UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
ORLANDO DIVISION

PARKERVISION, INC.,	:	
	:	Case No.:
Plaintiff,	:	6:14-cv-687-PGB-LRH
vs.	:	
	:	Orlando, Florida
QUALCOMM INCORPORATED,	:	January 24, 2022
QUALCOMM ATHEROS, INC.,	:	9:31 a.m.
	:	
Defendants.	:	*SEALED TRANSCRIPT*

TRANSCRIPT OF MOTION HEARING, VOLUME 1 OF 2
BEFORE THE HONORABLE PAUL G. BYRON
UNITED STATES DISTRICT JUDGE

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THE COURTROOM DEPUTY: ParkerVision, Inc., vs. QUALCOMM Incorporated, et al., Case No. 6:14-cv-687.

Counsel, please state your appearances for the record.

MR. VERBONCOEUR: Good morning. Mitch Verboncoeur from McKool Smith. With me at the table is Kevin Burgess from Caldwell Cassady. Also with us is Mr. Josh Budwin, also from McKool Smith. And we have Jeff Parker from ParkerVision here as well.

THE COURT: Thank you. Good morning.

MR. BRIGHAM: Good morning, Your Honor. Matt Brigham from Cooley on behalf of Defendants. With me is Eamonn Gardner, Dena Chen, and Steve Smith from Cooley. From QUALCOMM we have Brett Bachtell. And from the Bedell firm we have Michael Lockamy.

THE COURT: Thank you. Good morning.

All right. Ladies and gentlemen, since we are going to be at this for a while today, I think it makes the most sense if you -- you can either present your argument from the podium, if you like, or from your seated position at your table. The key is to have a microphone as close as possible, since we're all wearing masks and that makes it more difficult to have a clear transcript. So if you prefer to argue from your seated position, feel free to do so, and then we'll take these issues one at a time.

I did see the notice filed by the parties last week indicating that claim 107 of the '372 patent has been abandoned, and then, of course, the '177 patent is out, and that affects some of the arguments in this case.

I'm going to leave it up to you all in terms of which order to proceed, but let me tell you what we have on schedule for today. We have the motion to strike and exclude opinions regarding infringement at docket entry 540. That's the sealed motion. And we have the motion -- I believe at 491 is where the unsealed version of that occurs. We have the motion for summary judgment of noninfringement invalidity sealed at docket entry 538. And then, finally, we have the motion for summary judgment on IPR estoppel related to QUALCOMM's BBA2 and BB3 invalidity theories, the prior art argument, at docket entry 498.

The way I've reviewed these in preparing for today was to start with the motion to strike and exclude opinions regarding infringement, it just was the first one that I saw, then I went to the summary judgment at 540, and then, finally, with the prior art, which is the most simple of the three, really. So whatever order you would like to proceed, we'll have whoever the movant is going first and then we'll go from there.

Yes, sir.

MR. BRIGHAM: Your Honor, unless you have a preference, our proposal would be to take them in that order as well.

THE COURT: That makes sense.

MR. VERBONCOEUR: That's fine with us, Your Honor.

THE COURT: All right. Very good. So when we're starting with the first one, which is the motion to strike and exclude opinions regarding infringement at docket entry 540, the parties have indicated which portions are no longer before me dealing with the '117 patent -- or the '177 patent rather, and that is dealing with impedence translation, I believe as well as the argument concerning the new theory of reference potential. Tell me if I'm wrong about any of this. I think all of those are out. And then there's the untimely theory of -- you call it Tau off over T or t-a-u off over T?

MR. VERBONCOEUR: It's Tau, Your Honor.

THE COURT: Tau. Thank you. I think all of the those pertain to the patent that's been abandoned; is that correct?

MR. VERBONCOEUR: I should let QUALCOMM answer that.

THE COURT: Sure.

MR. GARDNER: So the Tau off over T theory that ParkerVision has proposed, to our understanding, will only relate to the receiver patents in this case. It doesn't have any relationship to the purely transmit patent. One of patents, the '940 patent, has both receive and transmit aspects to it, whereas the '372 patent is purely a transmit patent in this case.

THE COURT: You all like to refer to it as receiver

and transmitter patents. It helps for me if we're talking about patent by number because that's how I look at them, whether it's the '940, the '904, the '372 -- whatever it may be. Because sometimes I'll hear an argument that claims on the receiver patent have been already decided. I don't know what that means. I mean, you all know what the receiver patent is. I look at the number and the claim that's at issue and the interpretation of the claim. But if you're talking about it shorthand, just assume I have no idea what you're talking about.

MR. GARDNER: We'll try to make that very clear today, Your Honor.

THE COURT: So I'll get that in argument, where it will be many times of such and such patent have been determined by the PTAB. If you don't list them, I have no idea which ones you're talking about. It has to be specific or how on earth would I know whether it's claim 23 or claim 247. So that's part of the problem I have and part of the reason for calling this. When I read through the motions, I was left at times scratching my head as to what exactly are you talking about. You know, which claims are in, which don't apply, which claims are not affected by the arguments, it's completely unclear. That's not necessarily your fault. You're dealing with a nonpatent lawyer. Thank God. So that's the dilemma. So just assume I've been through these before, but I'm not a technical subject matter expert. So dumb it down.

MR. GARDNER: We'll do our best, Your Honor.

THE COURT: All right. Thank you. And if I don't know what you're saying, I'll be happy to tell you.

All right. So who will be speaking on behalf of QUALCOMM as to the first motion?

MR. GARDNER: I will, Your Honor.

THE COURT: All right.

MR. GARDNER: And that's Eamonn Gardner on behalf of QUALCOMM. So as soon as you introduced the motions that we're going to be going through, you referred to the confidential and the nonconfidential version.

THE COURT: Right.

MR. GARDNER: All of the citations that we are going to provide are using docket 491 as the motion number, and as Your Honor has pointed out, that there's a corresponding confidential version in the record as well.

So we're going to start today with QUALCOMM's motion to strike, and there is a related argument on the '372 patent that we'll cover at the end that also relates to our summary judgment motions. So the two issues are intertwined and so we'll cover both of those. But I think what makes most sense -- and I'll let Your Honor decide -- is to take it bit by bit because there's multiple different issues, and so we'll present on one of those issues and then allow ParkerVision's counsel --

THE COURT: Yes.

MR. GARDNER: -- to respond on that particular portion of the motion and then proceed forward.

THE COURT: Right. That makes sense.

MR. GARDNER: And, Your Honor, we handed up two copies. We don't know if your clerk would also like a copy of the slides that we're going to be presenting.

THE COURTROOM DEPUTY: You did.

MR. GARDNER: Already taken care of.

So just to start off, Your Honor, I think there's a few basic black letter law principles that we think are the foundation of QUALCOMM's motion. So first, Federal Rule of Procedure 37, you know it really just stands for a simple proposition, which is you cannot raise arguments, theories that you didn't disclose during the discovery period in a timely manner. So you know, as we'll see today, there are interrogatory requests that go to some of these issues. There were infringement contentions that required ParkerVision to disclose these issues, and ParkerVision didn't do so. And so the simple result is that they're precluded from being able to proceed with arguments that were, just frankly, not disclosed.

The second sort of fundamental principle that we'll be dealing with is the *Daubert* case, and I think as Your Honor has pointed out, that federal judges are not scientists, but the court still serves a very important gatekeeping function in order to make sure that the jury only hears scientifically

reliable information.

THE COURT: Let me just interrupt for a second. Why is that timely? Let me get to the point on that. When I was reading through your motion, I saw several very clear *Daubert* arguments, lack of testing and simulation, et cetera. And they're *Daubert*-driven arguments. I've ruled on probably, I don't know, half a dozen or more *Daubert* motions in this case. The deadline for *Daubert* filing has passed. If these are echoing arguments you previously made in *Daubert* arguments, that's fine.

But if you're using this motion to revisit *Daubert,* why is it not barred by the case management scheduling order?

MR. GARDNER: So I think that that this is how the motion was titled. It was filed timely on the *Daubert* deadline date. So this is not a motion that was filed late after the *Daubert* deadline in this case. This is QUALCOMM's motion addressing issues that are issues for a *Daubert* motion. So you know, I think that if Your Honor has a concern, I don't think there's any issue here. This was filed timely on the Court's date for *Daubert* motions.

THE COURT: I've just never seen a *Daubert* filed in this way. Usually it's to an expert's opinions, where it goes against the expert. Here, it's embedded in a different motion. I do recall looking back at the CMSO and any modifications to it, and I don't recall seeing that this was filed consistent

with the deadline for *Daubert*, but I'll check that. When I looked at it, I did not -- the first thing I did when I saw a *Daubert* argument was go back and look, is it timely. And when I went to the case management scheduling order and modifications to it, my recollection was that this was filed -- this motion was filed after that deadline. Perhaps I'm wrong about that, but I'll double check.

MR. GARDNER: Yeah. We'll double check the same thing, Your Honor, but, again, we filed this as a *Daubert* motion against our page limit at that time.

THE COURT: Right. I'm more concerned if it's timely, but I'll look at that.

MR. GARDNER: Okay. So the foundation to the *Daubert* decision is Federal Rule of Evidence 702. And what the Supreme Court set forth in *Daubert* is that, as the gatekeeper for this scientific evidence -- and, again, what QUALCOMM's motion goes to is the expert testimony that ParkerVision is proposing to submit in this case or the testimony that they intend to elicit at trial.

And there are really three main portions of 702 that the arguments go through. First, is that ParkerVision just did not submit sufficient facts or data to support the opinions that their expert is providing, and that goes to, you know, the lack of simulations, the lack of actually any calculations or analysis related to some of the issues in dispute; the second is

the reliability of the products or methods. That would be, as for example, the Tau off over T argument that we'll start with; and then, finally, whether or not they reliably applied those principles and methods to the facts of this case. And I think that the importance of Rule 702 is it makes very clear that it really grounds it in the facts of the case and what the issue in dispute is, and we'll go through that today.

Now, the *Cobra* decision is one of the decisions that we'll discuss as support for QUALCOMM's motion, and the *Cobra* decision ends up being a very analogous decision to the issues that we're going to be facing today. So for example, in the *Cobra* decision, the Court made clear that -- and it's actually quoting an Eleventh Circuit decision, as well as *Daubert* -- that the expert testimony has to both rely on a reliable foundation and it has to be relevant to the task at hand. And again, we'll look at the Supreme Court's *Daubert* decision, but what the Court makes clear is that it's not enough just that you're citing to scientific knowledge. You actually have to cite to scientific knowledge that goes to or is tied to the issue in dispute, and that becomes very important in this case.

In the *Cobra* case, what the Court really looked at was -- there, the dispute centered on the physical properties of a circuit that was at issue, just as some of the disputes in this case focus on the physical properties of the circuits that are at issue. And in *Cobra*, the Court really looked at the expert

failed to do an analysis of those physical properties. So the Court, you know, really looked at it and said, It's not enough that the expert looked at documents that may or may not be reliable. It's really whether the expert looked at the right issue, and that's the physical properties of the device.

The *Becton, Dickinson* case is also instructive. In that case, the Federal Circuit, dealing with a patent case, dealing with a case where one of the issues in dispute is whether or not a device stores energy, which is, again, another dispute that we're facing in this case, whether or not the accused products store energy in the way that ParkerVision alleges. The Court said, The failure to provide test data or demonstrations in order to be able to support the expert's analysis is not enough. And again, in that case, you know, there was no dispute about the general design of the product. You know, the expert looked at the physical product itself and looked at -- but the expert didn't go to the step that was really required, which is that the industry really requires in those types of instances that you perform simulations because just looking at the product wasn't enough.

So we're going to start -- I think what will make sense is for QUALCOMM to go through -- there's four motions in our -- or I guess our *Daubert* motion is split into four parts. The first one is the motion to strike undisclosed sort of new theories on this Tau off over T issue, and we'll go through that first and

then allow ParkerVision to be able to respond and then go through each of the --

THE COURT: Identify please what patents they apply to and then, of course, at some point I'm going to want to know if there are any claims within a given patent that are not impacted by your argument. So if there's an argument, as I mentioned already, there's often a reference to numerous claims that have been invalidated or whatever. That doesn't tell me if there's none, if that escapes your argument, assuming, you know, I find it to be correct. So I just need to drill down on that a bit.

All right. So let's start with the opinion first, the opinion which you allege was first presented in rebuttal expert reports.

MR. GARDNER: Yeah. And I'm going to go ahead and try to answer Your Honor's question first.

THE COURT: I was of the view initially that this was part of the '177 which had been dropped, but apparently it crosses over to another patent.

MR. GARDNER: Yeah, Your Honor, and so -- I'm going to start with your question of what does this motion relate to.

One more slide.

I unfortunately didn't have a great slide to be able to answer Your Honor's question, but I want to make it very clear on the record so that there's no confusion. So ParkerVision is using the Tau off over T theory to argue about receiver claims,

and I want to make very clear what the receiver claims are. So as you can see in this chart that is provided in slide 31 to QUALCOMM's deck, the '907 patent has two claims that are at issue, claims 1 and 10, and both of those claims are receiver claims. So the Tau off over T issue applies to both of the claims in the '907 patent.

The second is the -- in this chart it lists the '940 as a transmit patent, and that's typically how we refer to it because predominantly the claims relate to the transmit side, but the claim 24 also relates to receiver issues. So QUALCOMM's motion also relates to claim 24. And the 331 is a dependent claim from claim 24, so it also relates to that claim.

So as Your Honor already covered, there were three parts to our motion to strike undisclosed theories. Part A and C have been mooted by the fact that the '177 and the claim 107 of the '372 patent are out. So the only issue left is our motion to strike the untimely and unreliable Tau off over T theory.

So first I want to start and I want to make clear what ParkerVision's Tau off over T theory is, because it's important to understand how ParkerVision is trying to use this theory in order to decide whether or not ParkerVision has met its burden in showing that it's reliable. So the Tau off over T theory, ParkerVision's expert did a calculation, and he did a calculation of something that's called Tau, and then he used time, which is a very well-known variable. And there's no

dispute between the parties that the calculation of Tau and time are known variables in the art.

The issue here is that what ParkerVision's expert tries to do is he tries to do this calculation, which has never been disclosed in any scientific journal, never been used in any a scientific reference, never used in the patents, never been disclosed, never been tested. And they try to use this theory and they say, If we look at this calculation that's never been done before and we do Tau-off and we divide it by T, then we can look at that relative value and we can decide whether or not something is a voltage sampler or energy sampler. And why that's important, according to ParkerVision, is that if something is an energy sampler, ParkerVision's argument is that it falls within the claims, and if something is a voltage sampler, ParkerVision's argument is that it falls outside the claims.

So ParkerVision is trying to use this Tau off over T theory to tell us what falls within what we've now defined as their receiver claims or what falls outside what we've defined as the receiver claims. And, again, I think that there are two parts of this that are really important. It's that they're using the calculation, not just the variables, and, second, is that they're trying to use this calculation to prove whether or not something is an energy sampler or voltage sampler.

THE COURT: And why is that improper? Is it the

timing of the disclosure? I mean, the fact that you're claiming it's never been -- that this calculation has never been used before that you're aware of by experts in the field doesn't mean that an expert lacks the ability to use it now, because, as you know, the *Daubert* analysis -- let's assume *Daubert* is timely, and I may have been looking at the date of the sealed versus the original filing, and that may have thrown me. Let's just assume everything is timely.

My purpose is to see if the person has, you know, the training, qualifications, education and is relying on reasonable methodology. So the fact that something is being presented as a theory now that may not have been presented before is not necessarily dispositive. Right? And it doesn't matter if I think the argument is persuasive. In fact, I'm not supposed to consider whether I believe the expert's explanation. Did they have the methodology, did they have the training and experience, you know, the typical *Daubert* analysis. And if I get through that part, then the fact finder decides if they accept it as being persuasive.

So when you're saying it's not been disclosed before, I want to understand what you mean by that.

MR. GARDNER: So the *Daubert* decision -- and, again, I think it's so important that we emphasize that it's the Court's role to act as a gatekeeper for this.

THE COURT: Right. I see this all the time. You

don't have to explain *Daubert* to me.

MR. GARDNER: So there has to be evidence that's presented by the Plaintiff, the proponent of this theory, that this is a scientifically reliable theory. And in the *Daubert* decision, they go through a set of potential ways the Plaintiff -- or in this case the Plaintiff -- the proponent can support the reliability of that theory. And in this case, none of those are met.

Now, I think that you had asked why the decision -- or why the Tau off over T theory needs to be struck. There are three reasons. One is that it's just untimely. They failed to disclose this during the discovery period. They waited until their rebuttal expert reports, and that in and of itself is sufficient reason. The second is really this issue under *Daubert.* And then the third is, if ParkerVision's theory were allowed, it would actually contradict the patents in this case. And, you know, we think that both ties to *Daubert* and just a fundamental principle that they can't present a theory that would be directly inconsistent with their own patents in this case. And so we think that any of these reasons are sufficient for the Court to strike.

We had started off with the timeliness issue. If Your Honor would like me to skip to the *Daubert* issue, I can, otherwise I was going to --

THE COURT: I appreciate the timeliness issue, that

you're arguing it first came out in rebuttal, was not disclosed in the original expert disclosure, not disclosed in discovery, and, therefore, you didn't have a motive to either respond to it with your experts or conduct discovery going towards those theories. So I fully get that.

MR. GARDNER: Okay.

THE COURT: How is it inconsistent with the asserted patents?

MR. GARDNER: So I think that goes to -- and if Your Honor goes to slide number 25. So after receiving ParkerVision's Tau off over T theory, and, again, this is in rebuttal reports, Dr. Razavi, QUALCOMM's expert, took that theory and applied it to the disclosures in the asserted patents. And so what Dr. Razavi did is he said, Okay, I'm going to use the methodology that ParkerVision's expert relies on, and I'm going to apply that to figures 126 -- I think it's a little bit hard to read, but it's 126, 127, and 129 that are all highlighted here, and he said, I'm going to apply that exact same calculation that ParkerVision's expert raises, this brand-new theory on how you can differentiate voltage samplers and energy samplers, and I'm going to apply it to something that the patent says is an energy sampler. Right?

When Dr. Razavi performed that calculation, what Dr. Razavi's calculations show is that the Tau over T is 4,040. Now, this is important because what ParkerVision says -- what

ParkerVision's experts say is that anything over 200 is a voltage sampler. So what the patent says is an energy sampler, ParkerVision's Tau off over T theory would label as a voltage sampler. So this theory doesn't even work when it's applied to the very patents in this case.

And that doesn't make any sense. It's not possible that what the patent says is an energy sampler and what it discloses as an invention is all of a sudden a voltage sampler. So if we're looking at this theory and we're saying, Look, there's no scientific publication that supports differentiating between voltage and voltage samplers and energy samplers, and then we try this theory, and we try it against the most reliable thing in this case about what an energy sampler is, and it doesn't work. And again, you know, that is a very significant issue, that it just does not reliably apply, and that in and of itself shows that the theory is not reliable and can't be used.

I do want to make one issue clear, is that ParkerVision is both using this as infringement theory and as a validity theory. And I think that's important because I know -- I appreciate, Your Honor, that you understand the argument, but I do think we have a dispute between QUALCOMM and ParkerVision as to whether or not this is actually an infringement theory, and I do want to address that.

So on slide 14 we've excerpted a portion of ParkerVision's expert report, and in the first portion of it in yellow, they

perform this Tau off over T theory, and they get this number of 5,555, and they say that 5,555 satisfies the relationship of a voltage/hold, a voltage sample and hold sampler, right, so a voltage sampler. They say that that calculation can be used to say that this prior art reference that they're analyzing falls outside the scope of the claims.

Then they turn this calculation around and they try to use it against a QUALCOMM product, and they say, Well, when we look at a QUALCOMM product, the QUALCOMM product has a Tau off over T calculation of 9.55, so a low number. And they say, Well, that, therefore, tells us that it's an energy sampler and falls within the scope of the claims.

