed explicitly in the specification. So our understanding is based on
26 how Patent Owner defined the term, how they -- you know, what they're

1 trying to say that the signal is limited to. And Patent Owner in its Patent
2 Owner Response said, it would be a signal that is independent from either
3 the input or the output. And so it's our position that a signal that receives
4 feedback from the output is -- would not be independent from the output
5 and, because those are embodiments disclosed in the specification, that it
6 wouldn't be proper to read that sort of limitation in.

7 JUDGE AHMED: Okay. Thank you.

8 MS. KAISER: If we go to Slide 15, a third requirement that Patent
9 Owner tries to read into the energy transfer signal is that it must be pulses
10 and that this refers to the shape of the signal that is supplied to the switch.
11 And Patent Owner is essentially arguing that that signal should be limited to
12 a specific type of wave, pulses and not, for example, sinewaves or other
13 kinds of waves.

14 And it is true that the specification does talk about pulses in numerous
15 places, but it doesn't limit the energy transfer signal to pulses. And in fact, it
16 wouldn't really make sense to do so because the switch -- and Dr. Larson
17 talks about this in his reply declaration, which is Exhibit 1049 at Paragraph
18 24. Dr. Larson talks about that the switch doesn't really care what the shape
19 of the signal is. What it cares about is, has that signal exceeded the switch's
20 threshold voltage to cause it to close and for what length of time? And that
21 can be true for a pulse. It can be true of a wave as well. And so again, we
22 don't think that this limitation is supported by the intrinsic record or how a
23 person of ordinary skill in the art would've understood this particular recited
24 signal.

25 JUDGE AHMED: But do you agree with Patent Owner that the
26 specification does not disclose any other type of energy transfer signal other

1 than pulse signals?

2 MS. KAISER: I believe that's correct, Your Honor. I'm not aware of
3 another example that's disclosed in the specification, but it also doesn't limit
4 itself to pulses. In the interest of time, unless the board has other questions
5 about claim construction, I'm going to turn to Ground 1, which is the Nevo
6 Avitabile ground. If we can turn to Slide 24, I am going to jump right to the
7 disputed issues. And so, one of the issues that Patent Owner raises is this
8 "generated from" limitation, and this is essentially a limitation about the
9 output signal. So this is, a second EM signal is generated from said stored
10 energy. And that is the energy that is stored in the storage module. This
11 term is only in Independent Claim 11. It is not in Independent Claim 1.
12 And so this is disputed about whether Avitabile teaches this limitation.

13 And essentially, what this boils down to, if we go to Slide 25, is
14 Patent Owner's argument that "generated from" requires that the stored
15 energy be part of the second signal. And the -- MediaTek's expert testifies
16 that that's not how a person of ordinary skill in the art would've understood
17 this. In other words, it has to be based on it has to use the energy, the stored
18 energy to generate the signal. But the stored energy doesn't have to form
19 part of the second signal.

20 And if we look at Slide 26, the Federal Circuit looked at this issue for
21 Claim 23 of the '551 patent, which is a patent that the parties talk extensively
22 about, is incorporated by reference into the '686 patent. And the Claim 23
23 includes a very similar claim limitation. And you can see here on the left-
24 hand side of the slide, it talks about a lower frequency signal is generated
25 from the transferred energy. Now, ParkerVision argues that transferred
26 energy is different than stored energy in the limitation that's at issue here.

1 But if you look at the transferred energy in the context of Claim 23, it's
2 pretty clear that it's talking about the same thing. And particularly, you see
3 that the storage module receives non-negligible amounts of energy
4 transferred from a carrier signal. So that transferred energy that's in the
5 storage module in Claim 23 of the '551 Patent is really the same thing as
6 stored energy in Claim 11 of the '686 patent. And here, the Federal Circuit
7 found that the generating limitation does not require that the baseband signal
8 be created by discharging energy from a storage device. And in the record is
9 Exhibit 1054, which is the Weisskopf reference, which is the reference that
10 was at issue in that Federal Circuit case, which is a very similar reference to
11 the Avitabile reference.

12 ParkerVision makes a lot out of this idea of energy transfer versus
13 sample and hold. But it's important to note that the Weisskopf reference was
14 a sample and hold reference. And the Federal Circuit explicitly held that it
15 could satisfy or did satisfy a limitation that is basically the same as the
16 generated from limitation here.

17 Going to transition now to another issue about protocols and
18 standards.

19 And if we go to Slide 31.

20 Again, this is the language of Claim 11. And Claim 11 talks about a
21 control module having a plurality of standard protocol submodules. And for
22 this limitation, Petitioner relies on the Nevo reference, which clearly
23 discloses submodules that operate according to different standards, like Wi-
24 Fi and Bluetooth. And then the two limitations at the bottom of Claim 11
25 talk about operating transceivers in conformance with those standards.

26 If we go to Slide 34.

1 You know, there's been a lot of argument in this -- in the papers in this
2 case about that Avitabile doesn't talk about specifically how you incorporate
3 it into the remainder of a circuit. Avitabile is very specific to the down
4 conversion circuit. And so Patent Owners argued that we haven't shown all
5 the nits and nuggets of how you would implement that circuit and have it be
6 compliant with the specific standard.

7 And there's two points here. One is that that really does ignore the
8 level of skill in the art this person who has experience with RF circuit
9 design. And maybe even more telling than that is a disclosure of the '686
10 Patent itself. And none -- there's nothing in the '686 Patent that would teach
11 a person of ordinary skill in the art, specifically how and what is required to
12 implement the down conversion circuit so that it complies with any -- so that
13 the overall device complies with any specific standard.

14 Now we've got some slides in here and in the sur-reply, and at Dr.
15 Larson's deposition, Patent Owner's counsel asked him a number of
16 questions about a number of different features or metrics for
17 communications, generally. Things like sensitivity and error correction.
18 And in some cases, pointed to those terms in either the '686 disclosure or the
19 '551 disclosure. But in both those disclosures and in Dr. Larson's testimony,
20 there's nothing that really tells you anything about how to implement a
21 standard. And I would invite the Board to look at that testimony in Dr.
22 Larson's deposition that's cited in the sur-reply.

23 And if we go to Slide 70.

24 There are just a few examples here of testimony that Patent Owner
25 cites in its sur-reply. Things like bandwidth control relates to Wi-Fi or
26 Bluetooth. It would -- and his answer was, it would relate to any

1 communication system at all.

2 Let's --

3 JUDGE AHMED: Ms. Kaiser, is this --

4 MS. KAISER: Yes.

5 JUDGE AHMED: Sorry to interrupt you. Isn't the argument here that
6 these systems are so different. Patent Owner argued that Avitabile is about
7 radar systems. And that's the reason a POSITA, who is well versed in RF
8 systems, could not just plug and play that into the Nevo's system, which is
9 more focused on consumer wireless applications. Because in doing so you'd
10 have to keep in mind all these different performance factors that they argue
11 about. It's more of a reasonable expectation of success type of argument.
12 Why is that incorrect?

13 MS. KAISER: Yes, Your Honor.

14 If we could go to Slide 22?

15 I think the argument is really based on a mischaracterization of
16 Avitabile. And if you look, for example, at Avitabile's abstract, as well as its
17 indexing terms, it's focused on down conversion circuits generally. And
18 then if you look at that middle call out, it also, as I mentioned earlier, it
19 doesn't just call out radar. It calls out radar and communication systems.
20 And so that reference itself provides an explicit suggestion to apply its
21 teachings to communication systems like Nevo.

22 In addition, our expert testified about this in his declaration. I mean,
23 his declarations. So -- and as I said before, you know, Avitabile discloses
24 essentially the same components that are in the '686 Patent. And the patent
25 itself doesn't provide any guidance to a person of ordinary skill in the art
26 how to incorporate that circuit into its more black box sort of disclosure of

1 these modules. And so that is also indicative that the patentee expected and
2 understood the level of skill in the art to include doing so. In other words, to
3 making those modifications so that it could be standards compliant.

4 JUDGE AHMED: Okay. Thank you.

5 MS. KAISER: If there are no more questions about Ground 1, then I
6 will turn it over to my colleague, Mr. Canavera, to talk about Ground 2.

7 MR. CANAVERA: Good morning, Your Honor. This is Kyle
8 Canavera on behalf of MediaTek.

9 I'm going to address the Young plus Estabrook Ground.

10 If we could go to the next slide, Slide 37?

11 The issues that ParkerVision raises with Ground 2 are essentially
12 these three shown on Slide 37. They argue that the switch in Estabrook is
13 not configured to operate according to an energy transfer signal. This is a lot
14 of the same arguments about the reading of limitations into the term energy
15 transfer signal that Ms. Kaiser talked about. They also argue that the switch
16 is not configured to subsample and transfer energy. Slightly different
17 argument than the first one, but very similar issues. And then third, there's
18 the argument about the protocols and standards. Again, some issues
19 particular to Estabrook here, but thematically similar to the first ground.

20 So could we go to Slide 38, please?

21 ParkerVision's first argument is that the switch in Estabrook is not
22 configured to operate according to an energy transfer signal. As you can see
23 on this slide on the left-hand side, the switch in Estabrook is a diode. It's
24 controlled by this control signal ILO, and Estabrook explains that only ILO
25 has sufficient voltage to turn on the diode, the switch. And so that's how
26 ILO does in fact turn on the diode.

1 ParkerVision's argument here is really the ILO is not an energy
2 transfer signal, and there are sort of multiple subparts here. So let me
3 address those briefly. The first one they argue is that it is not an independent
4 control input. That's part of their proposed construction. As Ms. Kaiser
5 explained, it's a little unclear what they think that requires. Is it generated
6 independently? In Estabrook that clearly is the case. In Figure 1 of
7 Estabrook, it shows a generator for that signal. Or is it independently input
8 into a switch. That might be after the sur-reply what we would understand
9 their argument to be for this part of their construction.

10 To that latter part, it -- it's best understood as ParkerVision's attempt
11 to read a diode out of the claim. This is -- Estabrook shows exactly how a
12 diode works. You input a voltage to the input. Once it passes a threshold,
13 then the diode turns on and the current can flow. That's just basic
14 -- basically how a diode works in this art, and that's what Estabrook just
15 describes. Their construction saying that you can't do it that way would read
16 a diode out of the scope of these claims. We know that can't be right,
17 because the spec itself says that a diode is an implementation of a switch in
18 their invention.