That's an infringement theory. This isn't in their infringement expert report. This isn't in their infringement contentions. This wasn't disclosed at any point during the case until a rebuttal expert report on validity. This is an infringement argument. There's no way for a jury, when their expert says, I believe that because this number qualifies something as an energy sampler, that, therefore, falls within a claim the jury is going to understand that as an infringement argument, and that infringement argument was never disclosed in this case.

ParkerVision also argues that the Tau off over T theory is in response to Dr. Razavi's simulations. They make that attorney argument, but they do not provide any evidence to

support that argument. And, again, this is important. It's their burden.

When ParkerVision's expert testified about how he developed this theory, he didn't say he looked at any simulations in order to come up with this theory. He said he was looking at the prior art circuits. He did not testify that he looked at simulations. He did not testify it was in response to simulations. And his expert report doesn't say it was in response to simulations. This is just an attorney argument that's been constructed by ParkerVision. In fact, when we looked -- when we asked ParkerVision's expert whether or not he provided a response to Dr. Razavi's simulations, he said, I would have to check my report, but I don't think I did. So ParkerVision's argument that this is somehow a response to simulations doesn't make any sense and isn't supported by any evidence.

The next argument that ParkerVision makes is that they were merely performing these Tau off over T calculations in order to rebut arguments that were made by Dr. Razavi, and in particular, they say Dr. Razavi has made this argument that the prior art behaves similarly to the accused products, and so they're allowed to respond to that argument. And the citation they provide here is really indicative, and I want to be very clear about this. The cite to Razavi's report that they provide is to Crols, this Crols prior art reference. So what they're telling

Your Honor is they're saying this Tau off over T theory, this is in response to something Dr. Razavi said about Crols.

Let's see if that makes any sense. This is every single Tau off over T calculation that Plaintiff's expert did, and it doesn't include Crols. So how is it possible they say, We were responding to Dr. Razavi's argument about Crols, but they didn't address Crols? This argument, again, it doesn't make any sense. They say that this is a timely theory, they're just responding to something that Dr. Razavi did. There's no evidence of that. And in fact, if we look at the actual evidence, it suggests that they were not responding to any arguments by Dr. Razavi. And in fact, they didn't even address the argument from Dr. Razavi related to Crols. They left Crols out of their calculations completely. So, again, we just think that these arguments are just to confuse and mislead the Court.

Now, the second basis, and I do think the second basis is very important, is this issue about *Daubert*. And, again, I want to -- I want to keep on coming back to this because it's so important. The Tau-off -- the way they're using Tau off over T is they're saying the calculation of Tau off over T can distinguish between an energy sampler and a voltage sampler. And so we have to know whether that is a scientifically reliable argument to make, and the guidance that we have from the Supreme Court and the case law says we have to look at factors in order to determine whether or not something is scientifically

reliable.

And those factors are: Whether it has been or can be tested; no evidence of that in this case. Whether the theory or technique has been subjected to peer review or publication; it has not been subjected to peer review and publication. And the potential rate of error; and we've just shown the potential rate of error is very high because it mislabels something that's actually in the patents. So we know under this final factor that the potential rate of error is very high and doesn't even properly label something that's in the patent as a voltage sampler or an energy sampler.

Now, ParkerVision does a lot of argument in their rebuttal to say this, the RC time constant Tau was known, and we do not dispute them. The RC time constant Tau was known. They also make an argument that time was known. They then say this textbook calculation written as Tau over T -- not a single piece of evidence actually shows that calculation. So they cite to references that include Tau, and of course we all know that time exists and can be used in all kinds of calculations, but they don't actually show that the calculation is used.

Even if the calculation were used, ParkerVision has no evidence that it's been used to establish the link that they think is important here. So what they're trying to do is they're trying to link Tau off over T as a calculation to whether or not something is a voltage sampler or an energy

sampler. That's the link they're trying to establish. And the Supreme Court has said knowledge enough isn't important, unless there's evidence of a link between these -- sorry -- a link between these two pieces of information.

And that in the *Daubert* decision, the Supreme Court gives an example that's very on point to what we're dealing with here. So the Supreme Court says, The study of phases of moon may provide scientific knowledge about whether a certain night was dark, and if darkness was a fact in issue, the knowledge will assist the trier of fact. But Tau off over T may be valid scientific knowledge, and if there was something about the RC time constant that was in dispute, then they could use the RC time constant. But the RC time constant is not in dispute. What's in dispute is whether these devices are voltage samplers or energy samplers, and on that point there is absolutely no link between -- established by ParkerVision, and again, it's their burden to show that this is a reliable methodology. There's absolutely no credible grounds that form a connection between Tau off over T, the calculation that they're performing, and whether something is voltage sampler or energy sampler.

I think I've repeated this point enough that I won't go through the slide.

Another very important factor in this as to whether or not this is reliable is the fact that ParkerVision's own experts don't even agree. So ParkerVision's experts can't even agree on

when you perform this calculation, Tau off over T, whether you use the time should be based off a 75 percent off time or 25 percent off time.

And so we've provided cites here. But I think it's probably most helpful for the Court on slide 24 to look at Dr. Allen's testimony. So during his deposition -- and I want to be really clear about this. Dr. Allen is the one that developed this theory. This theory doesn't exist in any printed publication. Dr. Allen came up with it for this case. So he is the person who created this theory. He's the person that came up with it. He's the person who developed it for this case and made it an argument.

And when we asked Dr. Allen during his deposition, When you're analyzing the Tau off over T-off, when you're making that analysis, the analysis that he relies on in his expert report, we say the T-off time would be based off of a 75 percent off period, and Dr. Allen says, That's correct. We then confronted Dr. Allen with the fact that in his appendices he had actually used a 25 percent off time. And so we said, Look, Dr. Allen, we all agree. In your deposition you've acknowledged that it's supposed to be a 75 percent, and we went to his calculations, and Dr. Allen said, You know what, you're right. I made a mistake. That's okay. It's okay for experts to make mistakes. We all make mistakes. The issue here is that Dr. Allen says he made a mistake and he should have used the 75 percent off time.

And then, as the Court knows, there was a substitution between Dr. Allen and Dr. Steer. And then Dr. Steer comes into this case and Dr. Steer all of a sudden testifies, No, Dr. Allen is wrong. So we have a brand-new theory that's never been submitted for, never under peer-review publication. When we actually apply it to the patents, it doesn't work. And the two experts that are supposed to be able to present this from ParkerVision's side don't even agree on whether we're supposed to use a T-off time of 75 percent or a T-off time of 25 percent. And the fact that Dr. Steer disagrees with Dr. Allen is really notable because Dr. Allen is the one that developed the theory.

I mean, I just don't know how QUALCOMM is able to address this type of unreliability. I mean, if the jury is allowed to consider this type of evidence, it's going to completely mislead them because they have no way to evaluate the reliability of a theory like this, when, again, the experts don't agree, it doesn't make sense when it's applied to the patents.

THE COURT: What's the effect if I exclude this theory? Let's, say, assume that I agree with everything you've said. What's the effect in terms of the patents that are currently pending? Does this eliminate claims 24 and 331 of '940 and 1 and 10 of '907, or does it go beyond that?

MR. GARDNER: No. It just impacts, as is the case in many *Daubert* decisions, on what they would be allowed to present at trial. So at trial it would just take this Tau off over T

theory. ParkerVision has other arguments that they've made, and we're not trying to suggest that this, you know, obviates the case in any way as to any of those claims. So it would just make it such that they couldn't present this Tau off over T theory either for infringement purposes or for, in their case, validity arguments.

I do want to quickly address one argument that was made by ParkerVision. So ParkerVision said -- in their opposition to our *Daubert* motion, they made this argument that, Well, if we failed to disclose this theory in a timely manner, then you should also strike Dr. Razavi's simulations. And this argument doesn't make sense for a number of reasons. If it were filed properly as a proper *Daubert* motion or as a proper motion to strike, then QUALCOMM would have had the opportunity to respond to it. So the fact that ParkerVision improperly raised this issue, it should just be dismissed. I mean, QUALCOMM has never had an opportunity to file briefing in response to this.

The second thing is that it's just based off of a factual misrepresentation. So ParkerVision's counsel represented that Dr. Razavi's simulations were untimely. They've had Dr. Razavi's simulations for years. They had them during fact discovery. These aren't new simulations. Dr. Razavi provided these simulations. In some cases, these simulations go all the way back to the ParkerVision I case, where the Federal Circuit actually relied on Dr. Razavi's testimony about those

simulations. ParkerVision had a full and fair opportunity to challenge Dr. Razavi in those simulations during the first trial, and the Federal Circuit found that Dr. Razavi's testimony on those simulations was compelling. For them to argue that these simulations are late is just -- I mean, there's just absolutely no support for it, and if the Court were even to consider this issue, we would at least request a full opportunity to provide responsive briefing because it's just factually unsupported.

And then, finally, if the Court were to allow this Tau off over T theory into the case, because it was not raised until rebuttal expert reports, as part of filing our motion, we provided an expert declaration from Dr. Razavi in response. QUALCOMM made the argument that if the Tau off over T theory is allowed, that QUALCOMM is entitled to an opportunity to respond to that theory, and ParkerVision did not provide any dispute or response to that, and so we think it's an undisputed issue, that if the Court were to allow the theory in, that QUALCOMM's expert would be given an opportunity to respond to it at trial.

So with that, I think we'll -- that's our part one of the first motion.

THE COURT: Very good. Thank you. That's a great way to proceed. Who will be responding?

MR. VERBONCOEUR: I will, Your Honor.

THE COURT: Could you pronounce your name one more

time for me, please?

MR. VERBONCOEUR: It's Verboncoeur. It's Americanized.

The Court asked a question about whether the motion was timely filed, and we have some comments on that. At docket 477, the parties requested to submit both dispositive and *Daubert* briefing on February 16th, 2021, and at docket 515 the Court granted that request and so that the deadline was February 16th, and that corresponds to the docket 491, this motion.

THE COURT: Thank you.

MR. VERBONCOEUR: I want to address the comments that counsel for QUALCOMM made at the beginning of this presentation. I think a repeat that you'll here today, especially as to document 491, is whether computer simulations were required to show the operation of the products. And what I have here on slide 139 is a citation from docket 527-3, which is QUALCOMM's expert report. And as Dr. Razavi points out, accurate mathematical models can be created for all common circuit components, and Dr. Razavi lists resistors, capacitors, and transistors. And here, just as one example, the Tau over T calculations relate to the timing of transistors, and they relate to resistors and capacitors. And as Dr. Razavi says, accurate mathematical models can be created for all of these components.

Could you go to slide two, please?

THE COURT: But the context of that statement, though, is he -- what is the context of the statement? In other words, is he saying it can be? Does that mean a simulation is not necessary?

MR. VERBONCOEUR: He's explaining in that paragraph how simulations are done. And I think we'll get into this later in one of QUALCOMM's later motions. And his position is that simulations automate equations, mathematical models of common circuit components. So before high-end computers, circuit designers needed to do a lot of these calculations by hand. With a high-end computer we can automate a lot of these calculations, but the underlying physics is the same. And what our expert did in his report for many of these things is show the calculations by hand, rather than leaving them all to a computer.

First, I would like to address the argument that we are presenting these opinions for infringement. We're not. They were not in the infringement report from our expert, so we don't plan on presenting Tau over T opinions for infringement. Counsel for QUALCOMM pointed out the Crols reference. I will also direct you to paragraph 481 of the Razavi report that I just cited, and that discusses the Sevenhans reference and it has that same statement. To the extent the accused products discharged sufficient energy from the capacitor, then the Sevenhans reference satisfies this limitation, and it's the same

structure of argument where Dr. Razavi says, Assuming the accused products do this, then the prior art does this. And the reason Sevenhans is included in appendix A2, for instance, of our expert's opening report is to show Sevenhans has this behavior, whereas the accused products have a totally different behavior, and that's why the accused products are included in those charts, not for infringement proof. And that's, as I mentioned --

THE COURT: I'm sorry. You would be willing to stipulate it's not for infringement?

MR. VERBONCOEUR: Yes. We won't offer that as part of our affirmative case. They're not in the infringement report, and I don't think we can do that.

But, Your Honor, just to be clear, to the extent QUALCOMM's expert testifies to the extent the accused products satisfy this limitation, then Sevenhans satisfies this limitation. I think it's fair for ParkerVision to be able to use commonly understood principles of circuit components to show, well, in fact, if you do the math, the prior art behaves different from the accused products, and that would be directly responsive to QUALCOMM's expert's arguments on invalidity in that case.

The second thing I want to point out is, QUALCOMM misstates the purpose of the Tau over T calculations. Whether there's a universal rule where all energy samplers can be grouped on one side and all voltage samplers can be group on another is

entirely irrelevant to this case. What matters are the claim limitations at issue in the asserted patents, and QUALCOMM has the burden to show that its asserted prior art discloses those limitations. I'll get into this in more detail, but one of those limitations is whether the capacitor discharges energy to a load, and that has to occur between samples, which gives us this timing period, and it's that limitation right there that's at issue there, not developing a new theory for a general rule between energy samplers and voltage samplers. Neither of those terms appear in the claims. And also I'll point out that --

THE COURT: Is what you're saying, though, that you've offered this calculation in response to invalidity claims? In other words, QUALCOMM identifies prior art that teaches this particular claim of this patent, and you're claiming that this calculation demonstrates that their prior art is ineffective, or where are we going with this?

MR. VERBONCOEUR: QUALCOMM's argument is the prior art has the capacitor that discharges nonnegligible amounts of energy to the load.

THE COURT: Right.

MR. VERBONCOEUR: What the Tau over T calculation shows, Tau, as I'm going to explain all this in a second, but Tau measures the rate of discharge of the capacitor. If we compare it to the time between samples, then we know how much energy would be discharged compared to other, you know, types of

circuits, and so it's directly responsive to arguments about that limitation. There's between sampling limitations and during sampling limitations. So it would relate to both sets.

And we disclose the theory in 2015 in response to Interrogatory No. 7 that, in fact, the prior art doesn't disclose -- or doesn't show, teach, or disclose sufficient discharge in the capacitor to the load. We weren't required to, as part of that interrogatory response, provide a mathematical proof of that theory. It's sufficient to say, in fact, the prior art doesn't meet this limitation because it doesn't discharge from the capacitor. The role of the expert, later during expert reports, is to come back and back up those statements with, you know, mathematics or circuit analysis and all of the things that experts do.

THE COURT: Doesn't that hurt the -- the fact that the theory, while not voiced as Tau over T, the calculation itself may not have been expressed as a formula at the time that you responded to interrogatories back in 2015, if I understand correctly, but it was a response saying that the prior art doesn't disclose or teach, as you put it, sufficient discharge in the capacitors to the load. If this dispute was happening back in 2015, then doesn't that support QUALCOMM's argument that this should have been in the original expert disclosure, this calculation, not in a rebuttal, and, therefore, it's untimely?

MR. VERBONCOEUR: I would disagree with that, Your

Honor, because our initial report was on infringement only, on which we bear the burden; whereas their initial report is on invalidity, on which they bear the burden. At that point, our rebuttal report shows why their initial report on the issues on which they bear the burden is wrong, and one of the statements that Razavi made is, in fact, Sevenhans, Traylor, Tayloe, all of these references disclose sufficient energy to the load, and our expert's rebuttal to that is, No, I can use math to show you're wrong.

THE REPORTER: Counsel, would you slow down just a little bit? I'm having a hard time understanding with the mask.

MR. VERBONCOEUR: Sure, I will. I'm sorry.

And perhaps it's best for me just to jump into an explanation of how these calculations were done. This is from QUALCOMM's expert report on slide three here. QUALCOMM's expert is explaining how Tau or the time constant, which is equal to the product of resistance and capacitance, determines the rate of capacitor charger discharge. So we express that as Tau equals RC. And this is an example from Dr. Razavi's textbooks on slide four where Dr. Razavi uses this equation.

And I'm citing to the reporting report of ours here, Your Honor, but I just wanted to show how it's relevant to our theory of how the inventions work. There are switch-close and switch-open states in the inventions, and where I have this red box circled there is an energy storage device, which we're

accusing the capacitor here, and QUALCOMM explains that the capacitor is in the prior arts products, that when the switch is open, the capacitor needs to discharge energy into a load. The rate of that discharge will be determined by Tau. The amount of that discharge will be determined by the length of time the switch is open.

And this is an excerpt from our opening report but essentially saying what I just said, you know, depending on the capacitance, the load, and the length of time the switch is open, that will determine how much a capacitor will discharge.

And this is more for illustrative purposes, but an introductory electronics course might have a lab where you have a light bulb, which is a load, and battery and then a capacitor between, and you can measure how much the capacitor will discharge into the light bulb. And different amounts of resistance and different amounts of capacitance will lead to a brighter or dimmer bulb. We see this in everyday life when, for example, we unplug a laptop charger, if the laptop charger has a light on it, it might slowly dim or it might quickly turn off, and the reason it behaves differently between chargers depends on resistance and capacitance and the circuits at issue.

Now, we're dealing with samplers here. So it's a bit more complex. We could imagine plugging in the laptop charger and plugging it out of the wall over and over and measuring how the light on that laptop charger changes between plug-ins, and that

would be more akin to what we're doing here, which is why it's important for us to look at time.

This is also for illustration purposes, but what we have here is a homework assignment from the introductory lab course, and there's a comparison here between Tau and T. And what the student is supposed to do with this homework assignment is compare these two values to determine the behavior of a capacitor. And where Tau is way larger than T, we might not see appreciable discharge; whereas where the opposite is true, you might see appreciable discharge.

And just for clarity and for the record here, on slide eight, we added those red lines. This wasn't a completed assignment.

So I want to make this point clear. QUALCOMM's counsel argued that no reference anywhere uses this theory. We disagree. There is a reference cited in Dr. Razavi's report that uses the same calculation as I'm about to show you. And the point that Dr. Razavi is making in citing this reference in paragraph 214 of his report, at footnote 167, is that a person of skill in the art would have found it obvious to modify one of the prior art references to discharge more between samples. So we have Tau discharge between samples time.

And Dr. Razavi cites to this reference called Dethlefsen that describes ways that we can express sampler efficiency. And this first equation is an exponential equation, but what he's

talking about is the efficiency of the sample and hold circuit, which was something that was known in the prior art. And you'll see that there's a T value divided by RC. And the experts agree RC stands for Tau.

The reference goes on to establish another variable. This is called hold efficiency. So in the prior art, the samplers had the opposite goal of ParkerVision's invention. The capacitor was supposed to hold energy and not discharge it. Whereas in ParkerVision's invention the goal is for the capacitor to discharge that energy to the load.

And just like in our expert's theory and calculations, T is a sampling period and R is the load resistance, just like in our expert's theory, and C is the capacitance. And I'll note that this reference says that an ideal hold efficiency would have infinite load impedance. Whereas in ParkerVision's inventions, something like the opposite would be true.

The paper -- and I'm still citing to the Dethlefsen reference from the Razavi report -- simplifies these equations. When there are low sampler efficiencies -- and this is on slide 12 -- what I want to point out here is that low sampler efficiencies in the prior art meant the opposite of ParkerVision's inventions, meaning that when we have appreciable discharge, we can model our equations to look like this on slide 12. And, again, this is Dr. Razavi's report, at paragraph 214.

And I just want to do some simple algebra or rearranging of

the equations to show you that they're the same thing. Our expert's calculations on the one side are Tau over T, and recall that's R times C over T. On the other side, you have 1 minus T over Tau. And these are two of the same coin. There are different ways of expressing ratios. So if we have Tau over T equals 1, then on the other hand, the Dethlefsen hold efficiency would equal zero. If we have Tau over T equals 10 -- and you can go on and on with the different calculations, but at bottom it's a way of expressing a ratio.

When you're looking at voltage sample in hold circuits, it makes sense to express the ratio with the maximum limit of one, where one would be your ideal sampler. When you're looking at ParkerVision's inventions, we can rearrange the variables so that we're not dealing with tiny numbers, instead we can deal with numbers greater than one so that it's easier to read. But at bottom, the methodology, which is what *Daubert* is all about, is the same. That is the same as a reference cited by QUALCOMM's own expert to show how one of skill in the art would change the discharge of the capacitor between samples.

And I'll note here on slide 14, Your Honor, that Sevenhans, that was cited in paragraph 481 of Dr. Razavi's report with the comparison between the products, is listed here as one of the references tested, just to show why we included the accused products to show the juxtaposition.

Sorry. For the court reporter, slide 14 should be sealed.

And what these calculations ultimately resulted in using the load resistance values, the capacitance values, was a measure of energy dissipated in the load when the switch is closed or when the switch is opened.

And I don't think QUALCOMM has any issue with these calculations using the same equations. I think their sole issue was whether to express the ratio the way we did. But as I showed the Court, QUALCOMM's own reference expresses it in a very similar way, which I take as an endorsement of the methodology when Dr. Razavi cites to the reference to show how one of skill in the art would go about modifying the capacitors on Tayloe.

THE COURT: You're probably going to get to it, but what do you make of QUALCOMM's argument that the calculation that you use to distinguish voltage versus energy sampler doesn't work when it was applied by QUALCOMM's expert? I think it was to figures 126, 127, and 129. And this goes to reliability of the methodology, as well as the fact that Drs. Steer and Allen differ dramatically on some key points. I don't want to take you off your argument, but it seems like you were kind of getting there.

MR. VERBONCOEUR: Yeah. I could address that now.

Mr. Burgess, slide 37.

As an initial response, I think this is something of a red herring to the *Daubert* analysis, where the *Daubert* analysis, as

we heard, is about expert testimony, it examines the reliability of the methodology applied. Here, we're looking at the equations and the ratio. Whether the patents disclose it is an attack on the patent, rather than an attack on the admissibility of the expert's testimony. Those are two separate inquiries.

But even assuming it's relevant, QUALCOMM'S argument about figures 126A, et cetera, are misguided. What figure 126A discloses is a switch module. And what I suspect QUALCOMM would point out to you is that we submitted a declaration in support of our motion in opposition -- or sorry -- in support of our opposition to QUALCOMM's motion for partial summary judgment back in 2019. But we relied on figure 126A to show a switch module, not to show discharge from a capacitor into a load.

The reason that's important -- and I'm on slide 39 now -- that relates to a different part of the invention. A switch module, circled in red here, is the component that opens and closes, whereas whether the capacitor discharges into the load is a different part of the invention. And what's important --

THE COURT: Do you use the same calculation, though, to determine whether it's voltage or energy? I don't really understand how that works, but the point that I think is being made by QUALCOMM is that, if you take your calculation, which comes up with a figure above which it's voltage, below which is energy, or reverse, whatever it may be, and when it's applied to figures 126, 127, 129, it doesn't work. It doesn't come up with

the analysis that you want, which means it's not scientifically reliable. That's the point they seem to be making.

MR. VERBONCOEUR: Yes. I have three responses, Your Honor. First, whether that means it's scientifically reliable is a red herring. The reliability would center on the equations themselves and would be independent of what the patent says. Again, this would be an attack on the patent.

THE COURT: If as applied it doesn't work, it doesn't work, it doesn't work, right? I mean, the jury doesn't get to hear a theory that -- you can simplify it, but the jury doesn't get to hear a theory that doesn't work, simply because an expert says, I have a methodology that takes me to the wrong answer. You can't have an expert say, One plus one is seven, and have the jury hear it because the expert says, I say so. That's clearly not allowed.

So they're arguing that the reliability, peer review, which I haven't heard you speak to yet, testing -- and I'm drawing a blank on the last one, but we all know what it is -- and their argument seems to be as applied it doesn't serve the function that you're offering it for, and, therefore, the jury shouldn't hear it, because all they're going to hear is the end of the story.

MR. VERBONCOEUR: Right.

THE COURT: We all know the jury isn't going to follow 99 percent of what you all are talking about in this trial.

Right? We all know that. They're going to come up with a rough idea of who deserves to win, but the nuances of a patent case, there's no way a jury understands this --

MR. VERBONCOEUR: So the direct --

THE COURT: -- which is why this shouldn't be tried to a jury, in my opinion. They will never understand. This should be PTAB 100 percent. We should be out of it, but that's how it is.

MR. VERBONCOEUR: I understand your question, I think, Your Honor. And the issue is that the patent, including figure 127, speaks to two different kinds of samplers. One, the patent calls under-sampling, and the other the patent calls energy transfer or energy sampling. Figure 126A would apply to both. And the purpose of 126A is a switch module, and so it happens to be that the resistance value shown there would be in the under-sampling category, which the claims don't cover. So we don't think there's a dispute there.

So I have here on slide 40 where the patent talks about discharge between samples, which are called pulses here in the patent. And in the section of review of under-sampling -- so again, this is at voltage sample on hold, the voltage sampler reference that I showed earlier -- the capacitance does not significantly discharge, which would be consistent with figure 126A. Whereas with the energy transfer scenario, the capacitance is significantly discharged by the load between

pulses.

And just to go back to slide 38 here -- or is it 37 here -- again, the patent describes figure 126A as a switch module, which is independent of the later discussion about which capacitance and which resistors you ought to use if you need significant discharge.

THE COURT: What about Allen and Steer taking different views of the application?

MR. VERBONCOEUR: I can address that too, Your Honor. The disagreement between Allen and Steer is the factual inputs of what goes into the equation, not whether the equation is valid.

Mr. Burgess, could you go to slide 23?

Counsel for QUALCOMM pointed out that there was a disagreement over which time value was appropriate for at least some of the references, and first point on that is that that is a classic fact disagreement. What does the reference disclose as the sampling time? You would read the reference, and the experts might disagree about how a person of skill in the art would read that reference.

What's not being contested with that disagreement is that Tau over T is unscientifically invalid ratio. So those are two separate questions. But even looking at this disagreement, I have on slide 23 here a deposition transcript from Dr. Steer, and he's explaining his response to Dr. Allen.

So question, "So Dr. Allen agreed that he should have used a 75 percent off time, correct?"

Answer -- and I'll skip the very first sentence -- "It could take me a long time to take, but he says that even with Dr. Razavi's modifications we get these results. And a clear example of this is Estabrook is driven by a sine wave. So it doesn't really make sense to talk about duty cycle. And in any case, it wouldn't be 25 percent," which is what Dr. Razavi said it was.

And so what Dr. Steer is explaining here is that these calculations assumed, first, best case scenario for Dr. Razavi. You get all of your assumptions. We can still show there's a difference between your references and the claim limitations at issue.

And second, Dr. Steer explains later the duty cycle times, which I'll show in this next slide were normalized here as a way of comparison. So if we assume they all have the same time, which is a fact in dispute between the parties, it doesn't matter because the prior art still doesn't show discharging the capacitor to the load between samples as required by the asserted claims.

I've highlighted on slide 24 here why Estabrook is labeled Estabrook 25 percent. Dr. Steer didn't testify to why it was called that specifically in the chart, but I think it's consistent with his testimony that there was an assumption about

modifications made to the circuits in order to compare them more readily, and to sort of say, Dr. Razavi, fine, all of your modifications, let's assume them. You're still wrong.

You had a question about some of the *Daubert* factors, Your Honor, and so I'll go through these. The fact of publication, I think we've got that. We cite to in our brief and in these slides a textbook by Dr. Razavi. We cite to in our brief multiple published papers by Dr. Razavi. And I will point out one of those papers, I think it's the integrated capacitor -- or sorry. I'm forgetting the exact name. But one of those papers by Dr. Razavi uses the same equation we saw in the voltage sample and hold efficiency reference, but what it didn't do was simplify it to a ratio for comparison's sake. But the rate of discharge of the capacitor using T and Tau, before we did some math, was present in his paper. And I don't think that there was any argument about the manipulation to express a ratio, as far as whether it's valid to divide to express a ratio or that sort of thing.

Widespread acceptance, I will readily admit, Your Honor, that not a lot of cases are about patent claims and whether capacitors discharge to a load, and so there's not a need for a ton of these comparisons. But the fact that it was cited by Dr. Razavi, that is the reference showing hold efficiency, which is the same thing we're doing, I think indicates acceptance of this technique, particularly when Dr. Razavi was talking about

what one of skill in the art would go to to look about how to modify the capacitor to discharge more between samples.

And I know you're familiar with the law here, Your Honor, but I do want to make a point that that at most this question about Estabrook and the time it's on and these sorts of things, those are disputed facts. Those get plugged into the equation. And that is the methodology at issue. It's not the correctness of facts. And there's nothing that says experts can't ever disagree with one another about what a reference discloses. It doesn't fail *Daubert*, for instance.

Now I want to address the question of whether we disclosed this theory in response to Interrogatory No. 7. We did. And this interrogatory requests that ParkerVision provide the bases for its validity contentions. And to list one example, and you'll see on slide 28 that two separate responses are listed here because one set of references QUALCOMM disclosed in 2015 before it filed IPRs, another set of references they disclosed in 2020 after they filed IPRs, and so we updated our response in response to the prior art too in 2020. So there's a 2015 response and a 2020 response.

What ParkerVision said to QUALCOMM in 2015 is that the references fail because little to no energy must be transferred to the capacitor between aperture periods. Aperture periods are referring to sampling here. And this is exactly the same theory that our expert expresses in his rebuttal report, that there is

no periodically -- there is no -- in between periodic couplings, no energy would be provided to the load, and that is the same statement that was made in 2015.

And what I have here on slide 30 is actually our September 15th, 2015, response to QUALCOMM's Interrogatory No. 7, which is put over this equation. It's the proper interrogatory response to explain the theory of the case. Your art fails because it doesn't discharge from the capacitor to the load. Then it's the role of the expert to come and use expert methodology to create a way of expressing that with scientific principles, such as Tau, which is a well-known ubiquitous concept of discharge from a capacitor.

This here, slide 31, is to show that it is in fact the dispute between the parties as to whether the capacitors charge or discharge as required by the claims. And, again, I'll point out this is a different calculation than whether we can create a bright-line rule to distinguish all energy samplers ever and all voltage samplers ever. That's a straw man of our position for how these should be used. We have to look at the particular prior art references that QUALCOMM has the burden of proof on.

And we're not affirmatively moving to strike QUALCOMM's simulations, including the ones that weren't disclosed in 2015. Our point is more, if you take their approach, that is, that this equation needed to be in interrogatory responses, on slide 30, then all of their equations that weren't in their

contentions would fail for the same reason. We don't think that's an appropriate *Daubert* challenge or an appropriate motion to strike, but the point is, there's an inconsistency in those positions, where of course their expert expounded on the theories they disclosed and used math and other scientific methods to explain those theories, and that's exactly what QUALCOMM did, and it's exactly what we did.

Now, this is slide 33, and it should be sealed, according to this highlighting here.

So QUALCOMM argues and they argue today that we didn't disclose the theory. We disagree. It was in words, and that's fine for an interrogatory response.

THE COURT: You said, "It was in words," correct?

MR. VERBONCOEUR: That is correct.

THE COURT: Yes. So you pointed to the interrogatory where you gave the explanation and then later the expert puts it into a calculation, as you've articulated.

MR. VERBONCOEUR: That's correct, Your Honor. And to be clear, we did this for all of the references, but rather than going through this 40 times, I put one, and we identified the missing claim limitations in each reference, and those claim limitations relate to discharge.

And the last comment I think I'll have, unless you have more questions, Your Honor, is just to show the patent claim and why it's relevant. Again, we're not in the creating universal

rule to distinguish all voltage samplers from energy samplers territory. We're in the, does the highlighted claim limitation occur in the prior art, which QUALCOMM has the burden to show.

Our expert uses phrases like voltage sampler, energy sampler, because that's what people of skill in the art do, but he's really -- and he does talk about this particular claim limitation here, and that's what's important.

Thank you.

THE COURT: Thank you. Let me take a short break now before going we go to the next section. I just want to be mindful of my court reporter and give her a little time in between.

MR. GARDNER: Your Honor, can I address a couple of points that were raised there?

THE COURT: Sure.

MR. GARDNER: And then we can take a break --

THE COURT: Certainly.

MR. GARDNER: -- before we do the next actual motion.

THE COURT: Yep.

MR. GARDNER: Matt, can you go to slide 16, please? Sorry, 18.

So I want to start ParkerVision's counsel has said we've not characterized their theory accurately, and I think there are two really important things I want to point out here.

One is, I want to point out what the calculation that

they're using in this case is. So as we can see here, this is a direct copy from ParkerVision's rebuttal report, and in here the calculation, it says, DeMaw is a voltage sampler -- or the results show that DeMaw is a voltage sampler, and Tau off -- and this is really important. Let's remember this off part of this because ParkerVision's counsel just did a long thing about this shows up in the prior art or in the Dethlefsen paper, and that is just absolutely not correct. The second -- and then it says, over T off equals 364. And then the conclusion their expert draws from that calculation is that he can testify to a jury that as a voltage sampler, I've used this calculation to define it as a voltage sampler, and as a voltage sampler, it's distinct from the energy sampling claims -- or energy sampling methods of claims 1 and 10 of the '907 patent.

He's using the equation as a rule to tell you it is a voltage sampler, and, therefore, it is outside the claims. That's directly from the expert report. This isn't my testimony. This isn't counsel's testimony. This is the expert report that was submitted in this case.

I also think that it is so important to mention that this says Tau off over T off. ParkerVision's counsel just spent a lot of time going through the Dethlefsen paper, and if we go -- I know the Court -- I don't have, obviously, access to their slides, but for example, page 12 of the Dethlefsen paper that they cite to is Tau on.

There's two important things. One, they didn't cite the Dethlefsen paper in their opposition on this. So they're sort of springing this at the hearing and saying, Oh, you know, we didn't meet our burden in opposition, but we'll raise this new argument right in front of the Court, and the new argument, if anything, supports us. This says, Tau on. This is a completely different calculation, and this is exactly our point. So for ParkerVision's counsel to, you know, not cite this in their opposition and then come to the hearing and say, Well, this is exactly what proves our case, is startling because this is a completely different calculation.

The calculation that's right here on the screen in front of you, exactly what their expert did, is Tau off. If ParkerVision's expert wanted to rely on a different calculation, he needed to tell us that a while ago so that we could address that. What their expert -- and, you know, making a comparison between a prior art that uses a totally different calculation -- Tau on and Tau off are two totally separate things. Those aren't the same RC time constant. One a Tau off, and one is Tau on. They're two different things. And so to cite this reference to somehow suggest that it is supportive is just completely incorrect.

The second thing is that they've said, Well, we'll stipulate that we're not using this for infringement purposes.

THE COURT: Their whole argument has been about your

prior art invalidity arguments.

MR. GARDNER: Right. So --

THE COURT: That they're offering this theory to say that your prior art does not teach the actual patent.

MR. GARDNER: And if the Court were to let in that part -- but there's no purpose. I mean, they're putting in our prior art products to say, Well, these do fall inside the claims, and these other things do not fall inside the claims. So they want -- there's no reason to include the prior art -- or sorry -- QUALCOMM's products. There's just no reason to include QUALCOMM's products in that. And it would be very misleading to a jury. How does a jury say that, Oh, the reason that you're using it, to show that these are inside the claims. That's not for infringement. I'm going to block that out in my head and say, You're not using that for infringement, when you're telling me --

THE COURT: Wouldn't that be an instruction, an interlocutory instruction? So as the jury is sitting there -- let's assume that the purpose -- the explanation I heard from your colleague and you heard as well, is that the calculation came up in the rebuttal expert report because it was in response to your expert's initial disclosure of the prior art analysis. So your expert, as we all know, issues his report or her report describing why invalidity should apply, that there's prior art that teaches all this and it's obvious and whatever. And then

their expert now responds, rebuttal. So there's no way for them to give a rebuttal opinion until they see your disclosure. I mean, we all know that you all have been talking back and forth. None of this is really secret. There's been invalidity contentions and, you know, prior art references and so forth. But still, the disclosure chain of events is Plaintiff's disclosure on their burden, you on your burden, response, response. So they're arguing that the rebuttal is not sinister because it goes only to prior art, not to invalidity. And you heard me say to them, So you stipulate it's not invalidity.

MR. BRIGHAM: Not infringement.

THE COURT: I mean -- I'm sorry -- not infringement. And what I would envision, the reason I asked that is to pin that down to be able to say to a jury, assuming that the calculation stands for all of the other reasons you've argued, is to say to a jury at the appropriate time, whenever the experts get into this portion, that this theory, this calculation only goes to invalidity and remind them, in as plain a language as possible, that there's separate burdens here on infringement versus invalidity, and this calculation only goes to invalidity arguments, not infringement. That's why I asked that because that's what they seem to be arguing. So their position is that they're speaking to a response of your prior art references.

MR. GARDNER: And if Your Honor were to go that route,

we would just want to make clear that they couldn't present the calculations. If they wanted to perform these calculation and apply it to QUALCOMM's products, then they should have done that in the first instance. That should have been in their opening report --

THE COURT: Why?

MR. GARDNER: -- not in a rebuttal report.

THE COURT: Why? If it's not for invalidity -- or infringement, I'm sorry. I keep saying invalidity. If it's not invalidity, why would they put it in their opening report?

MR. GARDNER: Well, because --

THE COURT: They say in the interrogatories essentially the same thing, without a calculation. Then your expert comes up with their theory of invalidity, points out the specific prior art they can rely upon. QUALCOMM comes in and says, Nope. That prior art doesn't work. Here's why.

MR. GARDNER: Right. I think, Your Honor, I mean, my view is that's all discussion of the prior art and discussing the accused products in that context just doesn't make sense. It's just an end run to get this in front of the jury for purposes of infringement. But I understand. You know, between the two of us you have much more experience with juries, and if you think the instruction would be curative --

THE COURT: It's the best you can do with a jury.

MR. GARDNER: Right.

THE COURT: You know, like you, you know, before I did this job, I probably tried about 90 jury trials on product liability cases and everything from organized crime to product liability, and they can understand things at a broad-brush level. They tend to reach the right decisions. But the job of a judge is something different and that is to give them as much guidance along the way in real-time, in plain English, to help them understand what to do and then they do the best they can.

MR. GARDNER: So I have two more points and then I want to allow the court reporter a break before we move on to the next portion.

The two points are, one, ParkerVision raises this new argument today about that they actually did disclose this theory in their contentions, and, again, that argument wasn't presented in the briefing, and --

THE COURT: Experts do, though, put a lot of fine points beyond interrogatory answers, don't they?

MR. GARDNER: We completely agree, but we think that this is a theory that would have needed to be disclosed. You know, ParkerVision points to this statement that little to no energy -- on slide 28 of their presentation, little to no energy must be transferred from the capacitor between aperture periods. We don't think there's any scientific link between that statement and this Tau off over T. I understand that counsel has presented its attorney argument, but we're not aware of

anything that uses Tau off over T in that sense. Again, they pointed to some paper that's newly cited that uses Tau on, but that's a very different calculation than Tau off.

Next, ParkerVision's counsel now says that the '177 -- or, I'm sorry, that the figure 126 is not an embodiment of these claims. That's exactly contrary to what their expert represented to this Court in a declaration. So if we look at docket 327-1, at paragraphs 12 through 14, their expert provides a very detailed analysis as to why figure 126 of the patent is an energy sampler and why it relates to claim one of the '907 patent. So for ParkerVision's counsel to now say that, no, that this doesn't relate to the claims at issue and it doesn't relate to energy sampling is directly contrary to both what Dr. Razavi has said in the direction that's submitted to the Court and what Dr. Allen.