19 In the petition, Page 71, citing to Larson's opening declaration,
20 Paragraph 246, we discuss how this is one of the primary embodiments of
21 the patent. A diode is the switch. In fact, they give four examples of how a
22 switch might be implemented. In figure 45 A, B, C, and D. Two of those
23 are diodes. One of them has the control signal mixed with the RF signal
24 before it enters the diode. It is practically the same thing as Estabrook. So
25 the argument that somehow Estabrook's diode is not an independent control
26 signal, it can't be right. It would read out significant portions of the spec.

1 Another part of this claim construction argument that ParkerVision
2 has is that Estabrook does not have pulses. As Ms. Kaiser explained, that's
3 -- that should not be read into the claim, like all these other pieces of the
4 specification. One of the -- one of Your Honors asked about the examples of
5 pulses in the specification. I think the right way to look at this is for most of
6 the specification, the energy transfer signal is just a black box. It's literally a
7 box. It can be anything that transfers non-negligible amounts of energy
8 through the switch. Yes, when they give examples, they do tend to be
9 pulses. But that's just -- those are the examples they gave. Those are the
10 ways they explained that you could turn that switch on to pass non-
11 negligible amounts of energy.

12 But for the vast majority of the specification, it's just a black box. It's
13 any signal that performs that activity. In our papers in the Larson reply
14 declaration, Paragraph 24 and Paragraph 90 to 91, he explains that the -- a
15 sine wave is perfectly capable of turning a switch on and off to pass non-
16 negligible amounts of energy.

17 On the right-hand side of -- let's go to Slide 39.

18 Pardon me. On the left-hand side here, we can see that the bottom left
19 is a figure from Estabrook showing when the local oscillator signal turns the
20 diode on and off. And in the blue periods of time, the diode is turned on and
21 current flows through it, non-negligible amounts of energy transfer. When
22 the voltage drops below the threshold voltage for the diode, the portion
23 shown in red, the diode is turned off. Current does not flow. This is
24 certainly doing what the specification requires of an energy transfer signal.
25 And in particular, it's pulsing that switch which is the diode in Estabrook.

26 Another subpart of this claim construction argument is one that was,

1 in truth, only brought in the sur-reply. We'd encourage Your Honors not to
2 take this up, but to the extent you do, I would like to just show that we have
3 in some ways addressed this in the previous papers.

4 Could we go to Slide 53, please?

5 In the sur-reply, in particular on Page 30, also Page 3, ParkerVision
6 argues or rather asserts as fact that sine waves don't have apertures. Only
7 pulses have apertures. To the extent Your Honors take up this argument, we
8 encourage you to point to -- or to look to what they cite for that assertion. In
9 most places, there is no citation. It's just a statement. A statement of fact by
10 attorneys, no citation. The only thing they ever do cite is a single figure,
11 64F, which appears prominently in their demonstratives. I'm sure we'll see it
12 soon.

13 It is literally just a signal, a low gloss rate signal. It pulses and then it
14 continues. There is a curly bracket labeling the pulse, and it says "aperture".
15 To them that would somehow be disclaimer, I suppose, of any other type of
16 signal having an aperture. That is not evidence of disclaimer. That's barely
17 evidence at all. It's also raised for the first time in the sur-reply. It just so
18 happens that Dr. Larson did address a related issue in his reply declaration.
19 Paragraph 25, he explained that in Estabrook, the ILO signal, the control
20 signal, it does create distinct on and off periods. That's really what an
21 aperture is.

22 If we look at the bottom of Slide 53, the parties have agreed that the
23 aperture, at least for the switch, is a period of time during which the claim
24 switch is in its closed state. Closed or on state. Here where they're
25 proposing that the aperture is of the signal, of the control signal, that would
26 mean that the aperture is the period of time when the control signal has

1 sufficient voltage to turn the switch on. And as we just saw in that figure
2 from Estabrook, the ILO absolutely has that. It has distinct on and off
3 period shown by that blue and red color coding that we added.

4 The only final point on the construction of energy transfer signal,
5 ParkerVision says that it must be incorporated in an energy transfer system.
6 As Ms. Kaiser discussed, the Federal Circuit, while yes, construing a
7 different term in the 2023 decision, expressed considerable skepticism that
8 that is the right way to do claim construction. That you see a component and
9 it brings in everything else that a like system would have.

10 I'll note though that for Estabrook, it does not appear that
11 ParkerVision is even arguing that it's not an energy transfer system. They
12 haven't argued that particular fact here, as far as we can tell. And we'll note
13 to the extent that is somehow gleaned from their arguments in the petition, at
14 Pages 75 to 80 we explained why the storage module in Estabrook, which
15 again is where they last argued this, is part of an energy transfer system. It's
16 the same thing for the control signal in Estabrook. So Estabrook is also
17 -- has the features that ParkerVision appears to think make up an energy
18 transfer system.

19 Can we go to the Slide 40, please?

20 The second claim construction argument, or the second argument that
21 ParkerVision makes, again, focused on Estabrook and the control signal
22 ILO, is they say that that signal does not subsample. Their argument is
23 essentially a sine wave can't sample. They think only a pulse can sample.

24 That is not true for the same reason we just discussed for pulse, for
25 aperture. As shown on Slide 40, Estabrook shows exactly how a sine wave
26 can sample. When the voltage of that ILO passes the threshold it turns a

1 switch on. When it goes below the threshold voltage for the diode, it turns it
2 off. This is sampling. It's a -- turning a continuous signal into a
3 discontinuous signal just like ParkerVision seems to think is required.

4 Can we go to Slide 42, please?

5 It's then the result of Estabrook here on the left-hand side of the slide.
6 This is the signal created by sampling the input signal in Estabrook. It is, as
7 we pointed out, the same result as you get on the right-hand side. This is an
8 example from the -- one of the patent specifications incorporated by
9 reference into the '668 Patent. ParkerVision has not, as far as I'm aware,
10 disputed that Estabrook creates the same output signal. It just wants Your
11 Honors to believe that a sine wave can't sample. And that's not true.

12 Can we go to Slide 43, please?

13 The last issue for Ground 1 is the protocol standard arguments. As
14 shown in the slide previously, ParkerVision argues this sort of as not
15 teaching an element. Also, as a motivation to combine issue. These overlap
16 heavily with the arguments that Ms. Kaiser presented, so I will just very
17 briefly touch on these, unless Your Honors have further questions.

18 If we can go to the next slide, please. Oh, pardon me, can you go
19 back one slide?

20 So in Slide 43, I -- I'll just call out again. Ms. Kaiser did this, but I'll
21 just highlight. The claim requires operating according to two protocol
22 standards, right? It doesn't require 802.11. It doesn't require Bluetooth. Just
23 two of them, right.

24 Now if we could go to Slide 44?

25 The Bluetooth and Wi-Fi have come up because those are two
26 examples that the base reference Young discusses. Young discusses those as

1 examples of why you might want to have two radios that can operate
2 independently at the same time, because those two standards happen to
3 operate in the same frequency band.

4 But it would be a mistake to drill down and look at the particulars of
5 802.11, Bluetooth in particular, as ParkerVision has done, which are not
6 required by the claim at all. That's not what is demanded by the claims.
7 And as Ms. Kaiser explained, that's not what the specification of the '686
8 even gives us.

9 If we could go to the next slide, Slide 45, please?

10 As you can see in the field of the invention here, Young really does
11 describe those S2 examples, Bluetooth, 802.11. There's several other
12 examples there. It is not that Young can only work in those two standards,
13 and it's not that Your Honors have to answer is this narrow part of Estabrook
14 compliant with those standards. As we explained, that's a myopic view of
15 how these standards work anyway. Analyzing just the down converter for
16 compliance with the standards makes no sense. Dr. Larson explained that in
17 his reply declaration.

18 And then if you could go to Slide 47, please?

19 As we discussed, this is also not something that ParkerVision's own
20 patent tells us. The result is they're asking for some very specific disclosure
21 not required by the claims. They not even given to us by the specification.
22 That can't be the right way to interpret these claims or to distinguish prior
23 art. So both for this argument about standards and protocols and those two
24 claim element specific arguments for the control signal, ParkerVision is
25 turning away from the claims. It's turning to the spec, trying to pull as much
26 as they can in there, and ask Your Honors to find something that's not in the

1 spec.

2 That's not what we're doing here. We respectfully ask you to find
3 these claims obvious. Thank you.

4 JUDGE AHMED: Mr. Canavera, let me ask you a question.

5 MR. CANAVERA: Yes.

6 JUDGE AHMED: At least on the motivation to combine, isn't it
7 Petitioner's burden to show that these systems would work together,
8 especially given the argument that Patent Owner has raised, that there are
9 different -- they operate on different bands, 2.4 gigahertz v. 1 gigahertz.
10 And Young is all about reducing desensitization, so bringing in two different
11 transmitters with different frequencies would not be feasible. How do you
12 respond to that argument?

13 MR. CANAVERA: Your Honor, we don't deny it's our burden here.
14 We submit that we have satisfied that burden, initially. And then I'd like to
15 answer the more particular question Your Honor asked at the end.

16 These standards are the bread and butter of the person skilled in the
17 art. These are things written for them. They know how to work with them
18 based on this global learning skill of the art that we showed at the beginning.
19 The notion that a person skilled in the art could not adapt, if necessary, a
20 component in this system to work with a well-known industry standard is
21 asking way too much. That's setting the expectations of a person skilled in
22 the art way too low.

23 To Your Honor's very particular question about using different
24 frequency bands and the issue of desensitizing the receivers. Yes, that is a
25 motivation that Young describes, is the concern about desensitizing the
26 receiver chains when you're using two different receivers. You're using a

1 transmitter on one frequency and a receiver on the other. But that's the
2 problem that Young solves. Young solves that by disconnecting the receiver
3 chain that's not being used when the other protocol is transmitting. That's
4 how it makes sure that it's not desensitized. So Young itself solves the
5 problem that ParkerVision is complaining exists.

6 JUDGE AHMED: Okay. Thank you.

7 MR. CANAVERA: Thank you, Your Honor. And we would like to
8 reserve the remaining time for rebuttal.

9 JUDGE ZECHER: All right. Thank you, Mr. Canavera.

10 We're going to go ahead and take a quick break. We won't ask the
11 parties to stand up or anything. We're going to exit, use the bathroom.
12 You're welcome to do that as well. We'll be back, let's say -- I have 11:51
13 right now. Let's do 11:56, and then we'll turn the floor over to Mr. Charkow
14 to present his arguments. Thank you.

15 (Whereupon, the above-entitled matter went off the record at 11:51
16 a.m. and resumed at 11:56 a.m.)