So I don't think you need to consider the attorney arguments on this. You can look at what the experts said, and both experts agree. That is undisputed, that both experts agree that it relates -- that figure 126 relates to claim one of the '907 patent, and it is not reliable -- their theory it is not reliable because what their expert relied on for claim one of the '907 patent is figure 126. And their theory would take figure 126 and make it a voltage sampler instead of an energy sampler.

I think that that's sufficient, Your Honor. I think you've

heard enough on this.

THE COURT: I appreciate that last point. Just to summarize, to make sure I'm correct, your position in your oral presentation to begin was that if you apply the calculation to figure 126, the patent doesn't work as described, right? And then Plaintiff's counsel came up and said, Nope, that's a different function. I forgot what he called it, but I wrote it down, but the --

MR. GARDNER: He said it was a switch module.

THE COURT: Yes, switch module.

MR. GARDNER: It doesn't relate.

THE COURT: Correct. Switch module, therefore, it doesn't matter that applying the calculation would not work.

MR. GARDNER: Right, and I --

THE COURT: Your response, of course, is to look at the declaration where it was described as related directly to claim one of the '907.

MR. GARDNER: Yeah. And I want to be clear that both Dr. Razavi has submitted a direction on this and Dr. Allen. So it's both. ParkerVision's expert has submitted a direction that ParkerVision has relied on in this case and Dr. Razavi. Dr. Razavi actually goes through additional evidence. He goes through the fact that ParkerVision relied on it during claim construction in order to be able to provide discussion of how energy samplers work. I mean, he goes through the whole litany

of times when ParkerVision has relied on it. So he goes through that in detail and discusses why their analysis doesn't work for something that they have relied on as an energy sampler. And for them to sort of disclaim it as an energy sampling circuit today, I mean it's just pure attorney argument.

THE COURT: Why wouldn't that go to cross -- in a typical *Daubert*, I understand your point about you have reliability, peer review, tested, and so forth. Those are not necessarily the be-all and end-all of admissibility of an expert's testimony, if the methodology is there. And it's not uncommon, as you know, in *Daubert* for the parties to disagree with the conclusion of the experts or the application of their methodology. In fact, they always do. And as a result, why wouldn't that just be relegated to cross-examination, to do what you just did, to say, Here is a declaration, you know, that you wrote that says it goes directly to claim one of '907, it doesn't work -- if that's the theory -- it doesn't work and therefore it's, you know, garbage in garbage out? Why wouldn't that be the proper result?

MR. GARDNER: Well, and, again, I think *Daubert* makes very clear that before we can even get to the jury on these things that we need to show some amount of reliability. And I think we walked through -- and, again, you know, we still don't have anything that uses Tau off over T off. They point to something that uses Tau on, which is a completely different

calculation. We do not have any -- we don't have any publications that support this.

THE COURT: You don't have to though. There's lots of expert testimony that's absent publication.

MR. GARDNER: Right. We need something though. I mean, we need something that points to the reliability of this, and all we have from the other side is just pure attorney argument. Like, their counsel has put up -- I mean, again, he put up these calculations that the counsel did themselves. There's no expert that agrees with that. So they're just -- you know, their counsel is trying to stand up here and say that, you know, it applies the science, but Dr. Razavi has a sworn declaration in this case saying it doesn't work. Right? This isn't a reliable methodology. And again --

THE COURT: He doesn't exactly say that, correct? I mean, that's your conclusion from his position.

MR. GARDNER: Actually, he goes through and he actually explains why it's not a reliable methodology. But, you know, I mean, if you would like to read Razavi's declaration, we would love that.

THE COURT: Sure.

MR. GARDNER: I mean, it is a very thorough, you know, analysis of why. But, again, it's not for the jury to be able to sort through this type of issue. Right? The jury is here to decide the ultimate issue, not to sort through whether or not

this is a reliable theory --

THE COURT: Of course.

MR. GARDNER: -- that should be allowed to be presented in their case.

And our argument focuses entirely on, at this time we need the Court to decide whether or not there's any evidence that this is a reliable theory.

THE COURT: Fair enough.

MR. GARDNER: All right. Are we taking a break --

THE COURT: Yes.

MR. GARDNER: -- and then we'll go to the next motion?

THE COURT: 15 minutes.

MR. VERBONCOEUR: Your Honor, sorry to interject. May I respond to some of these comments after the break?

THE COURT: You know, I want to avoid this ping-ponging forever. If there's something other than to say he's wrong and your right, I'm interested to hear it. But, you know, we're not going to get through the two days we have allocated at the rate we're going. So if it's something specific and very limited, when we come back, I'll give you a couple of minutes to do that.

MR. VERBONCOEUR: I'll limit it to one slide.

THE COURT: All right.

(Recess at 11:03 a.m., until 11:21 a.m.)

THE COURT: Thank you. The record to reflect the

parties are present.

Mr. Verboncoeur, you wanted to make a brief response or did you not?

MR. VERBONCOEUR: Very brief, Your Honor.

THE COURT: All right.

MR. VERBONCOEUR: If we could please have the display.

THE COURT: I'm sorry. Oh, I see. Mm-hm.

MR. VERBONCOEUR: Your Honor, the one response that QUALCOMM has as to why our calculations were unreliable, QUALCOMM's counsel pointed you to Tau on, Tau on. If you look at slide 12 here, there are two equations and we showed you the ratio B, which is the lower one, T on is first one. TS is not on our samples. That's T off.

And if there's any doubt, Your Honor, I think you should allow this evidence in, and cross-examination can do its part. Thank you.

THE COURT: Thank you. All right. Thank you.

We're at the next issue now. Mr. Gardner, are we getting now to the combination, the cross combination, so forth?

MR. BRIGHAM: So the next motion is our motion to strike certain issues that are inconsistent with the Federal Circuit's prior rulings, and there is part 2A to QUALCOMM's motion that relates to the TX patents. So it would relate to the claims in the '940 and the '372 patent, and there is motion 2B which relates to the receiver patents and so it would relate

to issues for -- or sorry -- the receiver claims, which would relate to issues for the '907 patent, as well as for claims 24 and 331 of the '940 patent.

THE COURT: All right. Thank you. When you say inconsistent with the Federal Circuit, do you mean ParkerVision I or something else --

MR. GARDNER: So for --

THE COURT: -- for purposes of the PTAB?

MR. GARDNER: Yeah. For purposes of the TX patents, it's Federal Circuit's affirmance of what happened in the PTAB, and 2B, it would be the district court's decision and the Federal Circuit's decision in ParkerVision I.

So I want to quickly just to address a legal issue up front, and I'm going to repeat this twice because it's important. IPR decisions do have collateral estoppel effect in district court actions. There is a Federal Circuit decision from 2008 that we cited in our briefing and we cite here, the *XY v. Trans Ova* case, and in that case the Federal Circuit made clear that collateral estoppel impact of a Federal Circuit affirmance is that it applies to a district court action. The Federal Circuit has also made clear that collateral estoppel applies to unadjudicated claims that are not materially different. So if we have claim limitations that aren't materially different here as what was already adjudicated and affirmed by the Federal Circuit, then collateral estoppel

applies.

In the first case -- I'm sorry. In the IPRs related to the transmit claims in this case, the Federal Circuit affirmed that certain claims, apparatus claims, were found to be unpatentable via various prior art references. The references that we'll focus on here are what we'll term as the Nozawa combination and the Krauss combination. Those are the two different grounds that were focused on for the purposes of this motion.

And then for certain method claims, the court -- the Federal Circuit affirmed a very narrow issue, and that issue was -- more than anything, it was a procedural issue and not IPR about whether QUALCOMM submitted sufficient evidence in that proceeding. So the Federal Circuit did not find that, for example, the references did not disclose. What the Federal Circuit found was QUALCOMM had not submitted sufficient evidence on those points, and I think it becomes an important distinction.

In the interest of time, I want to sort of try to get to the core issues here. Now, in our briefing we went through in detail and we identified a number of disputes, issues where we presented our argument and said these are disputes that Dr. Steer is raising where those disputes conflict with something that happened at the Federal Circuit, and we identified a number of disputes for the Nozawa combination in our briefing, and we identified a number of disputes, issues

that Dr. Steer is disputing relating to the Krauss combination, and our view is very clear. If the Federal Circuit has already affirmed on these issues, then ParkerVision can't be allowed -- or ParkerVision's expert can't be allowed to take contrary positions.

Now, I want to make clear that -- I just want to pick one example of a dispute that Dr. Steer raises which is directly in conflict with something the Federal Circuit said. So we asked Dr. Steer during his deposition, "Do you intend to take the position that Nozawa is not capable of generating a harmonically rich signal?"

Dr. Steer's response is, "If I'm allowed to, of course. Counsel will have to direct me on this."

If we look at what the Federal Circuit decided, the Federal Circuit just said, "Because it is undisputed that Nozawa's circuit is capable of producing a plurality of harmonics." So this is just one example.

Now, we filed our motion. ParkerVision filed a response. ParkerVision did not dispute in their response that there are material differences -- or that there are no material differences between what Dr. Steer is arguing now and the claims that invalidated during the IPR. So ParkerVision remains silent on that part, said nothing. Now, I expect that ParkerVision's counsel is going to make a bunch of new arguments today, and we would ask the Court that those arguments not be considered

because they were not briefed. If ParkerVision wanted to raise arguments in opposition, they needed to include them in their opposition. Now, today, is not the right time to raise all kinds of new arguments about this.

Instead, ParkerVision included a single response in their opposition. Their entire opposition rested on one singular argument, and that's the only argument the Court needs to address in order to decide this motion. And the argument that they raised is they said, Collateral estoppel does not apply here because the second action involves application of a different legal standard than the first action, and they cite, you know, a Supreme Court precedent for this. And I think we would all agree that we are all bound by Supreme Court precedent.

The problem is that ParkerVision ignores all of the law on why Federal Circuit decisions, an affirmant in the Federal Circuit's court changes this issue, and on this issue, that both the Federal Circuit has been clear, as well as the district courts. So ParkerVision in its response recites to a *Papst* decision that was out of the Eastern District of Texas. That decision has no ability to overrule what the Federal Circuit has said.

The Federal Circuit in the *XY v. Trans Ova* case, they actually squarely address the Supreme Court decision in *B&B Hardware* and cite to additional Federal Circuit precedent that

makes clear that if you have a Federal Circuit affirmance, that there is collateral estoppel effect on district courts. This is not the case where we only have an IPR decision and nothing more. The Federal Circuit has affirmed that, and the Federal Circuit has found that because there is a Federal Circuit decision affirming what happened in the district court -- or the IPR action, that collateral estoppel attaches. And, again, the Federal Circuit addressed specifically the Supreme Court's *B&B Hardware* decision in the chain of cases that is referenced by the Federal Circuit in *XY v. Trans Ova*. So we think on that point, you know, the Federal Circuit has laid down this rule and we're all bound to follow it.

The other thing, they cite this decision by Eastern District of Texas, and this decision has been considered by a number of courts who have all said that it conflicts with Federal Circuit precedent and they've all rejected it.

And so we've cited a number of decisions here. The *Cisco v. Capella Photonics* case by the Northern District that distinguished the *Papst* decision and addressed why Federal Circuit is contrary to that decision. So there's a number of decisions here. We just think, you know, that the *Papst* decision that ParkerVision relies on is just not applicable.

THE COURT: Let's assume collateral estoppel applies because of the *Trans Ova* case and then *Fresenius*, I think it's pronounced, F-r-e-s-e-n-i-u-s, *USA v. Baxter International Inc.*,

Fed Circuit from 2013, rejected the idea that the difference in burden of proof at PTAB re-examination and invalidity proceedings in district court, they rejected the idea that there's no collateral estoppel, so affirming what you've just said.

So let's assume collateral estoppel applies. What's the effect here? What exactly is out, which patents, which claims? I've looked at your comparison of Nozawa combination, and there was another combination, the Krauss combination, and you direct me to look at various claims of the '940. What patents specifically does that address?

MR. GARDNER: Right.

THE COURT: This goes back to beginning this morning where I said sometimes the argument spoke to the fact that there were dozens of claims that were invalidated at the PTAB, but I need to know which ones and what does that look like in real terms.

MR. GARDNER: So what we're requesting in this motion is just that -- we're just requesting that Dr. Steer's opinions that are contrary to what's happened, that he not be allowed to present those opinions. So it does not -- it's related to Dr. Steer's opinion, not to, like, the outcome on a certain claim, and, again --

THE COURT: Let me interrupt just for a second. The reason I asked you that is, with the '177 patent there was a

construction -- there was an argument about a new infringement contention after the deadline, and the argument was they should not be allowed to modify that. They agreed that it was a change in the infringement contention. That resulted in '177 being dropped because they could not make the argument for infringement. I don't know if that has the same effect here. And I don't want to get too ahead of myself, but when I was reading this, I thought there would be a net effect greater than Steer could not say something contrary to what the PTAB found. Is there some --

MR. GARDNER: So I'm sure that ParkerVision's counsel and QUALCOMM's counsel would disagree on this. I mean, we think that the net effect is that, you know, because Dr. Steer relies on some of these facts, that it will have the impact of, you know, invalidity issues, but, you know, that is not briefed in front of Your Honor.

THE COURT: Right.

MR. GARDNER: We haven't put that in front of Your Honor, and I think that it's completely possible that the parties would disagree about the practical impacts heading into the litigation, and, again, I just want to point to Dr. Steer's testimony.

THE COURT: Sure.

MR. GARDNER: The important thing for us is that, you know, Dr. Steer recognizes that his opinions are contrary to

what was said in the Federal Circuit opinion, and then he just says, If I'm allowed to, I want to say that they're contrary, and that can't be -- you know, that's not what the law allows. Right? Just because an expert disagrees with what the Federal Circuit already found, that doesn't give him license in order to be able to express that disagreement.

THE COURT: In your motion, do you enumerate every opinion Dr. Steer has that's contrary to the PTAB's findings, or are you going by illustration?

MR. GARDNER: We're going by illustration.

THE COURT: The reason I'm concerned about that is, in the real world when we're in front of the jury, there's going to be an objection that's contrary to the PTAB's determination and I'm not going to have any clue if that's true or not.

MR. GARDNER: Right.

THE COURT: So what happens on a practical, I'll have an objection by a lawyer in a case with a lot of experts and the objection will be that's outside of the scope of the expert report, and they just look at me as if I've memorized the expert report, which I have not, and so --

MR. GARDNER: I would just point you to our motion, in that it identifies at docket 491. On those pages we do identify very specific portions of Dr. Steer's report that we do want -- that we do think are contrary. So for example, in our motion at footnote 5, we identify a number of the paragraphs where

Dr. Steer's opinions -- that contain Dr. Steer's contrary opinions, and sort of throughout our motion for each one of our arguments we identify where Dr. Steer has taken a contrary position, and so we think that, you know, if the Court -- again, because ParkerVision has not raised any dispute, right? I unfortunately looked for it in their slides, and I think that they plan on raising some disputes today, and, again, I think it's up to Your Honor on whether you want to hear that or want to consider it. You know, we're happy to respond to whatever arguments they make, but we think the time has passed for that.

THE COURT: Oral argument is not a time to reinvent the wheel.

MR. GARDNER: Right.

THE COURT: It's just for me to get clarity on what you already filed.

MR. GARDNER: Yeah. And so I think that, again, the only argument here, the only argument presented in the briefing is, you know, does collateral estoppel apply.

THE COURT: Right. It does.

MR. GARDNER: Okay. And I think on that point, then, we've identified the paragraphs, and, you know, if there were to be a dispute between counsel on that, I mean, I think that the parties can reasonably work through those, but we've identified the issues where there's -- again, in our briefing both for Nozawa combination and the Krauss combination and go from there.

We don't have anything more on this part of 2A -- if you want to just split the 2A, like just address the TX side of things and then move to the RX side of things, then we can do that.

THE COURT: Is the second part dealing with ParkerVision I?

MR. GARDNER: Yes.

THE COURT: So let's take them one at a time, if we can, since there's different issues in play.

A little bit of my confusion, gentlemen, is just simply that in the motion there was discussion of the combinations, anticipating certain aspects of the patent, like the integer-multiple harmonics in the '940, and I thought that because you were spending time discussing about what was anticipated -- what the PTAB found to be anticipated, that somehow if that produces collateral estoppel, that would have some impact on the ability to prove a claim. That's why I got where I got, and I think I just went off the rails a little bit.

MR. GARDNER: No. I think it's a difficult case. There's lots of years of history. We've all lived it.

THE COURT: You have.

MR. GARDNER: I've been there through a lot of it.

THE COURT: Okay. Thank you so much.

Mr. Verboncoeur.

MR. VERBONCOEUR: The dispute between the parties here that was raised in the briefs is whether *B&B Hardware* applies,

and I want to go through all of QUALCOMM's cases and be very clear on what they stand for.

THE COURT: I have read all of those cases carefully, and let me just tell you my assessment. *B&B* dealt with a PTAB determination in the Eighth Circuit using different factors in the PTAB to determine likelihood of confusion in a trademark. And the Supreme Court said, you know, the fact that their not using the exact same criteria doesn't matter for determining likelihood of confusion of the trademark. I don't really think it -- and I may have missed it, but it didn't seem like it directly spoke to the issue here, burden of proof in the PTAB versus final resolution of the Fed Circuit.

Then you get down to the cases cited by your colleague, *Trans Ova Genetics* and the one that I cited, which may have been cited or directly within the other case. I can't recall. There's a Northern District of California case which cited both of these. Both said from the Fed Circuit pretty directly collateral estoppel, doesn't matter the burden of proof is different, once it's final and approved on appeal or affirmed on appeal, end of story.

MR. VERBONCOEUR: I can go through those, Your Honor. The *XY* case, I think that's the Plaintiff's name, those applied to claims that were invalidated. Here, the PTAB and the Federal Circuit affirmed that ParkerVision's asserted claims are valid. QUALCOMM lost their challenge. So *XY* does not apply. It only

applies to claims held invalid.

Fresenius, the same thing, the patentee is barred from relitigating claims held valid. The patentee, of course, can't be barred from litigating claims that were found valid by the PTAB, particularly when the claim limitations at issue and the ones QUALCOMM raises, the PTAB and then the Federal Circuit, over QUALCOMM's argument and during the stay in this case, found were not present in the prior art because QUALCOMM failed to prove its case. And I plan to go through that.

And then I'll also address the *MaxLinear* case. And the *MaxLinear* case is different than *Fresenius* and *XY*, and it stands for the proposition that identical but unadjudicated claims can be estopped.

Here, we have adjudicated claims, that is, QUALCOMM challenged claims 25, 26, 368, and 369 -- I think I have those numbers right -- of the '940 patent. They lost on all of them. And the Federal Circuit and the PTAB both explained that the reason they lost, they failed to show the method claim limitations were in the prior art. They failed.

Now, this is a bit sly what QUALCOMM is doing. What they're saying is because the Federal Circuit affirmed the PTAB what the prior art was capable of, Dr. Steer is not able to testify about the method limitations. And I would like to -- there's a legal difference there that the Federal Circuit grappled with in its decision affirming the PTAB, and the PTAB

grappled with the same issue. So if you'll indulge me, Your Honor, I would like to go through that because I think it's a very important difference.

So these claims, the ones underlined, Your Honor, on slide 47, 25, 26, 368, and 369 are asserted here. They were challenged by QUALCOMM at the PTAB. QUALCOMM lost, and there is no law that says that estoppel applies to claims found valid by the PTAB and then affirmed by the Federal Circuit. It's always to estop the patentee from asserting invalid claims, or in the *MaxLinear* case, the different issue is whether you have an identical claim that wasn't challenged, but, here, QUALCOMM challenged and lost.

I'm citing this on slide 48 from the Federal Circuit because the Federal Circuit -- and this is consistent, I think, with the *B&B Hardware* decision -- that you have to have a common issue. In *B&B Hardware*, the difference was the legal standard, which I think applies here, but there's also the core requirement of collateral estoppel, that the issues need to be the same. What the Federal Circuit is saying here in affirming the PTAB is that the method claims present a different story, a different issue that is, and more was required of QUALCOMM in its challenge with respect to the method claims. And here, the Federal Circuit is saying, It's not enough that an apparatus is, quote, capable of a limitation. The apparatus must do that limitation. And what QUALCOMM is trying to do with Nozawa,

Phillips, and the other references is argue because the Federal Circuit found the reference was capable of, Dr. Steer can't contest the method limitations, the very method limitations that QUALCOMM lost on at the PTAB and at the Federal Circuit.

And this is from the final decisions in one of the IPRs, and this specifically deals with Nozawa and specifically deals with the asserted claims in this case, 25, 26, 368, and 369 of the '940 patent. And what the PTAB found, after grappling with QUALCOMM's arguments, is that unlike the above analysis of the apparatus claim, it's a different story. QUALCOMM didn't know that a person of the skill in the art would have performed the method as claimed.

Now, I want to point out something because there was a citation to Dr. Steer's deposition transcripts. He's not a lawyer, and he doesn't opine on whether collateral estoppel applies. The fact that he exhibited hesitancy when he was asked, Do you intend to offer this opinion or that, isn't indicative of collateral estoppel.

The core issue is whether there was an issue decided, and, in fact, a different issue was decided. It was just decided against QUALCOMM. They lost. And now what they're trying to do is have this Court summarily overrule the Federal Circuit's affirmance of the PTAB saying that these claims were valid. This is from the Federal Circuit. QUALCOMM failed to show under a lower burden of evidence that applies here, and this is where

I think the *B&B Hardware* case is also relevant, failed to show under an easier burden that the claims are invalid. And now what they're trying to do is have this Court, under a higher standard, overrule the Federal Circuit.

And, here, what we have underlined in slide 50, it says, plurality of harmonics limitation, and this is the one that QUALCOMM raises in its brief, and the Federal Circuit specifically looked at this limitation and found that for the method claims QUALCOMM failed. It didn't show that Nozawa showed the method claim. And these are the asserted claims. All of the asserted claims of the '940 patent, Your Honor, are methods, every single one. And in every single case, the Federal Circuit's statement, the method claims present a different story applies, and there can be no collateral estoppel because there's no common issue. And to the extent there is an issue about the method claims, QUALCOMM lost on it.

And the limitation at issue that QUALCOMM pointed you to is gating, a method step, whether the reference gates, not whether it's, quote, capable of gating. And, again, Dr. Steer is not a lawyer and he can't reasonably be in a position to opine on whether collateral estoppel applies.

So this is QUALCOMM's motion to strike, docket 491. This is slide 52. The example given by QUALCOMM is that, while the Nozawa combination was capable of, and then Dr. Steer intends to disagree with the Federal Circuit, but whether the reference is

capable of is not relevant to any claim in the case. It's about the method steps, and that is why under *B&B Hardware*, collateral estoppel should not apply to this question in Nozawa, which is the integer-multiple harmonics because, again, the Federal Circuit found against QUALCOMM on this specific question.

I want to point out that Mr. Gardner argued that case, and they disagreed with Mr. Gardner's arguments on the method steps, the same one that filed this brief.

This is from the Court's claims construction order. This, I believe, came up before. As for the method claims, the Federal Circuit agreed with the board's determinations that QUALCOMM's petitions were deficient. Those are different issues, and *B&B Hardware* applies, particularly with the different legal standards.

And I'm going to go through the other two issues that QUALCOMM raises because they're doing the same thing. They're saying the Federal Circuit affirmed that the reference discloses a switch module, which is an apparatus structure. Dr. Steer tries to challenge the disclosure of outputting, I-N-G, that's a verb. That's a method step. What they're trying to do is take the apparatus arguments they won on, ignore the method arguments they lost on, and then improperly apply collateral estoppel to Dr. Steer's testimony about methods, and that is legally baseless, Your Honor.

And here's the claim at issue, and I'll point out that this

is claim 25. Claims 26, 368, and 369 depend on this claim. And so what that means is that we have to show infringement of these steps for all of those claims, and so this argument applies to all of the claims. And, again, outputting is a verb. It's a method step. As the Federal Circuit explained, different issues, different stories. Again, this is their last issue, same thing, same story, a pulse shaper, a pulse shaping module, apparatus limitations; shaping, a verb, a method. Not only did -- not only were the issues different at a lower standard, QUALCOMM lost on the issues that matter. Here is the claim 25, shaping is a method step.

And I don't think counsel for QUALCOMM reached this argument. I'm not sure how they're structuring their presentation. This is about Krauss, and I don't think that was mentioned, but I guess I'll go ahead and address this one too. The point here that QUALCOMM wants to make is that the PTAB found Krauss includes certain limitations in the '940 patent in claim 18, which is an apparatus claim. They actually didn't. It was about the disclosures of Krauss plus Ariie, which is a combination. And under *B&B Hardware*, different issues don't apply, particularly with the lower standard. And I'll point out that QUALCOMM's IPR petition didn't actually say Krauss disclosed limitations. They're saying it does now in their brief. They said Ariie discloses the information signal limitations. So the Federal Circuit in deciding for QUALCOMM in

that instance would have been deciding based on Ariie, not Krauss.

And then the final point is the motion, QUALCOMM's motion, seems to try to apply collateral estoppel on the '940 patent to the '372 patent as well, as it relates to the Krauss decision. It's really Krauss plus Ariie, but what the motion calls Krauss. And the problem with that is that it's improper to apply estoppel to the '372 patent because QUALCOMM filed a petition against the '372 patent, and that petition was denied.

And the claim limitations of the '372 patent are different than the claim limitations of the '940 patent, and what I have here on slide 67 is docket 499-8, which is our expert's validity report, and this is the report they seek to strike. And what I have highlighted is the claim limitation that Dr. Steer says is missing from the prior art. That's a very long claim limitation. And claim 18, what QUALCOMM is pointing to as, quote, information signals, which isn't this claim limitation, those are two different things. Again, this is a lengthy claim limitation that involves inverting steps.

And this is the IPR decision that QUALCOMM cites, and as I mentioned, it is against '940 patent, not against '372 patent. QUALCOMM lost on that petition too. It was denied outright. That is, institution is denied. Sorry, Your Honor.

And this here, I'm showing that the lengthy claim limitations of the '372 patent are clearly different than the

limitations in claim 18 of the '940 patent, and so under QUALCOMM cited cases, such as *MaxLinear*, estoppel wouldn't apply.

THE COURT: Help me to understand why this argument that you're making now, which is distinguishing what the PTAB -- what was before the PTAB or what the Federal Circuit affirmed or didn't affirm compared to what's being argued now, why wasn't this briefed? And here's where my hesitancy is. In my cases that are not patent cases, when a party doesn't brief something, that's the end of it. It's not revisited. The Eleventh Circuit affirms it every time because the lawyers have to brief up front. We don't get do-overs. The Federal Circuit seems to operate at times differently, where issues that I would enforce my normal rules of governing a case, they'll say yeah, but -- and send it back. So I'm a little more hesitant with the Federal Circuit since -- and I don't mean this disrespectfully. I'm just talking about the reality that they're not always inclined to view the way district courts run cases the way my circuit would. And so having learned that reality, I sometimes realize that what I'll see in the Fed Circuit opinion is, Well, you know, if they argued it, why didn't you consider it? And then they'll send the case back for a second or third trial.

And so trying to avoid that, why wasn't this briefed on the front end, rather than just simply talking about collateral estoppel doesn't apply, which was pretty much full-stop your

argument.

MR. VERBONCOEUR: Yes, Your Honor. I think our brief could have focused on that more, and what we did instead was cite the *B&B Hardware*, rather than these *MaxLinear, XY* cases.

THE COURT: Well, it's also the factual distinctions you're making here.

MR. VERBONCOEUR: Right.

THE COURT: That's the key.

MR. VERBONCOEUR: Right.

THE COURT: The law is not very complicated. And the issue is whether or not what was decided has collateral estoppel or preclusive effect, based on the factual nuances that you're flushing out now.

MR. VERBONCOEUR: Right.

THE COURT: And that's what should have been briefed on the front end.

MR. VERBONCOEUR: Right. You're correct, Your Honor, all of these factual distinctions were not put in our brief. Part of that is it takes a large number of citations to just go through all of the briefing to show, in fact, the difference, but, you're correct, they weren't cited.

THE COURT: Right. And we rarely grant -- when I say "we," I mean courts in general. We rarely grant oral argument on summary judgment or other motions. I mean, I almost never do. So it's a risky proposition not to brief it in full because

typically it's decided on paper.

MR. VERBONCOEUR: I understand, Your Honor. But in response, I will point out that I think there's no question of law here, that this Court can't summarily overruled the Federal Circuit's affirmance of the PTAB's finding that these patent claims are valid.

THE COURT: No. I understand that. Their argument is something different --

MR. VERBONCOEUR: I understand.

THE COURT: -- that your expert is offering opinions that had already been decided, and, therefore, he's estopped from changing. And you're arguing it's not that simple because the issues before the Court that were affirmed are not exactly the same ones here, different claims, different claim limitations, et cetera, et cetera.

MR. VERBONCOEUR: That's right.

THE COURT: And that seems to be the distinction. It's a factual one.

MR. VERBONCOEUR: Your Honor, I would submit that it's a legal distinction. Where there is an issue fully decided, it was decided against QUALCOMM. We paused this case for years --

THE COURT: Right.

MR. VERBONCOEUR: -- to go through with QUALCOMM's IPR challenges.

THE COURT: I think we're saying the same thing. It's

clearly a legal distinction, but it's driven by the facts.

MR. VERBONCOEUR: I understand. Yes.

THE COURT: Collateral estoppel, meaning that a PTAB decision that's affirmed is final, that's simple. What you're arguing is the factual distinction that what's being advanced by QUALCOMM was not decided. The key issues were decided against them on invalidity, and the issues went forward to affirm it on what was patentable.

MR. VERBONCOEUR: And I will also argue, because this was in the brief -- the *B&B Hardware* case -- that even assuming there was some relationship between whether an apparatus is capable of and the method steps the Federal Circuit treated differently, under *B&B Hardware*, those factual propositions need to be proven by the higher standard in district court. So you can't take factual propositions, according to *B&B Hardware*, that you may have proven by a preponderance of evidence and then treat then as conclusively established where you have a burden of clear and convincing evidence in a later case, which is an additional argument beyond the one we've been discussing.

THE COURT: Yeah. The Federal Circuit seems to have rejected that notion when they affirmatively recognized the difference in burdens in proof and didn't seem to be persuaded by that.

MR. VERBONCOEUR: Respectfully, Your Honor, I think that goes to claims that have identical claim limitations --

THE COURT: Right.

MR. VERBONCOEUR: -- which I've argued they don't.

THE COURT: No, and I agree with you.

MR. VERBONCOEUR: Yeah.

THE COURT: That's why my point going back to the beginning was, flushing out the different claim limitations and the different issues, you know, that should be in the briefing because you can't assume that I'm going through a PTAB decision, scheduling out what they found, looking at what the Fed Circuit found and determining in comparison to. I mean, that's your job. That's not mine.

MR. VERBONCOEUR: I understand, Your Honor.

THE COURT: All right. Thank you very much.

We'll turn to the ParkerVision I aspect of this. Mr. Gardner, if you want to submit supplemental briefing on the preclusive effect of the PTAB ruling in light of what you've heard, you're welcome to do so. I will tell you. Normally, as is true of every district judge in this district and certainly this division, we normally enforce the standard rules of briefing and argument and waiver with absolute finality, and, again, not meaning to cast an aspersion at the Federal Circuit, but I have learned that they take a more inclusive view of what we should have been looking at when issues are presented that could have been decided. It's just a reality. What you don't want to do is try this case and try it again --

MR. GARDNER: Your Honor, I think I --

THE COURT: -- which is actually likely to happen anyway.

MR. GARDNER: I think we can -- I mean, if you would like us to submit supplemental briefing --

THE COURT: I do.

MR. GARDNER: Well, I mean, I think that what our brief makes clear is, and I just want to point to this, the issue -- ParkerVision's counsel agrees. The issue that was in front of the Federal Circuit -- I mean, the Federal Circuit's language is clear -- it's whether or not the references were capable of doing something. They say, Well, Dr. Steer is just disputing the method claims. He's not. I mean, look at his testimony, You intend to take the position that Nozawa is not capable of. That's our argument. We're not arguing that Dr. Steer isn't allowed to dispute other issues. We're arguing he can't dispute the issues that were decided. And ParkerVision's counsel, as Your Honor has pointed out and I don't want to belabor this point, they didn't point to a single difference. The only argument they've presented today is Dr. Steer is allowed to talk about method limitations. That's fine. But what he can't dispute is that the references are capable of doing that. And then we can move on to the ultimate issue, right? So if I'm in front of the jury, I can say there's no dispute that this reference is capable of doing this.

ParkerVision's only argument is whether or not a person of skill in the art would actually use it to do what it's capable of doing. We can have that fight, right? But we should be able to narrow it down to the issues that are actually disputed. So our briefing was very clear that we were -- that they are trying to dispute whether these systems are capable of or have something that they necessarily must have in order to meet the system limitations.

So I will discuss with our client. And I think that it's time to move on to the next motion --

THE COURT: Sure.

MR. GARDNER: -- unless, of course, Your Honor has questions.

THE COURT: Nope. I'm fine. Thank you.

MR. GARDNER: So the next relates to a number of factual issues that were decided by the Federal Circuit in relationship to both the accused devices and certain prior art references in the ParkerVision I decision, and each of those factual issues was a necessary part of the Federal Circuit's decision and ParkerVision I, and, therefore, we can't be fighting about those factual issues today. ParkerVision is collaterally estopped.

So just as a little bit of background here, I think that in a lot of our briefing we used terms like new RX expert and previous RX expert. I just want to explain to the Court why

we're doing that. When ParkerVision withdrew Dr. Allen after his testimony, there was some concern, as we understood it, that publishing his name would reveal something about their positions as to his medical condition, and so we didn't use Dr. Allen's name. But the old RX expert was Dr. Allen and the new RX expert is Dr. Steer, just for clarification.

So as I said, there are three issues that were decided in ParkerVision I and we think collateral estoppel applies to, and we've identified the facts that we don't -- that we think need to be clarified on the record so that ParkerVision doesn't end up disputing them at trial.

THE COURT: Same patents and claims, continuation in part, where are we going?

MR. GARDNER: So this is, the claims in ParkerVision I were different, but the issues that we're dealing with here is not in relation to claims. It is the actual structure and operation of the accused device itself.

THE COURT: The capacitor issue, where things are happening relative to the capacitor.

MR. GARDNER: That's right. The issues that were necessary factual findings for the Court to rule in ParkerVision I.

THE COURT: Okay.

MR. GARDNER: We identified five facts that we'd like the Court to provide collateral estoppel effects to. And

ParkerVision's first argument to these, in fact their only argument, is that the structure and operation of the accused devices wasn't actually litigated in ParkerVision I, and that's a surprise to QUALCOMM because I'm pretty sure that during ParkerVision I we actually did litigate what the structure and operation of the accused devices was.

So I want to go through quickly these facts and show that they were actually litigated, and the Federal Circuit decided them.

THE COURT: Wasn't the JMOL driven by testimony concerning downstream versus upstream in the capacitors or am I wrong?

MR. GARDNER: Yep. So there are a number of factual issues that the court, both the district court and the Federal Circuit, relied on in order to make a determination. They said, Look, the products work this way, and that's what we're talking about here. We'll talk about the collateral estoppel issue. We'll talk about the collateral estoppel issue for the overall separately. For this particular motion, we just want to talk about subsidiary facts.

So for example, if we look at the -- if we're on slide 47, two facts that QUALCOMM thinks should be undisputed are: One, that the accused devices use double-balanced mixers; and, two, that these double-balanced mixers convert the high-frequency signals to a low-frequency baseband signal. We think that these

facts should be undisputed at this point.

In our briefing we talk about how Dr. Prucnal agreed with this. Dr. Allen agreed with this. Dr. Steer wants to dispute some of these fundamental facts, and we don't want to be going in front of a jury and having to rehash these issues that are just known by every expert, other than their new expert Dr. Steer.

So let's look at what the Federal Circuit said. Dr. Prucnal, the expert in PV I, testified the accused devices or accused products use a specific type of circuitry called a double-balanced mixer. I mean, if you read the Federal Circuit's decision, double-balanced mixer is probably mentioned 30 times.

THE COURT: Constantly. I have read it.

MR. GARDNER: Okay. Great. And it's undisputed that those double-balanced mixers -- the double-balanced mixer by itself is used to convert high-frequency carrier signals into low-frequency baseband signals. That's an undisputed fact. We think that we can't be litigating these issues over again.

Next, we have that the output of the double-balanced mixers is the baseband signal and that the double-balanced mixer itself creates the baseband signal. Again, if we go to the Federal Circuit's decision this issue is very clear. Dr. Steer wants to dispute it. We don't think that he should be permitted to. Dr. Prucnal's admission that the double-balanced mixer creates

the baseband signal, and then he says, precludes the finding of infringement, the Court relied on this fact to say that this precludes infringement. So the fact was definitely at issue. It's whether or not QUALCOMM's double-balanced mixers create the baseband signal was definitely at issue.

The Court specifically says, No evidence supports ParkerVision's theory, again factual finding. And instead, Dr. Prucnal affirmatively identified the output of the double-balanced mixer as the baseband. So, again, the Federal Circuit was clear that what we're talking about here is a double-balanced mixer and the double-balanced mixer creates the baseband signal.

The last fact that we think needs recognition is the double-balanced mixer eliminates the carrier signal. In the Federal Circuit appeals process QUALCOMM won the original Federal Circuit appeal, and ParkerVision then moved for reconsideration, and the Federal Circuit addressed ParkerVision's arguments on reconsideration. In finding against ParkerVision's arguments on reconsideration, the Court discussed a factual issue that was in dispute and said, Contrary to ParkerVision's assertion on appeal, there was a factual determination that Dr. Prucnal admitted that the carrier signal, i.e. the RF signal, has been eliminated at the mixer output.

Now, again, Your Honor, I know that you're rightfully very focused on how do these issues impact the case, and, again,

QUALCOMM would love to submit an additional set of briefing saying, you know, if these factual issues were resolved, then there's summary judgment for a number of other reasons. Because of the appropriate briefing limits, if you give lawyers too much room, as is proven today, then we will go on forever. But, you know, we didn't have room to be able to attack, like, how these issues related to the ultimate finding in the case, but we do think some of these are case dispositive on, for example, the '907 and the '940 patent, the RX claims in those patents.

So all we are asking is that ParkerVision not be able to -- not be permitted to raise these new factual disputes at trial.

The next issue we have in this motion is regarding the DeMaw prior art, and, again, the Federal Circuit had addressed the structure and operation of the DeMaw prior art and made factual findings about that that were necessary for its invalidity findings.

And there are two issues that ParkerVision's expert wants to dispute. First, ParkerVision's expert wants to dispute whether or not the two transistors in DeMaw qualify as switches. The second thing ParkerVision's expert wants to dispute is that these switches control the charging and discharging of energy storage devices to generate the baseband signal.

And, again, these are, you know, factual issues that the Federal Circuit addressed in the ParkerVision I case. And so if we look at slide 54 as an example, the Court goes through

Dr. Razavi's analysis. And it says, According to Dr. Razavi, the transistors designated as Q1 and Q2 in DeMaw correspond to the first and second switches in figure 16H. So the Court focuses on this. And then it talks about those switches, Q1 and Q2, are turned off and on at a certain rate. And then finally concludes, Because there's no basis on which a reasonable jury could reject the evidence submitted by Dr. Razavi that DeMaw anticipates claim 18, QUALCOMM wins on invalidity. Right?