17 JUDGE ZECHER: Okay. I can see Petitioner's counsel is present
18 with us here in the courtroom, or in the hearing room.

19 Mr. Charkow, you still there?

20 MR. CHARKOW: I'm still here. Can you hear me okay?

21 JUDGE ZECHER: We can hear you fine. All right. So whenever
22 you're ready, Mr. Charkow, you can begin.

23 MR. CHARKOW: All right. So I'm going to share my screen. I just
24 want to make sure everybody can see it.

25 Can you see my screen? It says, "Lack of motivation to combine."

26 JUDGE ZECHER: Yeah, we can see it.

1 MR. CHARKOW: Okay, great. So I'm going to start with lack of
2 motivation to combine, because I think Your Honor has got it correct.

3 So the bottom line is that, with regards to motivation to combine,
4 basically what we have here is, we have Nevo and Young have black boxes.
5 Nevo shows just black box transceivers. Young shows radio down
6 conversions demodulators, don't say anything that's inside of those things,
7 provide no information. It's just black boxes. So Petitioner has taken
8 advantage of that and said, okay, well, we could put anything in there.
9 According to Petitioner, you just throw anything in there.

10 And I'll talk about the -- quickly about the level of ordinary skill in the
11 art, because I think it's relevant. And earlier, the question was asked, does
12 RF circuit design in the level of ordinary skill in the art include radar?

13 And I think it -- and to which Counsel stated, sure, it includes radar.

14 Well, under that theory then, RF circuit design would include every
15 sort of circuit design that you could have. That's not what the level of
16 ordinary skill in the art is. Circuit designers don't design every single RF
17 system known to man. That's just not how it works.

18 The RF circuit design that's being discussed in cases like Nevo is a
19 -- as one of Your Honors pointed out, is a consumer -- is a consumer system
20 -- a consumer Wi-Fi, Bluetooth system, whereas, you know, the -- a radar is
21 not something that would be consumer. So I think it's not -- I don't think it's
22 accurate to say RF circuit design of level ordinary skill in the art would
23 include somebody who's skilled in the art -- by the way, it's only, you know,
24 a very limited amount of experience. It's like education and five years of
25 experience. Somebody with that level of experience is not going to know
26 the universe of every RF design. People that design circuits, design circuits

1 for companies like Qualcomm or maybe they design circuits for, you know,
2 people that deal with radar for weather or for air traffic control, Doppler
3 radar. But that's not -- it's not this omnibus, they do everything, and they
4 would have knowledge of everything. And that's kind -- that's what
5 Petitioner is arguing, and that's just -- I don't think that's correct.

6 So let's talk about --

7 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher. Just for
8 clarity of the record, can you announce the slides that you're presenting? I
9 believe you were talking about Slide 19 before.

10 MR. CHARKOW: Sure. Yes. Sorry, Your Honor. So I was talking
11 about Slide 19 originally. Now I'm moving to Slide 21. And so here we
12 have, there's no motivation to combine Nevo and Avitabile.

13 And so what does Nevo deal with? Nevo deals with consumer
14 applications, Bluetooth, 802.11. Avitabile on the other hand, I noticed this
15 conspicuously missing from Petitioner's slides. The title of Avitabile is -- as
16 you can see on the right-hand side, is "S-band digital downconverter for
17 radar applications." You don't even need to go any further. If one of
18 ordinary skill in the art is look -- a POSITA is looking for stuff to say, okay,
19 I have -- working for Nokia or whoever it is, or Qualcomm, or Apple, and I
20 have a consumer application. They're not looking -- they're going to come to
21 Avitabile and see radar applications in the title, and they probably would
22 come to a dead stop at that point.

23 They're not going to then go to Avitabile and say, oh, this is radar
24 applications. Let me look at that. That may be relevant to what I'm doing.

25 It's completely different. And as, also, you see on the right side, not
26 only is it radar, but it's Doppler radar. Doppler radar is used for things like

1 weather. Like when you listen to the weather, they talk about how it's our
2 Doppler radar. And it's used for things like air traffic control and military
3 applications. These are not the same people of ordinary skill in the art that
4 are doing consumer applications and radar applications. Those type of
5 people do not have -- you know, with five years' experience -- even if you
6 use their definition of a POSITA, five years of experience is not giving you
7 the universe of every sort of radio application you could possibly know of or
8 have.

9 And the other thing with regards to Avitabile, they point to the -- Slide
10 22 now. They point to the introduction. And this happens in the
11 background of patents all the time. You talk generally, in this -- you -- in
12 this case, they say radar and communication systems, generally, right? But
13 when the -- they get into Avitabile, they talk about Doppler radar receivers.
14 That's what they talk about. The title is Doppler radar receivers.

15 There is no reason why one of ordinary skill in the art would take
16 Nevo for consumer applications and then say, turn -- come across Avitabile
17 and say, aha, that's the solution that I need. That's what I need to put in the
18 black box of Nevo.

19 I -- respectfully, I don't believe that's the case.

20 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher. Just to be
21 clear, you're not saying that Avitabile is not analogous art, but that one of
22 ordinary skill in the art wouldn't look to its teachings to combine with the
23 primary reference, correct?

24 MR. CHARKOW: Certainly would not combine with the primary
25 reference. I don't think it's -- I don't believe it's analogous art. I think that,
26 you know --

1 JUDGE ZECHER: Well, I hate to -- I don't want to lead you down
2 the wrong road here, but I don't remember seeing an analogous art argument
3 in your briefs.

4 MR. CHARKOW: They raised analogous art for the first time, I
5 believe, and when I looked at the slides, when referring to *In re Bigio*.

6 JUDGE ZECHER: I didn't see a reference to that. Let's just try to
7 stay in the confines of what was argued in the briefs, please.

8 MR. CHARKOW: Okay. Okay. So I -- again, there's no motivation
9 to combine these, Nevo and Avitabile. And just for clarity, the places where
10 we talk about the motivation to combine based on radar applications versus
11 what's in Nevo, which is Bluetooth and Wi-Fi, can be found in POR Page
12 60, where we talk about Avitabile is directed to S-band digital down
13 converted designing, designed for radar applications. And we say it does not
14 account for the protocol-specific modulation, error-correction, and
15 synchronization requirements necessary for Bluetooth or IEEE 802.11
16 operations.

17 On Page 61 of the POR, we also say Avitabile is designed for a radar
18 environment, and we contrast that with Bluetooth and 802.11. In their reply
19 brief, they acknowledge -- the petitioner even acknowledges that -- and these
20 were arguments made with regards to our position that the combination of
21 Nevo and Avitabile do not, together, teach two protocols. They even
22 acknowledge that ParkerVision -- Page 21 of their reply, that ParkerVision
23 regurgitates its standard compliance argument as a motivation to combine
24 argument. So they recognize that we have made this argument about radar
25 vs. 802.11 and Bluetooth.

26 In addition, in our Motivation to Combine section, we also have a

1 POR on Page 63. We specifically talk about how Avitable's
2 downconverter's design would not meet the requirements of Bluetooth or
3 802.11 -- 802.11. And on Page 64 of the -- of our POR, we say the same
4 thing in Motivation to Combine section.

5 So we addressed all the issues. We don't think that they have met
6 their burden to show that one of ordinary skill in the art would go and
7 combine Nevo and Avitable. The other issue, which -- combining Nevo
8 and Avitable -- well, I'll get into that later.

9 So then with regards to Young and Estabrook --

10 JUDGE AHMED: Mr. Charkow?

11 MR. CHARKOW: Yes, sir.

12 JUDGE AHMED: Let me interrupt you. In the Patent Owner
13 Response, specifically with reference to motivation to combine, is there an
14 argument that Avitable is radar systems and that's not compatible with the
15 Wi-Fi or 802.11 Bluetooth-type technologies?

16 MR. CHARKOW: Well, yeah. Well, yes. We say in the POR
17 -- certainly in our sur-reply and in the POR, we specifically -- on Page 63 of
18 the POR, we says, "MediaTek fails to address the other performance
19 factors," and we give examples, "and does not explain how Avitable's
20 downconverter design would meet these requirements for Bluetooth or" 80
21 -- "for IEEE 802.11." And when we talk Avitable's downconverter design,
22 we talk about radar applications.

23 JUDGE AHMED: Okay.

24 MR. CHARKOW: And again, that -- and it's -- similarly, we had that
25 discussion on Page 64, on the Motivation to Combine section.

26 JUDGE AHMED: Okay.

1 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher. How would
2 you respond to Petitioner's position that the claims themselves aren't limited
3 to these examples of Bluetooth and IEEE 802.11, and therefore, this whole
4 notion of combining those specific standards with Avitabile that you're
5 making here on page 63 is not amenable? What's your response to that?

6 MR. CHARKOW: Well, my response is, you have to look at some
7 -- okay. So they have the burden. They have to show that there would be a
8 motivation to combine two -- that -- motivated to combine Nevo and
9 Avitabile. And there would be two standards, whatever those standards are.
10 We chose Bluetooth and 802.11, because those were the ones specifically
11 discussed in Nevo. That's why we -- yeah. That's why we chose 802.11.

12 But again, they have the burden to show that two -- some standards
13 -- any two standards would be -- would -- could be met when you -- that
14 there'd be motivation to combine Nevo and Avitabile. And Nevo doesn't
15 talk about radar applications. There's no concept of radar applications. It's
16 not related to radar applications, which is a very different field than Wi-Fi
17 and Bluetooth, which is what Nevo is designed for.

18 JUDGE AHMED: Mr. Charkow, is it necessary for both Nevo and
19 Avitabile to teach these standards? Nevo already mentions the standards.
20 And if all they're getting from Avitabile is the downconverter, why are those
21 standards important? Why does Avitabile need to also conform to those
22 standards?

23 MR. CHARKOW: I was going to get to that, but I'll address it now
24 because you asked. So it's -- so when -- even Petitioner recognizes that they
25 are taking the combination of Nevo and Avitabile. It's a combination; you
26 can't look at them independently. So what you have to look at is, you have

1 to look at Nevo where you've placed Avitabile's configuration
2 downconverter into Nevo. Okay.

3 And there is no indication that that combined system -- they have
4 provided no evidence that that combined system would work for multiple
5 standards. And certainly they have provided no evidence that to do so
6 would not require undue experimentation.

7 JUDGE AHMED: Okay. Thank you.

8 MR. CHARKOW: So again, my point is that they argue -- you know,
9 they're arguing -- and they've stated before, you can't look at Nevo in
10 isolation. So you can't just look to Nevo and say, oh, it talks about Wi-Fi, it
11 talks about Bluetooth, that's good enough.