If we look over at claim 18, claim 18 requires first and second switching devices. So the Court made a necessary factual finding that those transistors, Q1 and Q2, are switches, and it relied on Dr. Razavi for that point. Now Dr. Steer wants to take a contrary view. He wants to say they're not switches. They are switches. And all we're asking for is that Dr. Steer not be able to try to relitigate what happened in ParkerVision I.

Now, the only argument that ParkerVision raised in the briefing, and, again, they may have different arguments today, they said only one claim limitation was in dispute on appeal. So, therefore, collateral estoppel doesn't apply. That's not how collateral estoppel works.

First, their argument that only one claim limitation was at issue on appeal is just a complete misrepresentation on the record. If we look at the Federal Circuit's decision, the Federal Circuit says, ParkerVision sought to challenge

Dr. Razavi's testimony in various respects, but none of the questioning undermined Dr. Razavi's explanation of the operation of the DeMaw circuit and how figure 16.7 of DeMaw corresponds to figure 16H of the '342 patent.

Now, that's important because right before that in the same decision the Court says -- so the Court says, ParkerVision had its opportunity to challenge Dr. Razavi at this point. Right? They had their chance. Dr. Razavi testified that the transistors designated as Q1 and Q2 correspond to first and second switches. ParkerVision had the opportunity to challenge that. And the Federal Circuit said, as a factual matter, they failed. Right? Dr. Razavi's testimony meets the requirement, and, in fact, you know, it meets the requirement for invalidity.

So I think that, first, ParkerVision's argument that there was only one issue on appeal is just factually undermined by what the Federal Circuit actually said in its appeal brief.

The second issue is that ParkerVision is just wrong on the law. So the law is not that if there's just one issue on appeal that collateral estoppel only applies to that one issue on appeal. For example, the Seventh Circuit has made clear that when a party introduces evidence on a dispositive fact -- so here the Federal Circuit has made clear that whether or not they were switches was a dispositive fact in the case. In fact, claim 18 requires first and second switches. So we know that switches were required in that case.

And we have -- and they say, An adverse party with an opportunity and a motive to contest the presentation but chooses not to, the ensuing finding is entitled to the same respect as one litigated to the hilt. So if they wanted to -- if they wanted to dispute this, not only -- not only did they dispute this, right, but if they say, Oh, no, we didn't dispute it, it doesn't matter. So either way. If they're going to say, Oh, we didn't actually dispute there were switches in that case and now we want to, the federal -- or I'm sorry, the circuit courts have said no, but, you know, we think they did try to dispute this. They did try to challenge Dr. Razavi on these points and they failed.

The last issue I think and I hope is a little bit easier. It's as to the Weisskopf prior art. So on the Weisskopf prior art, the Federal Circuit found that Weisskopf -- oh, I'm sorry. Slide 59. The Federal Circuit necessarily found that Weisskopf teaches a storage module that receives nonnegligible amounts of energy transferred from a carrier signal at an aliasing rate. It appears from the briefing that ParkerVision doesn't dispute this, that they agree that Weisskopf transferred nonnegligible amounts of energy from the carrier signal to a storage device. So that was the purpose of our motion, and it seems like the parties agree, and so that would hopefully make things easier.

The problem is, in their response to this briefing -- and I'm now on slide 60 -- ParkerVision now just sort of tries to

twist this argument and say, Well, that's not what the issue is in this case. The issue in this case is whether it transfers nonnegligible energy to a load, instead of to an energy storage device. The problem is that this all comes up in the context of the '940 patent, and the '940 patent doesn't actually recite a load. Like, it's not in the claim. And nobody from ParkerVision has ever presented a claim construction argument. Their expert hasn't presented some kind of argument that this, like, load that doesn't exist in the claim is somehow required.

So what we're nervous about is now we have the undisputed fact, but ParkerVision is now raising this new claim construction theory, and so we're raising it now in front of Your Honor. We can address it as well on a later date, but the fact is this is some new claim construction argument that they're trying to get in now that they understand that the factual issue goes against them, and they're trying to sort of insert this into the case, and we obviously think that that's improper.

So I think that was everything for part two of the motion related to ParkerVision I. Unless you have any questions, I'll hand it over.

THE COURT: I don't. This is the last issue for this particular motion, correct?

MR. GARDNER: Correct.

THE COURT: Why don't we break for lunch and come

back, take the second half, and then we'll move to the next motion after that. How much time would you all like? I know there's nothing convenient here. I don't know if an hour is enough time. Is that enough for you all?

MR. VERBONCOEUR: That's probably enough for us to respond to this. And, Your Honor, I want to tell you I misstated something earlier.

THE COURT: How much time would you all like for lunch is what I was asking.

MR. VERBONCOEUR: Oh, an hour. I'm sorry.

THE COURT: Yeah. Obviously, we won't start until you're back because it is inconvenient to find a place around here. They keep talking about building some restaurants nearby, but they've been saying that for seven years. So we'll see.

MR. GARDNER: An hour seems reasonable to us, Your Honor.

THE COURT: All right. Then we'll come back at roughly 1:20.

And then we'll pick up with your response, and there's something you want to clarify on the record?

MR. VERBONCOEUR: Yes. I'm sorry.

THE COURT: That's okay.

MR. VERBONCOEUR: You had asked me where the argument about the different claims and the different issues with the PTAB and the Federal Circuit was on our brief. That is on

page 8. I told you it wasn't there. And we said there are different claims and we won on these claims, and then we also concurrently filed a motion for summary judgment on IPR estoppel before this --

THE COURT: Yes. I did see that.

MR. VERBONCOEUR: Yes.

THE COURT: Yep. Thank you.

All right. So we'll be back at about 1:20. Thank you all very much.

(Recess at 12:16 p.m., until 1:22 p.m.)

THE COURT: The record should reflect the parties are present. All right. We're ready for the response. Whenever you're ready, sir.

MR. VERBONCOEUR: The first case involved different patents with different claims, but most importantly, it involved specific accused products, and ParkerVision's problem with the way the basic principles are phrased is that we're worried it would be extended to all devices that QUALCOMM terms double-balanced mixers. If accused devices were substituted, and to the extent that this summarized version on the slide correlates to the Federal Circuit findings, then I don't think this would be an issue. I think our concern is the Federal Circuit made certain findings. They used the expert's testimony, and they used double-balanced mixer interchangeably with the accused products, but we don't see that as holding that

all products ever that might be called double-balanced mixers have these qualities.

THE COURT: Wouldn't it just be the four accused products that are at issue here?

MR. VERBONCOEUR: Yes. It would be the accused products that were at issue in the first case, Your Honor.

THE COURT: And are they different than the ones here, Magellan and company?

MR. VERBONCOEUR: For these purposes, QUALCOMM would contend no. We would agree that per the -- and you'll hear about this, I suspect, on the motion for summary judgment briefing, the one that QUALCOMM filed. We don't see any of these basic principles as a problem for our patents, and we think our patents are perfectly consistent with these basic principles. But the first QUALCOMM case was on a more limited set of products, and there are certain infringement issues that don't relate to these basic principles that are also at play here for only a subset of products.

THE COURT: But just to understand, the four or five rather factual findings by the Federal Circuit from ParkerVision I that you have up here on slide 107, which were just discussed by your colleague before we broke for lunch, you agree that those factual findings would apply to this case as to the four accused products, Magellan and the three others that are the same, Magellan being the exemplar?

MR. VERBONCOEUR: That is correct, Your Honor, to those specific circuits. Our concern was more that the undefined term double-balanced mixer has been substituted into all of these propositions, and when our expert, Dr. Steer, disagreed that the accused products were double-balanced mixers, it's not clear that he's using the same definition that QUALCOMM has, and so we just want to make sure that the findings are specific to the accused products, not any double-balanced mixer conceivably.

I think an analogy could be a Federal Circuit decision that refers to a set of vehicles as the convertibles. Those findings are limited to those particular machines or cars that are at issue in that case. We can't say the accused products were convertibles, all convertibles have the following qualities, because the Federal Circuit wouldn't have made those findings as to any possible quote/unquote convertible.

THE COURT: I may be anticipating things that are not really before me. But I assumed from this back and forth that the argument by QUALCOMM going forward would be something like, The patents at issue in ParkerVision I had these terms, you know, the double-balanced mixer that converts a high-frequency carrier signal to a low-frequency baseband signal and the output is at the baseband signal, et cetera, you know, these five items. And I suspect what they're going to be arguing is that that same invention is at issue here, meaning the patent

describes the same thing, and that the accused devices don't meet any of these definitions.

I think what I appreciated was that what QUALCOMM wants is there to be no change in what the meaning of these words are. There may be other accused products in the future that you could distinguish because of some unique feature in it. But that's what I interpreted the heart of their argument is, that there's this language that's been defined by the Federal Circuit, and you can't now say that the patent doesn't convert a high-frequency carrier into the low-frequency baseband signal, for example.

MR. VERBONCOEUR: Those findings, Your Honor, were made about the accused devices --

THE COURT: Right.

MR. VERBONCOEUR: -- in relation to the earlier patents. As you'll hear, either today or tomorrow, on docket 494, QUALCOMM's motion for summary judgment, they argue that the claims are the same. We disagree.

THE COURT: Right.

MR. VERBONCOEUR: And I think you're exactly right on their argument, which is, Well, if these principles are established and if the claims are the same, then we have summary judgment.

Our position is, if you substitute accused devices for double-balanced mixers in these products, that's fine. That's

perfectly consistent with the way the inventions are described in the asserted claims in this case.

THE COURT: I think I'm understanding this point, but I'm fearful that I might be missing --

MR. VERBONCOEUR: Our point --

THE COURT: -- the gist of where you're going.

MR. VERBONCOEUR: I'm sorry to talk over you, Your Honor.

THE COURT: No, that's fine.

MR. VERBONCOEUR: Our point is that the findings were specific to the accused devices.

THE COURT: Right. And how are they different? And maybe this is something you don't want to or can't speak to right now. I think I've already said that there's going to be a matching of oranges for oranges and not oranges for apples. So QUALCOMM will say the accused product in ParkerVision I is essentially the same as here and that the claims in the patents at issue in ParkerVision I are the same as here, and, therefore, the language is the same, so the result is the same, noninfringing. That's where they're going to want to go.

And you want to be able to argue that this language is what it is, you know, that's what the Federal Circuit found, but that the claims are something different or the accused products operate somewhat differently.

MR. VERBONCOEUR: Our position, which you'll hear as

part of our response to their motion for summary judgment, is that the claims are substantively different in this case. Those findings stand. Those findings are perfectly consistent with the way the inventions are described in the claims at issue in this case.

THE COURT: Right.

MR. VERBONCOEUR: Our concern was actually maybe a bit broader than that, which is, if these findings apply to all -- or sorry -- all double-balanced mixers ever, we don't know the universe of that. I mean, that could be, you know, devices going back 30, 40 years that QUALCOMM decides to call double-balanced mixers and then later argues that our expert can't disagree with them on certain factual propositions.

THE COURT: You mean some future case.

MR. VERBONCOEUR: No, even in this case, Your Honor, because there's a dispute as to the way the prior art operates, and there's a dispute as to whether they're the same type of device as the accused products. QUALCOMM contends these are double-balanced mixers without providing a definition.

THE COURT: I see.

MR. VERBONCOEUR: Our concern is that they're going to conflate all of those into one bucket and use these aforesaid principles and findings from the Federal Circuit.

THE COURT: I see what you mean. Okay.

MR. VERBONCOEUR: So that was the basic principles

argument. There were two more arguments. One was on the DeMaw reference, and the other was the Weisskopf reference. I will start with the DeMaw reference.

The reason that Dr. Steer was describing the transistors in DeMaw is there is a contested issue of fact about whether the DeMaw reference discloses the sampling limitations in the patents. The asserted claims of the '907, for instance, require periodically coupling a signal, and that requires on and off states sort of like we discussed early the Tau over T, unplug, plug sort of thing.

The Federal Circuit's findings on DeMaw's capacitors related to charge and discharge of energy in the capacitors, not whether there were coupled and not coupled states. And so what I have here on slide 82 is from the Federal Circuit's opinion in 2015, and the Federal Circuit said in a note, The sampling limitation is not found in claim 18 of the '342 patent. In other words, it wasn't at issue whether or not the transistors in DeMaw satisfied sampling.

And here is the testimony from Dr. Razavi on slide 83 that QUALCOMM cited, and Dr. Razavi uses the terms switches, but the Federal Circuit's findings centered on capacitors charging and discharging. Whether there's sampling occurring, as the Federal Circuit noted, was not a limitation in the patent and wasn't at issue. It just was entirely missing from the patent.

And this is another citation from the Federal Circuit case

talking about charging and discharging, and, again, that occurs with the capacitor, rather than the transistors, which QUALCOMM argues are switches that sample. We disagree.

And I'm sure you're familiar with the law, Your Honor. Our point here is that whether there were quote/unquote switches that sampled, it was definitely not a critical and necessary part of the action because the limitation didn't even exist in the patent that was at issue.

And here is the asserted '907 patent, and this is claim one, and claim ten depends on claim one. So all of the asserted claims of the '907 patent have this limitation, and that is periodically coupling, and there's description of what happens during and between the couplings, but for our purposes it's important that there are actually periodic couplings. And just to seal the deal, whereas the Federal Circuit said there was no sampling limitation in the patent at all, Dr. Razavi describes the limitations at issue in this case as energy sampling limitations. So in the first case, sampling missing. In this case, sampling is at issue. So there are different issues. And the issue in this case was not a crucial and necessary part of the earlier action.

And I would like to explain Dr. Steer's testimony that was referenced in QUALCOMM's brief, and this is on slide 88. The question was, So you disagree with the Federal Circuit that FETs -- it's a type of transistor -- Q1 and Q2 are switching

devices? And his testimony was specific to the sampling limitations that weren't at issue then, and what he says is that Q1 and Q2 must be operated in the active region and not to operate them as switches. What he means by that is, transistors can be operated as active, and in effect it operates as a multiplier rather than as a sampler. So you don't have the periodic couplings that are required by the claim limitation.

And this here, on slide 89, is further statement from Dr. Steer explaining how in the prior art DeMaw there are multiplying circuits, which are distinct from the sampling limitations of the '907 patent. And because there were no sampling limitations, as I said several times, in the first case, it could not have been an issue that was crucial and necessary to the judgment.

What I have here is the figure of DeMaw. So this is the reference at issue that was discussed in the 2015 ParkerVision case that was cited by the Federal Circuit, and in blue we have the capacitor they were discussing. It's highlighted, figure 6.7. And it's that capacitor that had these charge and discharge cycles, and then in red is the issue about the sampling limitation that's at issue in this case that wasn't present in the earlier case. So there are two different parts of the circuit.

And consistent with the annotations I added to the Federal Circuit's depiction of DeMaw -- or rather the figure the Federal

Circuit looked at -- QUALCOMM's expert, Dr. Razavi, on slide 93 uses the same distinction. The samples you can see in the purple box there come from what Dr. Razavi calls switch, whereas the question of charge and discharge of capacitors is shown -- I think it's -- a dark blue where it says, "storage device." So even QUALCOMM's expert, Dr. Razavi, agrees that these limitations involve different places in the circuit, different components, and different issues.

And I suspect QUALCOMM might point out, Well, Dr. Razavi said there were switches in the first case, but just saying there were switches doesn't show whether the periodically coupling limitations of the '907 patent, which wasn't at issue -- it doesn't mean there's collateral estoppel, particularly when there was, of course, no sampling limitation at issue in the first case.

And this is the citation I showed earlier.

That was the DeMaw argument. Unless you have questions, I'll move on to the Weisskopf argument.

THE COURT: No. I'm fine. Thank you.

MR. VERBONCOEUR: The Weisskopf argument is similar to the DeMaw argument in that the issues are not the same, and thus, because there are different claim limitations here, claim limitations that were not addressed could not have been necessary and crucial parts of the earlier judgment.

QUALCOMM's motion to strike points to Weisskopf for a

storage module that receives amounts of energy. And this is consistent with the claim that was at issue, which was representative of the claims for Weisskopf purposes that required a storage module receiving energy. And the testimony to which QUALCOMM points in the Federal Circuit's findings rely on energy to the capacitor. And QUALCOMM's position on this -- let me back up.

This is ParkerVision's rebuttal report, and the argument actually being addressed is not just Weisskopf, like was at issue in the Federal Circuit. It's Nozawa plus Phillips plus Weisskopf. And the paragraph of the report that QUALCOMM seeks to strike refers to the analysis done of Nozawa plus Phillips and Weisskopf. And so when the report says Nozawa combined with Phillips, Weisskopf does not efficiently energy transfer, we have to go back to those earlier paragraphs to interpret what the report is saying and whether it is, as QUALCOMM contends, contradicting the Federal Circuit, or as ParkerVision contends, talking about an entirely different claim limitation.

So this is a couple of paragraphs up in the Nozawa and Phillips section, which, again, are combined with Weisskopf. In order for the UFT -- and so the '940 patent, claims 24 and 331, have a UFT module limitation. In order for the UFT to present a low impedance to the input signal, the load resistor must be small. And what the expert is talking about here is, if you recall the Tau over T equation, it was resistance times

capacitance. Resistance affects the behavior of a switch because it can transfer more energy or less, depending on that impedance.

And it's the energy transfer -- sorry to -- energy transfer from the UFT module that's at issue here, not the energy received by the capacitor. Those are two distinct propositions.

And so this is the claim limitation at issue in the '940 patent on slide 100, and I'll note that claim 331 of the '940 patent depends on claim one, and so these are both of the receiver claims from the '940 patent, all of the receiver claims from the '940 patent.

There's a UFT module that needs to transfer energy, and as slide 101 shows and as a person of ordinary skill of the art would know reading this, a UFT module has to be a lower input impedance device. As the claims say, there are nonnegligible apertures and due to those apertures, the UFT module transfers energy at the aliasing rates set by the apertures. And, again, this is about energy transfer, rather than energy receipt by the capacitor.

So this, on slide 102, is a figure from the rebuttal report that ParkerVision filed in this case, and the arrows show where the UFT module is and the down converted output signal, which is labeled 6412, and if we go back to this description in the patent, at slide 101, it's talking about energy transfer from the input signal to 6412, and that occurs by opening and closing

of the UFT module labeled 6408. So that's what's being contested about Nozawa plus Phillips plus Weisskopf, not whether, as the Federal Circuit discussed, there's receipts of energy by a capacitor.

This is from QUALCOMM's expert Dr. Razavi's opening report. Dr. Razavi also distinguishes the separate parts of the components. So just like DeMaw, when there are two separate parts to the components and their behavior at issue, we have two separate parts of a circuit and their behavior at issue. One is this UFT module, whether it's a low input impedance device, how it operates, and the other is the storage device, and our position is that the Federal Circuit's findings on Weisskopf focused on the behavior of that storage device.

And this is a paragraph cited just before -- or maybe it's two paragraphs before the one that QUALCOMM seeks to strike.

This is discussing whether a person of skill in the art would have been motivated to change the resistance seen by the UFT module to change the behavior. And this is because if you change the resistance, then the amount of energy transferred changes from the UFT module.

And then, again, paragraph 232 on slide 105, which is what QUALCOMM seeks to strike, refers back to the analysis above. So it's clear from the report it's talking about the UFT module. It's not talking about receipt of energy from the capacitor. And so there are different issues.

These are all my comments on Weisskopf. Thank you.

THE COURT: Are we moving on to a new topic, or are you responding?

MR. GARDNER: I'm responding. So I think, first, we started off with there's no dispute about the issues as to the accused products, and I guess I just want to have clarification. I think that we're all under the same page. That applies to all the products that are accused in this case. Is there any -- was I unclear about that?