12 That -- you can't do that in isolation because this is combination. You
13 need to look at the combined reference together and what that combined
14 reference would teach. And so therefore, that -- they have a problem,
15 because they haven't shown that that combined -- they've done nothing to
16 show that that combined reference is -- can meet Wi-Fi or Bluetooth
17 standards or any two standards for that matter.

18 JUDGE ZECHER: Mr. Charkow --

19 MR. CHARKOW: Yes, sir.

20 JUDGE ZECHER: -- this is Judge Zecher. How would you respond
21 to their argument that your specification lacks the requisite detail for
22 combining these standards with the down converting circuitry? So in other
23 words, I think as I understand them to argue, that a person of ordinary skill
24 in the art would understand how to do this, because your patent, given its
25 silence in the spec, kind of supports that notion. What would you say about
26 that?

1 MR. CHARKOW: It -- it's -- it -- it's not silent in the specification,
2 Your Honor. So if you go to -- we'll go to slide -- so I had a lengthy
3 discussion with Dr. Larson on this issue. And -- well, sorry. Hold on a
4 moment.

5 Right. So down here now. So it's Slide 30. So they're saying that it
6 -- there's completely -- it's complete -- the patent is completely 100 percent
7 silent on how to deal with, you know, meeting standards, right? And that's
8 not the case. That's not true. And what we pointed out in our sur-reply in
9 response to their argument that there's nothing whatsoever in the patent to
10 talk about how you meet Wi-Fi and Bluetooth standards, we pointed out that
11 the patent provides capacitor values. The patent talks about providing an
12 amplifying, filtering stage after the switch capacitor to provide additional
13 receiver sensitivity, bandwidth control, or signal conditioning, and using
14 differential input-output configurations and pulse signals designed to avoid
15 interference. And when I asked Dr. Larson about all these things, he
16 admitted. So he admitted that these all relate to Wi-Fi, Bluetooth, and
17 meeting Wi-Fi, Bluetooth standards.

18 Now, they cherry-picked in the -- towards the end of their
19 presentation, they cherry-picked Larson's statements during his deposition.
20 But I could tell you I was sitting there and walked him through each one of
21 the portions of the specifications that specifically talk about ways to deal
22 with issues related to Wi-Fi and Bluetooth. In addition, on Slide 31, there
23 was also formulas for calculating the frequency of the control signals based
24 on frequency of the input signals, how to achieve frequency selectivity
25 before down conversion, and using the impedance matching. Again, Dr.
26 Larson -- and I encourage the board to look at the sites that we cited, not just

1 the couple of cherry-picked sites that they pointed to.

2 But the bottom line is, he admitted every single time when I asked
3 him, yes, this relates for Wi-Fi and Bluetooth standards. And even if he
4 said, oh, it's generally related to Wi-Fi and Bluetooth and other stuff, it
5 doesn't make a difference because it -- he admitted that it was related to Wi-
6 Fi and Bluetooth. So it is incorrect for them to argue that there was nothing
7 in the patent specification to explain how to implement the system in a -- or
8 how to make this work for Wi-Fi, Bluetooth standard. And their own expert
9 admitted that during deposition.

10 Does that answer your question, Your Honor?

11 JUDGE ZECHER: Yeah. Thank you for your response.

12 MR. CHARKOW: Okay. So going back to Young and Estabrook
13 now, the -- on the motivation to combine. So we're going to Slide 24. So on
14 Young and Estabrook, again, there is no motivation to combine Young and
15 Estabrook. Young deals with things like 802.11, Bluetooth, HomeRF,
16 consumer-type things. In particular, in those wireless net or those wireless
17 standards require 2.4 gigahertz or above, 2.4 gigahertz, 5 gigahertz.
18 Estabrook is specifically designed for 1 gigahertz or lower. So why would a
19 person of skill in the art looking at Young, who comes across Estabrook,
20 say, oh, I need something to deal with, you know, 2.4 gigahertz -- and it's
21 -- it says specifically in Young, "in the 2.4 gigahertz band, there are many
22 existing and emerging standards." And then it lists 802.11, Bluetooth,
23 HomeRF.

24 And then comes across Estabrook, and why would they say, oh, I'm
25 going to combine Estabrook with Young, where Estabrook says, listen, use
26 this for 1 gigahertz or lower? And specifically, they certainly have not

1 shown that they're -- that doing so would not require undue experimentation.
2 Even if somebody did come across it, and for some reason, say -- even
3 though this says, you know, use something that's two to five times greater in
4 frequency -- I have to handle two to five times greater frequency in Young
5 than in Estabrook -- even if they did -- even if somebody did have -- come to
6 the conclusion that -- looked at Estabrook, which they wouldn't have done,
7 which is 1 gigahertz or lower, they haven't shown anything to show that
8 there's not undue experimentation. That is their burden. They need to show
9 that, and they have not done so.

10 And specifically, we talk about this in our POR. On Page 78 of our
11 POR, we talk about Dr. Ricketts, performed a simulation of Estabrook, and
12 demonstrated that there is no evidence that Estabrook will meet the
13 Bluetooth standard protocol, because the Bluetooth standard protocol is
14 sufficient. That -- he said that. And then we ultimately cite to Paragraphs
15 305 to 331. And Dr. Ricketts's Declaration talks about -- in Paragraph 324
16 of Exhibit 2006, it says, "Although Estabrook's thesis states that its circuit
17 components could be scaled to different frequency, the mixer was originally
18 designed for 2.4-gigahert operation." The -- "to analyze Estabrook's linear
19 performance in particular, with respect to Bluetooth standards, I conducted a
20 simulation on the original 900 megahertz design as it was disclosed in
21 Estabrook."

22 And then there's additional discussion on Page 79, where we talk
23 about -- that Young is geared towards 2.4 gigahertz. And we say that, "A
24 POSITA recognizes that Estabrook's mixer lacks the necessary signaling
25 capability to conform to these wireless standards." On Page 81 of our POR,
26 we talked about, again, how Ricketts conducted simulations for -- on the 900

1 megahertz, which is what Estabrook discloses, lower than 1 gigahertz.

2 And then for the motivation to combine, we cite to -- we say,
3 "MediaTek's reliance on Estabrook," well, "Thesis" is being -- "as being a
4 downconverter, receiver, and modulator does not demonstrate that
5 Estabrook-Thesis circuitry could actually be used for Bluetooth or IEEE
6 802.11." Then citing Paragraph 339 of Ricketts' Declaration, which is
7 Exhibit 2006. And 339 specifically says, "A POSITA understands that
8 merely incorporating Estabrook's downconverter into Young's transceiver
9 would not meet the protocol specific requirements." Again, 2.4 -- would not
10 meet 2.4 gigahertz requirements. This is all from -- that's specifically from
11 the Motivation to Combine section.

12 Now, in terms of -- and just to be clear, Petitioner even acknowledged
13 that we basically -- the same arguments we made for that -- the -- that -- the
14 combination of Young and Estabrook does not disclose the various two
15 protocols. They acknowledged that on Page 31 of their reply, saying,
16 "ParkerVision does not undermine the motivation, but instead regurgitates
17 its argument regarding protocol compliance in the guise of motivation to
18 combine." Well, we were arguing motivation to combine, and we were
19 arguing about the protocols and how there wouldn't be two protocols with
20 the combination because they're related. They're very much related.

21 So with regards to -- you know, one of Your Honors asked a question
22 about desensitizing, how Young is directed to desensitize. Yes. Young is
23 directed to desensitizing and addressing that issue. But again, you have a
24 situation where it's a -- this is a combination, Young and Estabrook.
25 Petitioner wants to completely ignore that this is a combination. They just
26 want to focus on Young. And they say, oh, Young discloses, you know, two

1 standards, so therefore you're all good. But that's not -- you can't look -- the
2 law does not allow one to look at isolation to Young, because this is a
3 motivation to combine. Just like with regards to Nevo and Avitabile, you
4 have to look at what happens when you put the things together. And they
5 have not shown that when you take Estabrook circuit and put it into Young
6 and you use Young to avoid desensitization, that that's going to even work,
7 or that to get that to work, wouldn't require undue experimentation. Again,
8 they haven't shown that. That's their burden. They haven't made any case
9 about that.

10 And you can't just combine two references and then say, oh, but for
11 the -- look at the black box, where it talks about 802.11 and Bluetooth, and
12 don't worry about how it's going to be configured. That's not what it -- that's
13 not how the law works. You got to work with the combination. And they
14 have the burden. They haven't shown it, and they certainly haven't shown it
15 wouldn't require undue experimentation.

16 And I think Ms. Kaiser mentioned, well, listen, people would be well
17 within their knowledge -- the POSITA would be well within their knowledge
18 to go ahead and figure it out. Well, people take -- to design systems like this
19 -- well, people like Qualcomm and Apple that are designing these systems,
20 these things take years. And they haven't shown that this would be
21 something that you would just put together, no problem, and they would be
22 able to figure it out.

23 And just to be clear, figuring it out is not the standard. The fact that
24 somebody may be able to figure it out is not the standard. And that standard
25 is only -- that -- even then, that standard is -- you know, in the MPEP I think
26 they cited, it says you -- that it may be -- you may -- if the specification is

1 completely silent, then you may be able to consider what the person of
2 ordinary skill in the art would have known or would have considered.

3 But again, as I mentioned before, when Your Honor asked me the
4 question about, you know, isn't the patent silent as to how to implement the
5 system? The answer is, no, it's not silent, so that's -- rule of the MPEP
6 doesn't apply. The patent is not silent, and I got their expert to admit. I
7 spent hours getting their expert to admit, walking through each portion of the
8 specification related to how to put these receivers together to show that their
9 statement that the patent specification doesn't talk about Bluetooth and Wi-
10 Fi standards, how to make these things comply with Bluetooth, Wi-Fi is not
11 true. So again --

12 JUDGE AHMED: Mr. Charkow --

13 MR. CHARKOW: Yeah.

14 JUDGE AHMED: -- again, let me interrupt you. Is it Patent Owner's
15 position that the combination -- either of these combinations would have
16 been outside of the scope of a person of skill in the art as defined here? A
17 POSITA would just not know how to do it, or is it that --

18 MR. CHARKOW: No.

19 JUDGE AHMED: -- it would require too much experimentation?

20 MR. CHARKOW: So just to be clear, we're not arguing we couldn't
21 fit, like -- they've argued bodily incorporation and talked about bodily
22 incorporation. We're not saying you physically can't take two things and put
23 them together. What we're saying is, that there is no motivation to do so,
24 because when you look at the two references again, when you have Avitable
25 talking about radar, you know, receivers, the title says radar applications
26 -- Doppler radar application, and they're looking to put that in to make a

1 system that would work with consumer-type Wi-Fi systems disclosed in
2 Nevo, they wouldn't do that, right?