MR. VERBONCOEUR: Findings for collateral estoppel purposes apply to the products at issues in that case. Our experts have used representative products in their testimony.

MR. GARDNER: Those are the same as this case, there's no dispute about that?

MR. VERBONCOEUR: Well, QUALCOMM, as you know, has unique noninfringement arguments for a subset of the products. If the parties can agree that one product is representative of all -- we can't agree to that.

MR. GARDNER: All right. Well, we'll address that issue later. I thought we were closer to being able to resolve something, but unfortunately, Your Honor, I think we'll have to see if we can clarify it later.

So on the accused products, I mean, you know, we'll go through this argument later. Magellan was the accused product in ParkerVision I. Magellan is the representative product

today. We don't know how, you know, ParkerVision's theories can be different or the products could operate differently, but I guess we'll get to that.

On DeMaw, there was a lot of argument spent about sampling. Sampling isn't the issue. The issue here is, whether or not DeMaw teaches switches, and on this issue the Federal Circuit's decision is clear. So if we go to slide 56. I apologize that our numbers are gray. If we go to slide 56, the Federal Circuit said, The transistors designated as Q1 and Q2 in DeMaw correspond to first and second switches." Now, in slide 88 of PV's presentation, they say that -- we have exactly what Dr. Steer said. Dr. Steer said, on slide 88 of ParkerVision's slides, Oxner specifically teaches that Q1 and Q2 must be operated in the active region and that not to operate them as switches.

This is a factual issue. It was resolved in the first case. We're not here to resolve some different factual issue. Now, we both agree that this factual issue will end up determining the sampling issue, but, you know, we're just here -- we didn't move for the larger issue. All we moved for was that they can't dispute that they operate as switches, and what they are disputing is that the resistors -- sorry -- the transistors, Q1 and Q2, whether or not they operate as switches. The Federal Circuit held that they do. They say they don't.

Now, I also want to say, was that necessary for the Federal

Circuit's decision? Absolutely. If we look at slide 54 on the right-hand side, claim 18 is the claim that was invalidated. In order to prove that claim 18 was invalid, if we go to limitation four -- sorry, limitation five -- oh no. I was right the first time. Limitation four, it says, With first and second switching devices. So it was a necessary part of what the Federal Circuit was deciding. It had to decide do I have switching device, do I have switches. So the Federal Circuit said, I find that these are switches, consistent with Dr. Razavi's testimony. That's the factual issue we want resolved and we want collateral estoppel on. And there's no ambiguity on the record. And there's no ambiguity about the fact that Dr. Steer is now disputing that clean factual issue.

The second thing is, they talk a lot about Weisskopf, and as we anticipated, what we just heard today is a brand-new claim construction argument. So if we go to ParkerVision's slide 100 -- and I apologize for switching back and forth between decks. In ParkerVision slide 100, we have the claim language of claim 24 of the '940 patent. And their argument is that transferring energy from the electromagnetic signal at said aliasing rate -- their new argument that's been presented to the Court is that requires transferring energy to a load.

Now, this claim is not a method claim. This is an apparatus claim. There is not a load recited in this claim. What their claim does require is it requires in number three a

storage device storing energy from the UFT module.

Now, ParkerVision just did this whole nice claim construction argument that what this claim requires is transferring energy to a load. That is a new claim construction argument, and, I mean, quite frankly we think that that's waived. But if the Court would like the parties to address that claim construction argument, we would be more than happy to, because what the claim explicitly requires is that you have to transfer energy and then you have to have a storage device that stores energy from the UFT module. So it doesn't say anything about a load. They want to read in this new load that doesn't appear anywhere in the claims.

So unless the Court has any questions related to that, I'll move on to motion No. 3.

MR. VERBONCOEUR: Your Honor, sorry to interject. Would the Court value response from our side on these issues?

THE COURT: In terms of the claim construction, the new claim construction argument.

MR. VERBONCOEUR: I can speak to that.

THE COURT: Why don't we take that up first. Obviously, we did have a claim construction hearing in this matter. And then we'll come back to you, Mr. Gardner.

So if the Federal Circuit said DeMaw identifies transistors Q1 and Q2 operating as switches, therefore, it's a switch, why should I deviate from that, and why isn't your colleague right

that it's a new claim construction to speak about transferring energy to a load, which we've never talked about before?

MR. VERBONCOEUR: I'll address each in turn.

If you'll turn to slide 85, please -- actually, slide 86.

The claim limitation at issue in the Federal Circuit case in 2015 required switching devices coupled to capacitors. And the testimony that QUALCOMM's counsel just showed you said, according to Dr. Razavi, said something about what Dr. Razavi called switches and then made findings about the capacitors. These claims of the asserted patents in this case don't have those same limitations. They require periodically coupling, which is a different concept. And Dr. Steer's testimony about switches goes to this issue. The problem is that the parties seem to have competing -- I'm sorry. Let me back up.

The first issue is the Federal Circuit never made a finding about whether there were devices in DeMaw that practiced sampling. Our expert has classified the transistors in DeMaw as not switches because they don't periodically couple.

THE COURT: But can he do that? That's the heart of the matter. If the Federal Circuit already said Q1 and Q2 are switches, then how does your expert get to say, Nope, they're wrong. They're not switches. They're something else. You may argue that that's not dispositive because there's periodic coupling at issue here that wasn't before --

MR. VERBONCOEUR: Right.

THE COURT: -- therefore you don't, you know, get a summary judgment on the claim, but how does an expert get to say the Federal Circuit misinterpreted prior art?

MR. VERBONCOEUR: We would agree that the expert doesn't get to say they're not switching devices. I think it's fair, though, their expert gets to say that the transistors in DeMaw do not periodically couple. I think there's a bit of hesitancy here because our expert said something like, switches are the sorts of things that periodically couple. This reference doesn't have it. What we would like is to preserve our ability to show that the claim limitations that weren't at issue in the first case are not at issue -- or sorry -- are not present in the references here.

THE COURT: I think what Mr. Gardner is asking for, and I may be wrong about this, is to not allow an expert to deviate from the Federal Circuit's determination that this particular piece of prior art speaks to switches. I hope I'm saying that correctly. But I think that's where they're going is that DeMaw Q1 and Q2, the Federal Circuit in reviewing it said, you know, these are switches, and then they went on with their analysis.

MR. VERBONCOEUR: Right.

THE COURT: Whether that's outcome determinative, who knows at this point. At least, you know, it's not before me to make that decision.

So I don't know if I'm missing the point or if the arguments are passing ships in the night, but the argument by QUALCOMM seems to be more narrow, that the Federal Circuit said this reference, DeMaw speaks to switches. We can't now say, no, that is not true.

MR. VERBONCOEUR: I think our position is that our expert should be able to explain why the claim limitation is not present in the first case.

THE COURT: Meaning a switch is not present here?

MR. VERBONCOEUR: Meaning that the -- well, this is a method, and it doesn't require --

THE COURT: Right.

MR. VERBONCOEUR: -- apparatus components, but our expert should be able to testify that the transistors in DeMaw don't practice the periodically coupling limitations. Whether we call it a switch or not is almost a matter aside because you could call it a switch, as QUALCOMM does, and it might not show the limitations, or you might not call it a switch, as we do, and then you might still take the opposite position.

THE COURT: QUALCOMM is saying, though, that Steer has to call it a switch because the Federal Circuit already found that. He may say it's a switch that doesn't practice periodic coupling -- if I'm getting it right -- or some other version of facts, but I think they want to make sure there's not a change in the way the prior art reference is described in terms of at

least what the Federal Circuit already opined on.

MR. VERBONCOEUR: I think, Your Honor, that assumes that the name of the term was a necessary and crucial part of the judgment, and if we make that assumption, I think it would be limited to switching devices coupled to capacitors, rather than a switch, point blank, particularly given Dr. Steer's testimony about the different ways the transistors could be operated.

If you have no further questions on that, I would like to address your question on Weisskopf. And what I would like to point out is, first, when QUALCOMM felt that our invalidity contentions -- sorry. When QUALCOMM felt that our infringement contentions were lacking, they were very quick to challenge those. They've had notice of our theories in this case for a long time, and this is past two claim construction hearings.

I think, given the now disputed meaning of UFT module, I think the Court has two options. One is to allow the experts to apply their understanding of a person of skill in the arts' reading of the specification and claims and apply that perspective to the facts at issue in this case, so a plain and ordinary meaning approach.

The other approach would be under the Federal Circuit's precedent in *O2 Micro*, where we would have to resolve this claim construction dispute before the matter reaches trial.

We think that the first approach is appropriate, given the

long notice that QUALCOMM has had of this, their failure to point out any deficiencies in our contentions, and the fact that the parties have already gone through two claim construction hearings, one before and one after a stay for QUALCOMM's IPRs.

THE COURT: Is it your position that in the infringement contentions you put the defense on notice that you would be speaking about transferring energy from an electromagnetic signal that requires transferring energy to a load? Did that come up somehow?

Because what I'm concerned about is, I understand that claim construction happens when parties have disputed interpretations of claims, obviously. Sometimes those disputes don't occur until later, as the case kind of materializes. Should happen sooner, but, you know, these things can happen.

I'm just kind of -- I don't know. I'm thinking out loud here about what was the proper timing and why. If there was notice that you were speaking about transferring energy to a load, then there was notice. If this is something new that's being discussed, you know, why wasn't it earlier, you know, that sort of thing?

MR. VERBONCOEUR: I just wanted to have the claim up here because we spoke about this.

THE COURT: Yep.

MR. VERBONCOEUR: I think our response to this is twofold. One, we disclosed that it was specifically the low

input impedance switch in the QUALCOMM accused products that we were accusing -- that we were accusing, and we put that into our infringement intentions. As part of that, we cited schematics and design review documents and all of these other things that, you know, we're relying on now. The other part of it is that the UFT module requires transferring energy, and the transfer of energy, as we discussed, is affected by the load resistance. If we go back to the light bulb example, if you didn't have a light bulb which acts as a resistor in that case, you wouldn't transfer energy.

So again, I think ParkerVision's position is that notice has been there, and notice has been there for quite some time. In any event, though, if the Court is inclined to treat this as a disputed meaning of a claim term, I think the Federal Circuit's precedent in *O2 Micro*, which would require a construction of the term, which could be plain and ordinary meaning, but that would be controlling, I think.

THE COURT: Thank you. All right. I think we're moving on to the next motion.

MR. GARDNER: Yes.

THE COURT: And this is your summary judgment at docket entry 494?

MR. GARDNER: It's actually part three of the motion.

THE COURT: I thought we got through that.

MR. GARDNER: The good news is we think this motion

should resolve the case. So motion number three is our motion to strike ParkerVision's unsupported expert testimony based off of their failure to perform any simulations or testing of the actual product. And on this point, I think both parties cite to the *Kumho Tire* case, and the *Kumho Tire* decision is very clear. It's the district court's obligation to make certain that an expert, whether basing testimony on professional studies or professional experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field. So that's the requirement. And now we need to look at what evidence goes to what is the level of intellectual rigor that characterizes the field of circuit analysis and -- yeah, of circuit analysis. So this is, you know, sort of clear guidance to a court on what is required of the court as a gatekeeping function.

The *Becton, Dickinson* case is also very instructive on why testing is necessary. In *Becton, Dickinson*, the Plaintiff in that case did not provide any test data or even a single demonstration related to this energy storage concept. So they argued that this device works in a certain way by just looking at the general designs of the device, but the Federal Circuit said, That's not enough when the whole, you know, core dispute of a case is about how this device actually functions. You can't just merely look at it.

Now, I want to go through the undisputed evidence about

what is the level of intellectual rigor that's required in the field of circuit analysis. So we have our first textbook. Simulation is necessary to accurately predict detailed circuit behavior. "Necessary," that's the word used. So if we're looking at slide 64, this is the CMOS VLS Design book that, you know, is well known in the art.

If we go on to slide 65, we have another book. This book is actually by Phillip Allen, the expert that ParkerVision selected in this case, and what Dr. Allen said is he said, A designer must turn to computer simulation methods to confirm the design's performance. What is exactly at issue here is how these circuits perform. You know, we have to.

So 64 is simulation is necessary. Slide 65, this CMOS Analog Circuit Design book, by Phillip Allen, he says, You must turn to computer simulation.

THE COURT: Can I interrupt just for a second? I don't ask rhetorical questions. I was not involved in ParkerVision I, so I don't profess to know the nuances. But was there simulation in that case?

MR. GARDNER: That was actually one of issues that was a dispute in ParkerVision I. And there is actually a long history here, which I think is worth going through. So in ParkerVision I we made an argument that they were required to rely on simulations and testing, and in ParkerVision I their expert, Dr. Prucnal, did simulations. Now, we had issues with

those simulations, and we said he should have actually simulated, you know, a designer that was closer, but he actually included simulations.

At trial, Dr. Prucnal decided to drop those simulations out of his report. The Federal Circuit made note of that in its opinion. So if we look at the -- it's actually, the quote is on slide 68. So I can just go there for a moment. So the Federal Circuit said ParkerVision failed to do -- oh, I'm sorry. This is the -- this was the district court. The district court said, ParkerVision failed to do any testing of any of the accused QUALCOMM products in finding JMOL in QUALCOMM's favor.

So then we came to the next case, and that's actually -- it sets up the next issue quite pointedly because then we came to ParkerVision II, and we had a dispute with ParkerVision about -- our view was that we would provide certain information and that they should be able to do simulations and testing using that information, and it was the format that the schematics were in.

And ParkerVision counsel -- if we go to slide 66 -- so ParkerVision's counsel said -- you know, they sort of set up this testimony -- during the course of designing a circuit, it sometimes happened that the engineer thought it would work a certain way and it doesn't work that way; it works in a different way. And so they say, It's really not possible to test the actual performance of a circuit in one of these computer chips without simulation. ParkerVision's counsel made

the same representation to the court that we're talking about today.

So in ParkerVision I, we said simulation was necessary. ParkerVision, we thought, did not rely -- at trial what ended up happening is Dr. Prucnal dropped his simulations because they were so faulty, and so then they had a failure of proof issue. You know, it wasn't whether his simulations were reliable or not. It was that he, therefore, didn't do them. And as the Court addressed in the ParkerVision I decision, the Court looked at that and said, That's important. It's not enough. It supports the fact that QUALCOMM doesn't infringe.

In slide 67, ParkerVision's counsel went on.

THE COURT: I'm sorry. Let me just go back for a second. That slide that you just referenced, I looked at the caption and it appeared it was a discovery hearing in front of the magistrate judge. So there was a discovery request for data to do the simulation. Is that --

MR. GARDNER: That's correct. So I mean, we had this big dispute, and it really was really not about the information itself. They wanted to be able to simulate in QUALCOMM's live design environment, and QUALCOMM didn't want to give them access to that live design environment. We said, We'll provide you all the information so you could build your own simulations. We lost on that issue, by the way, and we ended up -- well, we eventually lost on that issue, and we ended up having to provide

them access to the live design environment, and as we'll talk about, they ended up doing simulations in every other case but this one.

So I do want to go on ParkerVision counsel's further statements at that same hearing. They actually do this analogy, which I think is great. It's a great analogy. They say, Just because you know how the keys are laid out -- to compare a circuit schematic to the keys on a piano. And they say, Just because you know how the keys are laid out, doesn't mean you know what tune they're set up to play. So even ParkerVision's counsel represented to this Court that simulation was necessary. It's consistent with the textbooks that we've seen. It's consistent with ParkerVision's statements.

So on slide 68 we talked about that after they failed to perform testing in ParkerVision I, ParkerVision demanded access to QUALCOMM's live design environment. So there's a little bit of -- ParkerVision I was filed. This was actually the second case. And then ParkerVision filed both a district court and an ITC case against QUALCOMM. And the ITC case, that came next, right? So it went ParkerVision I and then the ITC case went next.

Dr. Steer, the expert that they're relying on, did simulations. He actually relied on simulations in that case. And so that's cited on slide 68 where Steer's ITC statement, CX-005C, he says he performed or directed the performance of

simulations of the circuitry in QUALCOMM'S chips. They demanded access to be able to do those simulations. They got access. And they ran those simulations. For Dr. Steer that was necessary in that case.

When we look at what happened in the ParkerVision III case, once again, it was actually Dr. Allen in that instance. He was the one that was doing the simulations, and he also performed simulations in order to support his analysis.

THE COURT: That's the Jacksonville case.

MR. GARDNER: That's correct.

THE COURT: What's the status of that case?

MR. GARDNER: That case is stayed pending this case. So once again, they performed simulations. There was no -- I mean, we've been providing this argument from ParkerVision I on day one that they need to do simulations, and they're just not doing them because they want to say that circuits operate in a way that they don't. And, again, Dr. Razavi has provided these simulations. But they bear the burden of proof on this issue. So before they can go and testify to the jury, they need to actually meet their burden of proof and have admissible evidence, and just their expert opining without more is not enough.

THE COURT: And what happened in the ITC case? That was dropped, wasn't it, at some point?

MR. GARDNER: Yep. So we were one day before the

hearing was supposed to start, and ParkerVision acknowledged that they couldn't meet their burden in that case and walked away.

THE COURT: Were simulations already done in that matter and discovery taken on those or no?

MR. GARDNER: Yep. We deposed their expert on those simulations. As we'll talk about later, in that case, one of the other big issues was the importance of looking at the layout, which is a part of the schematic, and that was actually a really big issue in that case, and as we'll get to -- it's a separate issue, but now ParkerVision's expert says he didn't have access to some schematics, which is a little unbelievable because he looked at them as part of that case.

All right. So moving on to slide 69. Now, it's really important that we talk about the actual evidence of what the industry -- what level of rigor is required in this industry because what we have submitted is we've submitted textbooks. We submitted ParkerVision's own statements to this Court, their own representations to this Court. And in Dr. Razavi's expert report he goes into detail about why for these issues you actually need simulations.

And what they try to do is they try to take a statement from Dr. Razavi out of context, and they try to say, Well, this shows that not using simulations is sufficient. But it's not what Dr. Razavi said. So the quote that they pull from

Dr. Razavi is they say that, Schematics and technical documents are the type of documents or document that experts in the field would reasonably consider in evaluating the operation of a circuit. That's undisputed. We are not saying you wouldn't consider that information. The issue is whether you would rely on that information without doing more. And, again, in the field of circuit analysis, simulations are necessary. You must do simulations, as Dr. Allen put it.

The next thing that ParkerVision's counsel points out to, and I know they showed a slide of this earlier in the day, they said, Well, we can do these calculations about individual circuit components. Right? We have two issues with this. One is, there's been interaction between all of the these components. So we're not talking about doing a calculation on one or two circuit components. We're talking about incredibly complex devices that have, you know, tens of thousands or hundreds of thousands of components in them. Even the number of components -- I don't even know if I could count the number of components just that are sort of within the bounds of what ParkerVision's infringement arguments are.

And they say, Well, we can do these calculations. Well, that's an issue too because, for example, ParkerVision points to this calculation ECTx equals and then they provide this formula. Nowhere in ParkerVision's report does it actually tell us what the input I mix is. It's completely absent so that we can't

actually do the calculations that ParkerVision says. And, again, that comes to the decision in *Daubert* that you have to have testing or you have to have data, and we don't have either of those things here.

ParkerVision's counsel says, Well, we provided calculations. That is just absolutely not true. I would be glad for ParkerVision's counsel to get up here and point to a single instance where they tell us what the value of I mix is for the accused products. It's just completely absent from their reports.

Slide 71 ParkerVision also argues that -- well, I'm sorry. QUALCOMM's position is that we have a dispute about whether transistors operate in terms of gating or switch modules. And they say, Well, Dr. Steer wasn't required to rely on simulations for that issue because he relied on other evidence. They didn't actually include any cites in their report. We're happy to consider them, but we think that that's -- you know, the time to do that was then.