3 There's no motivation to do so. It's going to require undue
4 experimentation, and there's an unlikelihood of -- that it's going to succeed.
5 There's no evidence that they -- that any success would result. They haven't
6 presented any evidence that somebody would succeed in result of those two
7 combinations. And the same thing with Young and Estabrook, that you're
8 -- again, if you put the two together, okay, you get the two together, but that
9 doesn't mean that the two are going to automatically work, and that you're
10 not going to require some additional experimentation.

11 Does that answer the question?

12 JUDGE AHMED: Yeah. Thank you.

13 MR. CHARKOW: Okay. So -- okay. So now I'd like to turn to some
14 of the -- you know, now that we've talked about motivation to combine and
15 how, you know, I don't think that's a -- I don't believe that a person of
16 ordinary skill in the art would have such vast knowledge with five years of
17 experience to work in commercial space and the Doppler radar applications
18 and combine stuff or look at 2.4 gigahertz or 5 gigahertz even, which are
19 used for, you know, Bluetooth and Wi-Fi, and then look to Estabrook for,
20 you know, something that's dealing with 1 gigahertz or lower. I now want to
21 talk about the actual claim language, which requires that there are two
22 protocol standards.

23 And so if you first look at -- let's see here. Nevo and Avitabile. So
24 Nevo and Avitabile, if we turn to Slide 26. So Dr. Ricketts explained that
25 Avitabile does not disclose how it would meet fundamental performance
26 requirements in terms of dynamic range sensitivity and interface tolerance.

1 So that's saying, in the context, when you put it together with -- when you
2 put Avitabile together with Nevo, it -- there's no explanation of how you
3 would meet these requirements that are needed, quite frankly, for wireless
4 communications. And that's a significant problem. Dr. Ricketts also -- and
5 that was Paragraph 251 of Exhibit 2006.

6 Exhibit 2006, Paragraph 252, he also explained how Avitabile was a
7 sample-and-hold circuit that lacks automatic gain control or any adaptive
8 mechanisms to maintain dynamic range. And Nevo is also silent on
9 automatic gain control or equivalent mechanism, and therefore, the -- which
10 is needed for wireless communications, meaning POSITA would not find a
11 solution in the proposed combination. Again, they haven't shown that this
12 -- all this combination wouldn't require undue experimentation.

13 Dr. Ricketts goes on further in Paragraph 254 to talk about
14 sensitivity, talking about how Bluetooth and I -- 802.11 set strict minimum
15 sensitivity levels. And Avitabile, for instance, is the thing that's being used
16 for the actual engine, essentially the downconverter of Nevo. It says that it
17 has a 26-decibel loss, which any -- which would further that -- which
18 -- sorry, which would push the receiver further into the noise floor, which
19 means it won't work, right? It's too noisy. Avitabile won't work for the
20 stringent standards of Bluetooth and 802.11.

21 So again, there's really nothing for them to argue. So the only
22 argument they had, to me, is telling -- is that somebody would have figured
23 it out. And the -- you can't just point to a reference and say somebody
24 would have figured it out. That's not -- that's -- quite frankly, that's
25 -- number one, it's not how the law works. And number two is, the figuring-
26 it-out aspect of it only occurs when the patent is totally silent. And it's a

1 may -- it's a may. It only considers that when the patent is completely silent
2 as to make the -- how to make the Wi-Fi, Bluetooth, or any standards
3 -- make the patent comply with the standards.

4 And as you showed, again, there is plenty of testimony from their own
5 expert saying that the patent is littered with explanation of how to make the
6 patented technology work with Wi-Fi and Bluetooth in particular. And then
7 the --

8 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher. Can I ask a
9 follow-up question on Slide 26?

10 MR. CHARKOW: Uh-huh.

11 JUDGE ZECHER: I took a look at the paragraphs you cited for your
12 expert, Mr. Ricketts. Apart from his testimony alone, what evidence do you
13 rely upon to demonstrate that these are actually fundamental performance
14 requirements for these standards?

15 MR. CHARKOW: His testimony.

16 JUDGE ZECHER: Just his testimony? Because I looked at
17 paragraphs 250 and 254, there's not a citation to anything else in the record.

18 MR. CHARKOW: He -- I believe it's just his testimony.

19 JUDGE ZECHER: Okay. Well, I guess I'm struggling with that a
20 little bit, because you keep saying that the petitioner needs to cite the
21 evidence to demonstrate that the combination would work, yet you want us
22 to rely on your expert who has no evidence to demonstrate his testimony is
23 proper.

24 So which is it? I mean, doesn't it cut both ways? Wouldn't we need
25 evidence from your expert to believe that these are fundamental
26 requirements?

1 MR. CHARKOW: Well, an expert testimony is evidence.

2 JUDGE ZECHER: Well, it's only evidence if you have underlying
3 data or facts to support it. So that's what I'm asking. Where is that
4 underlying facts? Where is that data? Where -- what can I look at to verify
5 that this is correct?

6 MR. CHARKOW: I have to look through the POR. I'm not -- I
7 -- sitting here right now, I don't know the answer to that. Whatever we put
8 in our POR is what we have.

9 JUDGE ZECHER: Okay.

10 MR. CHARKOW: The only thing that I could show is that Ricketts
11 did simulations. I know he performed a number of simulations to show, you
12 know, how these -- how, you know, for instance, Young works, and has
13 shown that there are issues with meeting certain performance requirements.

14 But, again, they have the burden of proof. They need to show
15 affirmatively that -- I mean, if they're missing stuff and we're missing stuff,
16 they bear the burden of proof to show that a person with ordinary skill in the
17 art could accomplish these combinations, would have accomplished these
18 combinations, and not have engaged in undue experimentation.

19 And the bottom line is, putting aside the performance requirements,
20 the -- just the high level -- you know, using radar -- doppler radar reference
21 to put in a black box of something that's related to consumer type wireless
22 networks, and using something that talks about using frequencies that are
23 -- dealing with frequencies that are less than the frequencies that are taught
24 in Estabrook that are required in Young, just without the performance
25 requirements. That alone is enough to -- in our view, to render these
26 combinations -- you know, not -- no motivation to combine.

1 JUDGE ZECHER: So your underlying argument is, they haven't met
2 their burden of persuasion here; is that what you're saying?

3 MR. CHARKOW: Yeah, for motivation to combine.

4 JUDGE ZECHER: Yeah.

5 MR. CHARKOW: And the fact that there would not be undue -- there
6 would be reasonable expectation of success. Somebody would actually be
7 motivated to combine given a -- the level of ordinary skill in the art, and that
8 the -- and that there would not be undue experimentation to get to the point
9 where putting these down converters into black boxes will result in having
10 two standards that work in the same box and don't interfere with each other,
11 and don't -- you know, that's -- yes, that's the position.

12 JUDGE AHMED: But, Mr. Charkow, in response to that argument in
13 their reply, Petitioners cites to Dr. Larson's reply declaration, and he says
14 that radar receivers are one of the most difficult, unpredictable signal
15 processing environments. So a POSITA working in those environments
16 would have easily adopted those -- that circuitry to a Wi-Fi or Bluetooth
17 environment.

18 How do you respond to that?

19 MR. CHARKOW: Well, I think it's -- you know, people that are
20 working in the radar environment and have to deal with very high, like,
21 complicated -- if that's the case, and let's assume what Larson -- Dr. Larson
22 was saying is true, then they would never go to Wi-Fi and Bluetooth. That's
23 the -- that would contradict that. Why would -- if it's -- if you're talking
24 about an environment that apparently is more uncertain, and that it requires
25 more -- you know, being more careful or more specificity or whatever it is,
26 then they would never go and look for Wi-Fi and Bluetooth.

1 So it goes against the concept that -- and so if you go that way, it's
2 even -- I think it's even worse for the petitioner, because, you know, if it is
3 an unstable environment, you're not going to look to Wi-Fi and Bluetooth.
4 You're going to look to something that's going to -- probably other radar
5 applications or something else.

6 JUDGE AHMED: Okay.

7 MR. CHARKOW: All right. So with regards to the requirements of
8 the claims requiring a plurality of protocol standard submodules or protocol
9 standards comments, first and second protocol, standard combination, again,
10 you need to look -- the -- what one needs to look to is the combination.

11 They continuously refer back to -- when they said, look, Nevo's
12 enough. It gets us there. Because it discloses these two standards: 802.11
13 or HomeRF or whatever. And also, if you look at Young, it just discloses
14 two standards, and that's enough. But that's -- they even admit that you can't
15 just look at those references by themselves. Again, you have to look at the
16 combination. They don't do that, and nor does their -- you know, again
17 -- and does not show there's no undue experimentation.

18 Again, Estabrook and Avitabile are the main components, are the
19 engines that are driving these black boxes, that are driving these down
20 converters, so you can't just say, oh, Nevo says, you know, two protocols,
21 and Young says two protocols, so we're all good. You have to show -- they
22 have to show that in the -- that when these black boxes -- when you put
23 Avitabile into the black box and when you put Estabrook into the black box,
24 that those would work to meet two standards. And, again, we -- as we said
25 in our briefs, we don't think that's the case.

26 And again, with regards to Young and Estabrook, it -- figuring out

1 something -- somebody could figure it out is not the standard. And, again
2 -- and certainly figuring it out without undue experimentation, meaning it
3 wouldn't take them years to figure out how to incorporate these things. And
4 nobody has said that, you know, it wouldn't take a significant amount of
5 time to figure out how to get two, you know, standards in one of these black
6 boxes for Nevo and Avitable.

7 So let's see. Next, we'll go to -- okay. The -- slide 45.

8 JUDGE ZECHER: Mr. Charkow, just to let you know, you're not
9 sharing your slides currently. We do have them in front of us, so we can
10 follow along, but just to --

11 MR. CHARKOW: Sure.

12 JUDGE ZECHER: -- flag that for you.

13 MR. CHARKOW: Okay. All right. It should be sharing now.

14 JUDGE ZECHER: Yeah, we see it now. Yep. Thank you.

15 MR. CHARKOW: So -- yep. No problem. So Slide 45. So this
16 deals with the requirement of a second EM signal is generated from some
17 stored energy with regards to Nevo and Avitable. And in this case, the
18 claims say -- the claims have a lot of information in them. So the claims talk
19 about transferring energy, and that transferred energy being stored, and then
20 separately, it's the stored energy that's being used to generate the second
21 signal.

22 Now, they talk to the Federal Circuit decision *ParkerVision v.*
23 *Qualcomm*, but the Federal Circuit decision in *ParkerVision-Qualcomm* did
24 not deal specifically with transferring -- sorry, generating from stored
25 energy. It talked about generating from the lower frequency signal from
26 transferred energy from a carrier signal. It was much broader. This is

1 talking specifically about stored energy, and when the -- and that's -- and,
2 again, Nevo-Avitabile doesn't do that.

3 I don't think the other side disagrees that if the requirement is that the
4 energy that's used to create the baseband signal or second signal must be
5 from what's in the capacity of what's in the storage element, then Avitabile
6 would not meet that because it's a sample and hold circuit, and that's not how
7 Avitabile works.

8 Now, the petitioner says, you know, there's -- the patent office already
9 considered this issue. It's in language just like this. So this is Slide 48. And
10 there was a re-exam of the 518 Patent. And in the 518 Patent, there was a
11 similar limitation saying -- it says, generate the baseband signal from the
12 integrated Energy. The integrated energy is a stored energy.

13 The patent office considered that -- considered Avitabile. The same
14 reference. So this isn't the Federal Circuit considering different language
15 and another reference. This is the patent office considering Avitabile,
16 considering a language that is essentially the same, generating the baseband
17 signal from the integrated Energy, which is energy that's in the storage
18 element. And the patent office specifically stated -- it got over Avitabile.
19 They found that the patent was not unpatentable in view of Avitabile.

20 And in terms of the little difference in language where it talks about
21 the 518 Patent generating the baseband signal from the integrated energy,
22 well, stored energy, integrated energy, according to petitioner, it's the same
23 thing, because when they tried to -- part of their arguments -- they presented
24 in their arguments that -- it's Slide 49. They talked about that the energy
25 stored is energy accumulated, which is in red.

26 So to demonstrate stored energy is used to generate a second signal,

1 Petitioner conceded that the stored energy that was being used to generate
2 the second signal is, in fact -- is integrated.

3 So again, the 518 Patent is -- deals exactly with Avitabile, deals with
4 essentially the same claim language, and found that the patents -- that the
5 language was not consistent with Avitabile, and found the -- that language
6 was not found in Avitabile.

7 JUDGE AHMED: Mr. Charkow, let me interrupt you. How do you
8 respond to the argument that the examiner there understood integrated
9 energy as accumulated energy over multiple aperture periods, and that's not
10 the issue here?

11 MR. CHARKOW: Well, that's -- well, that's exactly what's on Slide
12 49. They've argued that stored energy is accumulated energy. In order to
13 show that Avitabile has the requirement of stored energy, they specifically
14 made the argument that to generate the second signal -- in our the claims in
15 this case, that that was integrated energy, and that's what the whole point of
16 this diagram was, that -- this is their -- this is their markup. This is isn't my
17 markup.

18 So over multiple cycles, it talks about energy being accumulated.
19 Stored and accumulated. You can see it by red. Green and red. That's their
20 markups. Not mine. So they've conceded that the stored energy is
21 integrated, is accumulated energy. "They" being the petitioner.

22 Do you have any other questions on that?

23 JUDGE AHMED: No. Thank you.

24 MR. CHARKOW: Okay. So --

25 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher. Just -- I'm
26 hoping you can see the countdown timer behind you, but you have roughly

1 20 minutes left of total argument time. This -- you know, of course you can
2 use it as you see fit, but I want to make sure you're aware of that.

3 MR. CHARKOW: Okay. Thank you. So with regards to the claim
4 construction issues -- so we turn to -- first of all, I want to point out that
5 -- right off the bat that their concept of plain and ordinary meaning -- of
6 what the plain and ordinary meaning is of an energy transfer signal, that's a
7 new definition. When Counsel said that, that's the first time we've heard of
8 any plain and ordinary meaning definition. That's a new construction that
9 they've never presented before, where I believe she said it was an energy
10 transfer signal is -- controls a switch, and it transfers non-negligible
11 amounts of energy or something like that. That is new and news to us.

12 So with regards to claim construction, if we go to Slide 2. 3. Okay.
13 So energy transfer signal is in the claim language, Slide 4. They say it's
14 plain and ordinary meaning, and they just gave some definition of plain and
15 ordinary meaning, again, not anywhere in their briefing. Our position was,
16 it's an independent control input of an energy transfer system having pulses
17 with non-negligible apertures.

18 Slide 5, basically, Petitioner is taking the position of -- before today
19 that that -- basically, any signal -- I'm assuming they changed their position
20 because of what we said, but basically their view is that any signal that
21 transferred energy would be an energy transfer signal, regardless of
22 anything. So basically, any -- basically, any control signal that causes a
23 switch to close is an energy transfer signal according to their original
24 position as we understood it.

25 And because we have a dispute under O2 Micro, the claim term must
26 be construed. That's what O2 micro says. That's 521 F30 1351. And there

1 is a dispute. And they try to justify the fact that they say we should do plain
2 and ordinary meaning -- the fact that we agreed in the District Court that it
3 should have its plain and ordinary meaning but that was before we knew
4 there was a dispute. Once we knew there was a dispute, O2 Micro comes
5 into play, and that's where we're at right now.

6 In terms of the construction of the energy transfer signal, there is
7 specific -- this is from Page 8 of the demonstratives. The specification
8 specifically states that when the pulses of the control signal 206 have non-
9 negligible apertures -- and then it says the control signal is referred to as an
10 energy transfer signal. That is something that the patent says. It says
11 "referred to as an energy transfer signal." The patent specifically says that
12 pulses are a required feature of an energy transfer system. If pulses are -- if
13 the board finds that pulses are -- based on whether they say it's a definition
14 or lexicography or required feature, then Estabrook does not teach pulses.
15 Estabrook is a sine wave. Pulses are in sine waves, and then Estabrook is
16 out.

17 And, again, this is -- it says, "referred to as an energy transfer signal."
18 I don't think it's ambiguous at all in terms of the fact that the pulses have to
19 be part of the definition.

20 The other thing I want to point out is that they say, well, any signal
21 that can close a -- you know, any signal at all, any shape, signal, or whatever
22 would be covered by the energy transfer signal.

23 Well, they haven't shown anywhere in the specification, as they -- I
24 think they admitted the specification only shows pulses. So you got to look
25 at the specification. You can't just say, oh, it could be any signal. That's not
26 what the specification says. And, notably, they didn't make this. They didn't

1 identify this when they were talking about -- they didn't identify this very
2 clear specification language that specifically states that there is no -- that
3 there -- it's not just any signal. It can't just be any signal with any shape.
4 And, again, this is from the patent, Column 13, 27 through 31.

5 And, again, the patent makes it very clear. It shows what pulses with
6 apertures -- as an energy transfer signal, it makes it very clear, and that's
7 Slide 9, and that's Figure 64-F.

8 In reply, they admit that an energy transfer signal has to have non-
9 negligible apertures, and they also say -- and this -- sorry, that's from their
10 reply brief at Page 15. So they admit that's an element that should be
11 included or a feature that should be included in the claim construction. Slide
12 11, they also say that energy transfer signal must close a switch for a
13 sufficient aperture to transfer a non-negligible amount of energy, and then
14 their experts said non-negligible amounts of energy are associated with non-
15 negligible aperture.

16 So now we have -- a pulse should be in the claim construction. Non-
17 negligible aperture should be in the claim construction. And then in terms of
18 independent control input -- should also be in the claim construction because
19 there is no -- there is no embodiment that they point to. There's no
20 disclosure in the specification -- again, you have to read the specification in
21 light of the claims, in light of the specification. They're -- all the disclosure,
22 even with diode embodiments, it specifically shows an independent control
23 signal. Slide 13 shows Figure 28-C and 28-D. It shows an input signal. It
24 shows -- in blue, it shows a separate independent control input.

25 We didn't argue it has to be independent from, you know, input and
26 output, but even so, it is independent from input. It is independent from

1 output. It's a separate signal that comes in and controls the diode in those
2 cases. And on the right side, even -- this is Figure 47 on Slide 13. The EM
3 signal is still separate from the energy transfer signal. The blue signal is
4 separate from the red signal. Even though there's a feedback loop, it's still
5 independent. It's physically independent.

6 They view independence meaning it can't have any relationship to the
7 output signal. That's not what we said. Our position is that it's a physically
8 independent signal as shown by the blue and the red arrows.

9 And, again, Slide 14, they point to figure 52-C and talk about the
10 feedback path. And, again, the feedback path is not -- does not make it a
11 -- does not change the fact that the red is still an independent control input.

12 So -- and, again, talking about the PTAB and the Federal Circuit's
13 prior construction, they didn't adopt the definition of switch, didn't have the
14 concept of independent control input, because for a switch that's
15 -- independent control input is not a characteristic of the switch itself, right?
16 In this case, independent control input is a characteristic of the energy
17 transfer signal. That's why the PTAB construction should not apply, or the
18 Federal Circuit construction should not apply. What they -- what we did
19 with regards to switch should not apply here. And the specifications
20 consistently shows an energy transfer signal is an independent control signal,
21 as I said before.

22 In terms of energy transfer system, again, the board and the Federal
23 Circuit specifically relied on -- and energy transfer system should be
24 included, and the board -- the Federal Circuit specifically relied on the
25 lexicography. That was the basis for determining that an energy transfer
26 system was inappropriate to include in the term storage module.

1 Here we're talking about a -- we're talking about the term energy
2 transfer system. It has the word energy transfer -- sorry. Energy transfer
3 signal. It has the word energy transfer in its name in the claim term itself.
4 Not only that, but unlike in the prior PTAB and Federal Circuit ruling and
5 the claim that was at issue there, this talks specifically about transfer energy.
6 The claim talks about transferring energy, transferred energy and storing it,
7 and generating a signal from stored energy - all features of an energy
8 transfer system.

9 The only thing that they point to to say, oh, this is not an energy
10 transfer system is to say, well in one case for Figure 32-C, there's an instance
11 where it talks about using an under-sampling signal and an energy transfer
12 signal module, and an under-sampling signal is a -- is associated with a
13 voltage sampling system or sampling volt. And as we pointed out -- this is
14 Slide 17. As we pointed out, this was a clear typographical error. The
15 patent specification 59 -- column 59, 29 to 30, and 62, Column 52 to 53,
16 specifically shows -- it explains that it's not an energy transfer signal
17 module. It's actually an undersampling signal module, and that was a
18 typographical error.

19 And I'm going to -- okay. Okay. So with the claim construction out
20 of the way, now I want to talk about -- right. So again, with regards to Nevo
21 and Avitabile, Nevo and Avitabile does not disclose an energy transfer
22 signal. Nevo and Avitabile, under their -- under the petitioner's arguments,
23 all systems that have a switch that would transfer energy, it would be an
24 energy transfer system. Anything that causes that switch to close, to transfer
25 energy, that would make it, you know, an energy transfer signal, and that's
26 not the case. It's not every switch that causes -- every control signal that

1 causes a switch to close would be an energy transfer signal.

2 In that case, they're reading out the term energy transfer from the
3 -- from the term because then the patentee would've just said it was a signal
4 or a control signal, and they specifically did not say that.

5 And the Nevo and Avitabile combination, the patent -- the -- again,
6 Avitabile is not an energy transfer system. The Federal Circuit has
7 specifically stated in 116 at 4 1345 at 1349 that there is a difference between
8 ParkerVision's energy transfer systems and voltage sampling systems, and
9 Avitabile is a voltage sampling system, a sample and hold system, and I
10 don't believe the parties are in disagreement on that.

11 As I mentioned before, turning to Young and Estabrook, Slide 55
12 Young and Estabrook do not disclose pulses. They disclose sine waves. So
13 to the extent that the board believes that the -- what amounts pretty much to
14 definitional language about pulses being part of an energy transfer signal,
15 then Estabrook does not disclose it, and thus the combination of Estabrook
16 and Young does not disclose an energy transfer signal.

17 And I'm going to reserve the rest of my time.

18 JUDGE ZECHER: All right. Thank you. Mr. Charkow. We're
19 going to take another quick break. I have 12:48 on my computer, so we'll be
20 back at 12:53 and then we'll wrap up the rebuttal arguments and the
21 surrebuttal arguments.

22 Just for the record, Mr. Charkow, you have 8 minutes and 31 seconds
23 left for your surrebuttal, and Petitioner's going to have 17 minutes, 17
24 seconds left for their rebuttal. Thank you.

25 (Whereupon, the above-entitled matter went off the record at 12:48
26 p.m. and resumed at 12:53 p.m.)

1 JUDGE ZECHER: All right. This is Judge Zecher. Let's go back on
2 the record. I see that we have Counsel for Petitioner here. I just want to
3 make sure that Mr. Charkow is still online.

4 Can you verify that, Mr. Charkow?

5 MR. CHARKOW: I'm here.

6 JUDGE ZECHER: All right. Great. Thank you.

7 Ms. Kaiser, you have 17 minutes, 17 seconds left for your rebuttal.
8 You can begin when you're ready.

9 MS. KAISER: Thank you, Your Honor.

10 If we could go to Petitioner's Slide 55.

11 So Mr. Charkow talked about a lot of things in his argument. One of
12 them was about the level of ordinary skill, and I think he said that the level
13 of ordinary skill doesn't include radar, and my -- and I think he said that I
14 said that it does, and I don't think that's what I said. Instead, what I said in
15 response to Judge Ahmed's question was that the Avitabile reference doesn't
16 just talk about radar; it also talks about communication systems, and the
17 communication systems would be within the level of skill. Judge Zecher
18 asked a question about analogous art, and we agree there wasn't an argument
19 about analogous art in the Patent Owner Response, but it does seem like Mr.
20 Charkow argued about analogous art here when he said, essentially, that a
21 person of ordinary skill in the art wouldn't get past the title of Avitabile.
22 And that's also how a Patent Owner presented its motivation to combine
23 argument in the sur-reply. And it doesn't sound like there is a dispute. It
24 does not sound like there is a dispute about Avitabile being analogous art. It
25 is. And once it's analogous art, then a person of ordinary skill in the art
26 would look to it for all that it teaches. And as I noted in my opening

1 presentation, it teaches that it can be used for communication systems.

2 Judge Ahmed asked Judge Charkow -- or Mr. Charkow about where
3 in the Patent Owner Response Patent Owner argued that Avitabile, being
4 about or mentioning radar, undermined the motivation to combine. And, I
5 think, when you look at the Patent Owner Response, it's clear that that Patent
6 Owner did not make that argument in the context of motivation to combine.
7 Instead, they made it in the context of whether Avitabile would meet
8 protocols. So that was a new argument that they made for the first time in
9 the sur-reply.

10 There was also a mention about bodily incorporation and we argued in
11 the reply that Patent Owner was demanding a bodily incorporation of the
12 references, which is not consistent with the law and not consistent with the
13 combination that we proposed. And even though Patent Owner has said
14 they're not arguing that we had to show a bodily incorporation; you heard
15 Mr. Charkow in his argument say things like, you know, Petitioner placed
16 Avitabile into Nevo. That's not what we're doing. We're not arguing for a
17 bodily incorporation of the references.

18 Mr. Charkow also talked about that we said that the '686 specification
19 is 100 percent silent on meeting standards. And also, I think, he argued that
20 it would have to be 100 percent silent for the panel to consider its
21 disclosures and what those say about the knowledge of a person of ordinary
22 skill in the art. Respectfully, I don't think there's any case law that says that.
23 And we heard Mr. Charkow say a number of times, "Figure it out." And I
24 want to be clear that in the Patent Owner's briefs often "figure it out" is in
25 quotes, but that's Patent Owner's quote. Petitioner never said, "Figure it
26 out." What Petitioner said is that a person of ordinary skill would apply that

1 level of skill to making a combination, which is consistent with the law.

2 And, you know, there was a lot of discussion that Mr. Charkow had
3 about that the specification talks about how to make these things comply
4 with standards and that Dr. Larson admitted that. And that's just not correct.
5 I certainly invite -- I was also at Dr. Larson's deposition and I would invite
6 the board to look at that testimony. And, frankly, to look at the portions of
7 the specification that Dr. Larson was asked to look at and that patent under
8 sites. And there are things like a single capacitor value and saying that other
9 value -- capacitance values could be used without any direction about how
10 that would be selected. There's mention, like I said, of, you know,
11 characteristics of wireless communication. And then Dr. Larson was asked,
12 was that characteristic -- did it relate to Wi-Fi and Bluetooth. None of that
13 says anything about how a person of ordinary skill in the art would
14 specifically implement a downconverter to meet all the specific
15 characteristics that Dr. Ricketts and Patent Owner had talked about for
16 meeting those standards. None of that is in the specification. And Dr.
17 Larson didn't admit that it was.

18 There was also -- Patent Owner discussed the re-exam of the '518
19 Patent. And if we could go to Slide 29? As Judge Ahmed said, the
20 examiner here found -- the CRU examiner found that this limitation really
21 related to accumulating energy over multiple aperture periods and generating
22 the signal from that energy that had accumulated over multiple aperture
23 periods. That's very different than the Claim 11, which only requires a one
24 aperture period. And in fact, it's the energy at one aperture period in
25 Avitabile that the signal is generated from. That particular energy that is
26 stored for that particular aperture period each time, not accumulated over

1 multiple aperture periods.

2 And -- let's see. For that same generated from limitation, that's what
3 the re-exam -- what ParkerVision points to the re-exam for. Again, a
4 substantially similar limitation was considered by the Federal Circuit and the
5 Federal Circuit found that the generated from language did not require that
6 the transferred energy has to be part of that generated signal.

7 JUDGE AHMED: Ms. Kaiser, let --

8 MS. KAISER: The -- yes.

9 JUDGE AHMED: Let me interrupt you. So if the examiner found the
10 integrated energy not to be satisfied, why would just one aperture period of
11 energy be satisfied by Avitable under the examiner's understanding at least?

12 MS. KAISER: Well, if the -- because the examiner found that it had
13 to be multiple aperture periods. I don't know what the Patent Owner
14 specifically argued there, but the examiner wasn't convinced that it was
15 multiple aperture periods that were accumulated, integrated, and then
16 sampled. And in Avitable what it actually does, and we could look at the
17 figure, but it samples at each aperture period. So I'm trying to find the figure
18 that Mr. Charkow put up of the accumulating energy. But in any event, what
19 --

20 JUDGE AHMED: Figure 7.

21 MS. KAISER: Yes. Here we go, Figure 7. And so you can see what
22 happens in Avitable is it accumulates energy for a period, and then it takes a
23 sample, and then it accumulates energy for a period and takes a sample.
24 Now it could be that those are accumulated, but the examiner didn't make
25 that finding. And it could be that they rise and fall as well. In which case it
26 would just be the energy that's there for that particular aperture period.

1 JUDGE AHMED: Okay. Thank you.

2 MS. KAISER: Mr. Charkow accused me of providing a new
3 construction for energy transfer signal. And I want to emphasize that, you
4 know, we think that the term can just be given its plain and ordinary
5 meaning in the context of the claim. But what I said wasn't new and you'll
6 find support for it in the petition at Pages 16, 38, 42, and 72.

7 If we go to Slide 17? I think, before I turn it over to my colleague to
8 talk about Avitabile, I just wanted to highlight one issue on the claim
9 construction of energy transfer signal. Mr. Charkow seemed to indicate that
10 we were somehow changing or proposing something for independent and
11 independent control input. And I want to point out here, this is Patent
12 Owner's expert, Dr. Rickett -- Ricketts. And it was Dr. Ricketts who
13 brought in the idea of the independent control signal or independent control
14 input means the signal is a separate input from the signal input to the -- into
15 the switch and the signal output from the switch. It was only after we called
16 out that there were embodiments with feedback loops and such that Patent
17 Owner changed its position in the sur-reply for the first time and abandoned,
18 apparently, that independent would require it to be independent from the
19 output. But in any event, independent control input is not anywhere in the
20 specification and should not be required in the claim. Unless the panel has
21 questions for me, I'll turn it over to my colleague, Mr. Canavera, to talk
22 about Ground 2.

23 MR. CANAVERA: Good afternoon, Your Honors. Look at a Slide
24 56. Given the significant overlap between the Grounds, I'll focus on one
25 issue for Estabrook for Ground 2. Though I'm happy to answer any
26 questions unique to this Ground for Your Honors. In Mr. Charkow's

1 arguments he picked up a question that Judge Ahmed had asked me in my
2 initial argument about basically the ability to adjust Estabrook to operate at
3 2.4 gigahertz instead of 900 megahertz. As shown on Slide 56, I failed to
4 note, and I'll take the opportunity now to note it, that argument about the
5 different frequencies was not raised before the sur-reply. So that particular
6 argument is one that Your Honors should not take up. With that said, even if
7 Your Honors take it up, it's -- it does not deter from the motivation to go by
8 in these two references.

9 Two very clear reasons. First, as you see on Slide 56, this I
10 referenced in my comments before, the first bullet point here. The thing
11 they have complained about, basically: Would doubling the frequency affect
12 the operation of Young and, in particular, the sensitivity of the receiver?
13 That is literally what Young is describing as the problem it's solving, and it
14 is solving it by separating the receiver chains and the transmitter chains.
15 And I think I referenced a switch or something like that. It's Circulator 52
16 that Young is saying solves this problem of not desensitizing the receiver by
17 disconnecting it whenever you're transmitting on the other protocol. I mean,
18 that is literally the whole point of Young; is to solve this problem that
19 ParkerVision now says would trouble someone of skill in the art.

20 And then if we could go to Slide 57?

21 JUDGE ZECHER: Counsel, isn't it true too that the 2.4 gigahertz
22 that's mentioned in the background section, it's not limiting Young to that,
23 but it's simply describing the prior art and that kind of gets to your whole
24 line of argument that it's presenting a solution to a problem?

25 MR. CANAVERA: That's right. And in some ways, that is the most
26 important point here. This is all context that Young's providing. Young's

1 giving an example of a situation where you might want to provide the
2 solution. Young's not saying you have to do this at 2.4 gigahertz or any
3 other frequency band.

4 And then just the second point on this. As we look at Slide 57, again,
5 the notion that we've failed our burden or that Estabrook fails to explain
6 enough about how you would use it; basically, adjust its 900 megahertz
7 roughly receiver to work at 2.4 gigahertz is, again, a problem the '686 itself
8 has. Mr. Charkow talked about these, sort of, vague discussions of things
9 that are relevant to RF communications and standards generally. I think
10 that'd be the most of what happened at Dr. Larson's deposition, but the
11 interesting thing is that the examples given in the '686 Patent are generally at
12 right about the same frequency, 900 megahertz. And you will not find in the
13 lengthy specification of the '686 Patent anywhere that says, here's how you
14 translate that to 2.4 gigahertz. Mr. Charkow pointed to there's an example
15 capacitance. There's, I think, one example capacitance, 18 picofarads, in
16 that specification for an energy transfer system. There's one example, for
17 example on whole, that there's nothing that gets you from 900 megahertz in
18 their examples to 2.4 gigahertz. But now they want Young to do that; now
19 they want Estabrook to do that. They haven't taught the public that either.

20 Unless Your Honors have any further questions, we ask that you find
21 these claims unethical. Thank you.

22 JUDGE ZECHER: Thank you, Counsel.

23 Mr. Charkow, you have eight minutes and 31 seconds left for your
24 sur-rebuttal. You can begin when you're ready.

25 MR. CHARKOW: All right. So working backwards a little bit with
26 regards to Mr. Canavera's discussion about Young and Estabrook and how

1 the patent doesn't teach how to get to certain frequencies. We specifically
2 pointed out formulas from the patent's specification that discuss that could
3 be used for higher frequencies and their expert indeed admitted that the
4 formulas could in fact be used for higher frequencies. And the formulas are
5 discussed in our sur-reply where it pointed out in Larson's deposition on
6 Page 44 of his deposition. This is the August 4th, 2025, deposition, Page 44,
7 Lines 3 through 14. He specifically talks about the formulas that are
8 disclosed. They're generally directed to 901 megahertz, but I think that
9 they're a specific example which could be generalized to other frequency I
10 mentioned. I said, "Right. Including Wi-Fi and Bluetooth?" Answer, "They
11 could. They could be generalized to Wi-Fi and Bluetooth. Although, I said,
12 there's some errors that might have to be rectified for those systems." So he
13 admitted that there's formulas. So directly contrary to what Mr. Canavera
14 said. Their expert specifically admitted during his deposition that there are
15 formulas disclosed in the specification that talk about how to get it not only
16 from 901 megahertz, but also higher megahertz that are used in Wi-Fi and
17 Bluetooth. And again, that's 8-4-2025 dep transcript of Dr. Larson, Page 44,
18 Lines 3 through 14.

19 With regards to the -- let's see. The -- this desensitization issue with
20 regards to Young. Okay, Young deals with -- to the desensitivity issue.
21 However, they need to show that it's Young and Estabrook, that
22 combination; that Young could work with Estabrook for that combination
23 and deal with the desensitizing without undue experimentation, and they
24 have not shown that.

25 With regards to the -- why Bluetooth and Wi-Fi was being focused on.
26 I think we are -- you were discussing that with regards to Young. And so the

1 reason why, and I think this goes to a question that one of the panel had
2 previously, you know: Why does it have to be Bluetooth and Wi-Fi? Why
3 are we focused on Bluetooth and Wi-Fi? And the answer is because they
4 focused on Bluetooth and Wi-Fi. They never said that it could be some
5 other standards. And they've certainly not shown that it could be, like, Wi-
6 Fi and radar, or Bluetooth and radar, or something else. That was what they
7 focused on in their petition, and all their arguments was really on Wi-Fi and
8 Bluetooth. So that's what we focused on. And Young does not -- young or
9 Nevo does not disclose away and they have not shown that, with the
10 combinations, that they could handle multiple standards without undue
11 experimentation.

12 Regarding the non-analogous art discussion. That, as far as I am
13 aware, they did not make an argument about non-analogous art. I looked for
14 the word analogous in their -- both their POR and the reply. I did not find it.
15 But I can tell you with regards to non-analogous art, the *Bigio* case that they
16 cite is not on point. It's not directed to motivation to combine. That's in
17 their slides. That's not directed to motivation to combine. It deals with a
18 completely different situation where determining -- it's determining whether
19 the prior art is analogous to the claim invention. It doesn't deal with -- in
20 that case it dealt with, you know, they invalidated a hairbrush reference or a
21 hairbrush in lieu of a toothbrush, and so *Bigio* deals with you -- in order for
22 103 to figure out if it's obvious to use, you know, the hairbrush -- the
23 toothbrush disclosure to invalidate the hairbrush, you have to look at the
24 prior art, whether it's analogous. They have not argued, as far as I'm aware,
25 non-analogous art.

26 But I can tell you in our POR -- going to one of the judges' questions

1 before. POR Page 60 and 61, we specifically discuss -- I was asked about:
2 Is there anything about non-analogous? We don't use the word non-
3 analogous, but we certainly talk about how these systems, the readable radar
4 system, is non-analogous to the Bluetooth and IEEE 802.11 systems of
5 Nevo, for instance. So if I'm going to pull that up and share the screen. So
6 this is -- here.

7 So on Page 60 of the POR, this -- we specifically say, "Avitabile is
8 directed to an S-band digital downconverter designed for radar application.
9 It does not account for the protocol, specific modulation, error correction,
10 and synchronization requirements necessary for Bluetooth or IEEE 802.11
11 operation." Again, not analogous. On Page 61 of our POR, "Avitabile is
12 designed for radar environment where input signal levels are typically high
13 and stable. Bluetooth and IEEE 802.11, however, require handling of
14 widely varying signal strengths due to real-world conditions like multipath
15 fading, attenuation, and interference." Again, we didn't use the word non-
16 analogous, but we certainly argued that these systems -- Avitabile, for
17 instance, the radar is non-analogous to Bluetooth and 802.11.

18 In terms of the discussion about radar and whether you can use more
19 complicated radar. If you have more complicated radar systems, what does
20 that mean in terms of Wi-Fi and Bluetooth? Well, just because you start
21 with a more complicated radar system doesn't mean you can tear that down
22 and change things and all of a sudden get Wi-Fi and Bluetooth. That's not
23 -- that -- nobody has shown that that could happen or that a person that starts
24 with radar would have any knowledge how to change a radar system to
25 Bluetooth or Wi-Fi or any other standards for that matter.

26 With regards to their statement that we didn't argue motivation to

1 combine with regards to certain aspects of Avitabile and -- Nevo and
2 Avitabile, and Young and Estabrook; their own -- as I mentioned, if you
3 look at their own reply brief, which I discussed during this hearing, they
4 -- as they recognized, we made the same arguments for our protocol -- our
5 two protocols arguments. We made the same arguments with regards to
6 motivation to combine, and they even acknowledged that in their reply.
7 They say that we just regurgitated the same arguments for motivation to
8 combine as we did for the two protocol requirement claim elements. So to
9 say that it's a new argument, it's not a new argument. And they even
10 admitted as much that it wasn't a new argument. Certainly we discussed it.

11 With regards to the statement I made about being silent, that if the
12 -- that the only time you can get to the point where you look at the person of
13 ordinary skill in the art, that they may be able to use their knowledge to
14 figure -- you know, figure it out is -- that's right from the MPEP. That's
15 from their slides where they cite the MPEP. And it says that, you know, if
16 the patent is silent -- if the patent is silent, that may allow you to look for a
17 skill in the art and allow them to figure it out. But again, it's not -- I didn't
18 make that up. It's not that it's case law. That's their own statement.

19 If you look at their demonstratives, they cite the MPEP. That's what
20 the MPEP says. But again, this is not something a person of ordinary skill in
21 the art, given the level that they said, which is a couple of years -- you know,
22 a few years of experience and a bachelor's degree, would go and start
23 combining all these things and have some omnibus knowledge of all these
24 various fields. And -- yeah. So that -- that's where I got that from. And
25 again, I just -- you know, I just --

26 JUDGE ZECHER: Mr. Charkow, this is Judge Zecher, your time is

1 up. I'm going to give you 30 seconds to wrap it up.

2 MR. CHARKOW: Okay. That -- that's okay. I can stop.

3 JUDGE ZECHER: Any last words?

4 MR. CHARKOW: No, I'm done.

5 JUDGE ZECHER: Okay.

6 I'm going to thank the parties for, you know, working with us through
7 the little hiccup we had here. We appreciate your -- you being open and
8 amenable to handling this hearing today and getting it done in kind of a
9 bifurcated process. But thank you for that. This case is submitted. We will
10 issue a final written decision within the one-year statutory deadline. Thank
11 you.

12 MR. CHAKOW: Okay. Thank you.

13 (Whereupon, the above-entitled matter went off the record at 1:19
14 p.m.)

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