Slide 72. We also have this issue as to whether or not these products create harmonically rich signals at their output. Again, ParkerVision, you know, in essence they point to all of the times where the word "harmonic" appears, right? And they say, like, That's enough. We pointed to harmonics, so that must be a harmonically rich signal. This is actually the issue that was squarely in front of the Federal Circuit during the IPR

appeals, and what they told the Federal Circuit was just the word "harmonic" isn't enough. But now they turn around in this case and say, Oh, I'm sorry. The word "harmonic" is enough. If we point to somebody saying harmonic, that's enough.

But, again, I think it's -- a bigger issue here is, you actually need to simulate the circuit to know whether or not it performs that way, and, you know, we can just rely on what ParkerVision's own expert told us, we can rely on what ParkerVision's counsel told the Court, and we can rely on what the textbooks say, and that's the only evidence we have on the record, and that evidence is undisputed.

THE COURT: Thank you very much.

MR. GARDNER: Thank you.

MR. VERBONCOEUR: Your Honor, there's no law that experts need to automate calculations in lieu of doing them by hand in order for their testimony to be admissible under *Daubert*. At most, that is an issue with the strength of their evidence rather than reliability. As I showed earlier and as I will discuss again, QUALCOMM's own expert discusses how simulations are based on well-understood physics principles of circuit components that can be used with accurate mathematical models.

And to answer counsel for QUALCOMM's question, yes, we can talk about I mix, and here's how we do it. And then I'm going to go through the presentation. But here on slide 137 is

ParkerVision's opening report. And what the report is describing is how inputs range on the accused products, the frequency ranges. And the report describes how there are different sampling periods and they're labeled LO_IP periods and how these affect the -- in this case the question is the energy flowing from the mixer into the capacitor and whether it's negligible.

If you can --

THE COURT: What was the impediment, though, to doing sampling here, if it was done -- or simulations, rather, if it was done in ParkerVision I, the ITC, and ParkerVision III, why not here?

MR. VERBONCOEUR: We cite to deposition testimony from our expert. And QUALCOMM cites to deposition testimony appearing right before this question and answer in our brief. And the testimony was, Why didn't you do simulations? I didn't think it would be very profitable. And then the follow-up testimony was, The test benches QUALCOMM gave us were horrible. And what QUALCOMM's counsel omitted from the presentation is that a lot of the discussions back and forth on simulations have to do with the underlying assumptions that go into them. So simulations are, in effect, computerized mathematics. If you get improper assumptions into those simulations, you'll get incorrect results, just like if you have improper assumptions into calculations, even if the underlying equations are correct.

And at bottom, that's the issue. And our expert's concern was that they didn't believe that the testing environments were appropriate. They were, quote, horrible.

And here, so I just showed you the calculation that --

THE COURT: But that didn't stop ParkerVision the last three times, right? I mean, my concern is this: I understand that experts don't have to necessarily always do a simulation to have their testimony admissible. But the argument by QUALCOMM is you have to look at whether there's the same intellectual rigor or are we getting closer to the expert telling the jury, Trust me. I have a lot of degrees. And mathematical equations may be one way to get past the notion of, you know, just trust me. But if you were able to do them before and if QUALCOMM gave access to the same environment they would use or, you know, words to that effect, then why not do it, other than the outcome may not be desirable?

MR. VERBONCOEUR: Several responses to that, Your Honor. First, I don't think it's accurate to say that the earlier cases hinged on simulations. The Federal Circuit made a comment about the simulations.

THE COURT: So did Judge Dalton.

MR. VERBONCOEUR: Sorry.

THE COURT: He seemed to be critical of it.

MR. VERBONCOEUR: Sorry. I misspoke. It was actually Judge Dalton's comment. It wasn't the Federal Circuit's comment

on simulations. And the comment had to do with an overall, in Judge Dalton's view, lack of evidence for certain limitations.

THE COURT: But if Dr. Allen is the one -- and I know he's not there, but he was initially there prior to his health turning against him, which is very unfortunate. But if he is publicly of the opinion that simulations is the gold standard, so to speak, then why are we dropping down to something less than the gold standard now, without it causing me to question the reliability of the expert's methodology?

MR. VERBONCOEUR: As Dr. Allen testified and Dr. Steer testified, they didn't think simulations were necessary in this case to show infringement of the claim limitations.

THE COURT: My question point is his publications before he was retained in this case, he seemed to take a different view.

MR. VERBONCOEUR: He took a different view and he was talking about very complex circuit behavior; whereas here the view is I'll go through this but using the models that were used and using the design review documents, which by the way, include QUALCOMM's own simulation results and QUALCOMM testing review documents, which we cite to as well, which also include QUALCOMM's testing results. These documents, including QUALCOMM's own tests in conjunction with these mathematical analyses gives them more than enough, and they don't have to give the, quote, horrible test benches that they felt they were

provided. They can use QUALCOMM's own information on that front.

THE COURT: Not to debate it too much, but this is obviously going to be an important point. If ParkerVision felt the testing environment was less than ideal, then the remedy is to go before a magistrate judge and get an ideal environment to do the testing, and if denied, then, you know, deal with that by whatever means is necessary. But if you're relying on QUALCOMM's simulations, I doubt it's to prove the same point you want to prove, right? They're running simulations of their circuits as they believe they work, and you want to run showing that they infringed the patents.

So I'm just concerned as to why it wasn't done if that seems to be the state of the art, could have been done, the data was available, and if you didn't like the testing environment, you know, your remedy is to get that fixed.

MR. VERBONCOEUR: I don't know the exact timing of that discovery request and whether it pushed against other deadlines, firstly. I think --

THE COURT: It started in 2014. We've had plenty of time.

MR. VERBONCOEUR: Yes. Well, I also point out that the documents that I mentioned with QUALCOMM testing and simulation and stuff, we don't disagree with them. We cite to them. So we agree with those. The simulations it seems like we

disagree with are those produced by QUALCOMM's paid expert, which in our view, we prefer citing to QUALCOMM's own design review, testing review, schematic documents in lieu of the simulations created for litigation.

And so as far as reliability, presumingly QUALCOMM engineers who were putting together these designer review documents, putting together these schematics for exercising a baseline of reliable intellectual rigor and because they've exercised the baseline of reliable intellectual rigor, it makes sense to rely on this work, particularly when rebutting simulation done by a paid expert in anticipation of litigation.

And I do want to point out what this slide here is on 133 because I also think it may be responsive to this overall point about simulations. What our experts did -- and this is actually the work of Dr. Steer who prepared these, and this is a appendix to the receiver report which deals with the '907 and '940 patents, just only for a subset of claims in the '940 patent -- went through every single accused product architecture, and this is true for received and transmit. And he pieced together all of the schematics to show just how complex QUALCOMM's products are. And for every product the inputs are traced through the whole product in order for the expert to fully understand how these devices work, and this work was done prior to the other sorts of proof we offered of infringement in the expert report.

So there's no debate that there was an intense analysis of

the products here, and there was no debate that this intense analysis occurred prior to the experts deciding to rely on QUALCOMM's own schematics, design review documents, and testing review documents to show their infringement positions.

Would you go back to document 127.

I think at bottom the debate QUALCOMM brings for the motion is about the strength of the evidence, rather than reliability. I don't think that QUALCOMM can seriously contend that its own design review, testing review documents, and schematics are unreliable methodologies and that it's unreliable to rely on those, particularly for firm propositions present in those documents or from firm statements made by QUALCOMM engineers who have for decades tested and simulated the products at issue. I don't think that contention can be seriously made.

If QUALCOMM feels that we have insufficient evidence, it's more appropriate for motion for summary judgment, rather than a *Daubert* question.

And the question -- well, I think I may have pointed this citation out earlier from QUALCOMM's expert, Dr. Razavi, but Dr. Razavi says that a design review document from QUALCOMM is exactly the sort of document that an expert would reasonably rely on in evaluating a circuit, of course in conjunction with other evidence.

I would like to distinguish the cases that QUALCOMM cited on this point. Three of them are not at all about *Daubert,* and

they're about the weight of evidence rather than its admissibility. And so *Becton*, *Eltech*, and *Abbott*, and this is slide 128, don't speak to this issue, whether, as far as the district court's role as a gatekeeper, this evidence should be admissible. And none of them, by the way, involve circuits or computerized simulations in lieu of the same equations on paper.

The *Cobra* case I would like to focus on because while QUALCOMM cites this case, I think this proves our point. In *Cobra*, which is on slide 129, this was a *Daubert* challenge, unlike QUALCOMM's other cases, and the Defendants challenged an expert's ability to opine on the physical structure and elements of an integrated circuit. There were actually apparatus claims at issue in that case. The Defendants argue that, among other things, the expert failed to identify circuit components and map those components to the corresponding depictions in the circuit diagrams.

Now, I showed you the very exhaustive effort taken by Dr. Steer to do that for all of the products, in part because we have no representative products agreement, but this was done for dozens of products, and in the way these receiver products work, there are dozens of inputs. There are different receive bands, and, you know, depending on the frequencies, the signal might go a different route in the product, and as I showed, our expert traced all of the those.

So our expert did exactly what the *Cobra* defendant said was

missing from the *Cobra* plaintiff's expert's analysis. That is, they mapped the circuit components, and they mapped them to the claims. To use the language from *Cobra*, they identified the various circuit components, and they mapped those circuit components to depictions in the Defendants' circuit diagrams.

What we have here on slide 130 is an excerpt from the opening report of ParkerVision's expert, and the schematics that QUALCOMM itself produces, so it should be reliable, are marked with the corresponding claim limitations, and we have here -- this is just exemplary. There are schematics for every one of the accused products that are mapped. You know, they're cited as far as the mapping of claims. These are just exemplarily schematics that were included.

And on slide 133, this is the diagram I've showed you. What's difficult to see, I imagine, on slide 133 from your vantage point is there are actually Bates numbers cited for each one of those components. There are boxes drawn around each component. And the schematic that corresponds to that component is cited there. So it's not just a large diagram. It's a large diagram that explains how dozens of 4 foot by however many feet schematics fit into an overall picture of the behavior of the product. And, again, this is tracing the various inputs of the products.

I do believe actually that I may have misstated something. This particular product has over a dozen inputs. I believe our

expert didn't trace all of them, but used some of them as representative, based on his experience with these sorts of inputs.

Now, I want to address -- so QUALCOMM's claim I don't think is, you always need simulations to prove anything ever about circuits. They identify three particular issues on which they allege ParkerVision can't offer proof because it doesn't use simulations. I'll again point out it's more appropriate for summary judgment, but putting that aside, and showing our proof on these issues for *Daubert* purposes, I'll go through each of those three factual points and show what proof we do offer, and that it is reliable.

The first is, QUALCOMM argues that ParkerVision needed simulations to show energy stored on the capacitor. We talked about this at length this morning, as it relates to Tau, because that relates to the charge and discharge of the capacitor. And our expert, using what I showed in appendix D, which was the complex diagram showing all the various components, mapped out how the circuit would operate based on those diagrams and was able to express a Tau value here in the receiver opening report, which, again, controls the charge and discharge of the capacitor. And that is identified for a particular phase of what's called the local oscillator signal. And then, based on the way the products are run and the frequency range of the products, we are able to show that the current flowing into the

capacitor is a certain amount, and then what's cited here is values, such as time constant resistance and capacitance.

We then cite to the schematics for all of the accused products, where all one would have to do to calculate that was look at the schematic, look at the value of R, for instance, and the value of C and put this into here, which would give you for every one of the accused products a printout of the energy stored, of course depending on the particular signals that were received by the product. And then this is the analysis here where it's, I guess you could say, plug and play. We cite to the schematics, which are reliable. You can put in these values, and then for all, you know, 16 of the products in dispute you have proof that the claim limitation is met.

And as I pointed out earlier and this morning, QUALCOMM's expert doesn't disagree that mathematical models are reliable. In fact, QUALCOMM's expert says, Accurate mathematical modules can be created for all common components, and QUALCOMM's motion does not argue that their components are so uncommon as to need different treatment.

In this slide 140, and this is QUALCOMM's expert Dr. Razavi's rebuttal report, describes how mathematical models and components are used in circuit simulations, and I think this is important because, if we believe Dr. Razavi here, then we are talking about mathematical models at bottom, and that's important for reliability. As with any computer program or any

simulation, if the assumptions going into that simulations are poor, then those could be poor assumptions about the way that circuit components operate or it could be factual issues about the values. Those simulations may be led astray. That's exactly true for the way that mathematical equations could be used on circuit components too.

And then I'll address QUALCOMM's other case. The *Dolphin* case that QUALCOMM cites was, in fact, a *Daubert* challenge, but it had nothing to do with circuits or simulations, and the issue there, unlike here, was the challenged expert in *Dolphin* said, Hey, my tests are insufficient. It involved metallic surgical bone screws. And the expert said, Well, I tested it, but I wasn't able to see what I needed to see, and on that basis, the Defendants moved under *Daubert* to strike the expert. We don't have that situation here. Both the ParkerVision experts were asked, Is your proof sufficient? And they said, Yeah, it is. So *Dolphin* can also be distinguished.

And this is an excerpt from Dr. Steer's deposition on slide 142, and this is exactly what I was just talking about where Dr. Steer said there was, in fact, sufficient information in the QUALCOMM documents, so different than the *Dolphin* case.

Another case that was cited was *Rembrandt*. The issue in that case, and this one is also distinguishable, was the expert testified for the first time at trial that he didn't document his protocol. It was entirely inconsistent with the procedures

he disclosed in the expert report, and there was an oral motion made. But we don't have that situation here either. There's well-documented and reliable approaches in the ParkerVision expert reports. They cite to all of the schematics. They cite to appendix D, which is the diagrams that I showed you from the schematics. They cite to the circuit calculations. This case is also distinguishable.

So I have addressed the first factual proposition, QUALCOMM requires needed simulations, the energy and the capacitor.

The second is whether the devices have open and closed states, and this relates to the transient patents, the '372 and the '940 patent, and it's, in particular, the gating means limitations in those patents. And the issue is whether the devices take open and closed states.

And this deposition testimony, Your Honor, on page -- or sorry, slide 145 is clear. The question -- and this is a principal engineer, a manager by the way, who had been at QUALCOMM for more than a decade. "How does the LO signal on each of the transistors allow current to flow through there?" In essence, how does the transistor take a closed state? How does it allow current to flow across it?

"When signal of the gate goes to a voltage which is higher than the threshold voltage, then the mixer devices allow the current to pass through." That's an unequivocal statement and it's made by someone who has more experience with QUALCOMM's

products than either QUALCOMM's experts or ParkerVision's experts. This is a reliable source of information, someone who has tested the products for decades, about how they work.

And then, again, as for the open state, "At what point do the transistors turn off and stop letting current through?"

Answer, "When the voltage goes below the threshold voltage." And that's just open and close.

And this is QUALCOMM's own design review document cited on slide 147, shows the same proposition. Again, this is QUALCOMM's own engineers, not in anticipation of litigation, describing to themselves how the products work.

MR. BRIGHAM: I'm sorry, Your Honor. I do apologize. We're starting -- can we take that down for a second? We're starting to get into highly confidential QUALCOMM information. And so we were trying to wait as long as we could before invoking that. I think at this point -- I don't know how much longer you're going into these details, but at least the last slide had confidential information. I know that we agreed as a courtesy that Mr. Parker could stay in, but if you're going to get into confidential QUALCOMM information, I would ask that others leave the court.

THE COURT: The other people who are here, are they all attorneys involved in the case or no?

MR. BRIGHAM: I don't think so.

MR. VERBONCOEUR: No, they're not.

THE COURT: All right. Then I think if we're going to be speaking about confidential information, I'm sure you have a confidentiality agreement that limits it to the attorneys and the experts working on the case.

MR. BRIGHAM: Yes.

THE COURT: So while we're talking about that information, we'll close the courtroom, let you do this presentation, and then once you're done with that part, we'll bring everyone back in.

MR. BRIGHAM: Yes.

THE COURT: Fair enough?

MR. BRIGHAM: Yes. Thank you.

THE COURT: So anyone in the courtroom who is not an attorney on the trial team or an expert retained to work on the matter, I apologize, but please step out for a moment. We'll let you know as soon as we get past this, and then you can come back inside.

MR. BRIGHAM: Your Honor, as a courtesy, we've allowed Mr. Parker stay in here as the claim representative.

THE COURT: Of course. Yes.

(Proceedings sealed.)

THE REPORTER: Your Honor, would you like to seal this portion of the proceedings?

THE COURT: Yes, please. We'll seal this part of the record as well.

Well, I would've bet money there would not be outside disinterested parties coming to watch this.

MR. VERBONCOEUR: And I probably will have a number of slides.

THE COURT: Let me know when you're done with this portion, then we'll go back to an open record, and we'll have everybody come back in.

Okay. So you were on slides 145 through 146. I think you're back now at 143. There we are, 146.

[redacted]

[redacted]

[redacted]

[redacted]

I want to address this, which wasn't brought up in argument but falls under the same motion header. QUALCOMM filed I think it's a three sentence motion against ParkerVision's other expert.

But before I get into that, Your Honor, I want to make sure that my remaining slides are public information. They are, so we can unseal this part.

THE COURT: Will we be going back to sealed information or no?

MR. GARDNER: I believe so, Your Honor.

THE COURT: So why don't we just stay the course for a moment.

MR. VERBONCOEUR: Okay. So this is the entirety of their motion with respect to Mr. Sorrells' report. There's no argument here, other than Mr. Sorrells has never seen QUALCOMM's schematics or confidential information. How he arrives at his conclusions remain a mystery.

ParkerVision, of course, doesn't -- there's no law citing

that you need confidential information. There's no law that you need schematics. So, of course, we're ready to respond to this, but I'll point out that there's no actual substance here warranting legal relief.

And in our response what we'll do is cite back to the *Cobra* case that QUALCOMM cited in support of its arguments on simulations. And what the *Cobra* case says is that the defendant's position was that there was never reverse engineering of the circuit design on the chip in the accused products. The products were never analyzed under a microscope. And the components were never identified and never mapped to diagrams.

It turns out Mr. Sorrells did all of those things through teardowns. What I have here is in Mr. Sorrells' report, which again, wasn't addressed by QUALCOMM at all. This is an image taken with an electron microscope. This is a teardown of one of QUALCOMM's chips, the chip that Mr. Sorrells testifies to.

And what this electron microscope does is it is able to see very, very tiny things, because QUALCOMM's chips are full of very tiny components, and it allowed Mr. Sorrells, in conjunction with QUALCOMM white papers describing the same product, to map, exactly as the *Cobra* defendant says you needed to, the components in the circuits to the claim limitations at issue and to diagrams of the products. And so that's what we say here in Mr. Sorrells' report, which again, QUALCOMM did not

address.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Unless the Court has questions, I can go to the next motion.

THE COURT: Nope. I'm ready to go on. Suzie, do you need a break or are you okay?

THE REPORTER: Yes, please.

THE COURT: Okay. We're going to take 15 minutes, let

her hands cool off, and then we'll come back and change motions. Thank you.

(Recess at 2:52 p.m., until 3:07 p.m.)

THE COURT: The record should reflect the parties are present.

I'm assuming we're back to nonconfidential information, correct?

MR. GARDNER: Your Honor, there's a few slides in our presentation that do include confidential information. So we leave it to the Court on whether you would like people to come back in and then have to leave.

THE COURT: How long do you think it will be before you get to that? I'm trying to get a sense so I don't have these folks yo-yoing back and forth.

MR. GARDNER: Probably within 5 to 10 minutes.

THE COURT: All right. We'll just keep going on for right now, and then when you're done-done, then I'll have the public folks come back in.

MR. GARDNER: I think we'll be -- we're not sure about what our opposing counsel will present during their argument.

MR. VERBONCOEUR: I suspect our response is also going to refer to --

THE COURT: Say that one more time.

MR. VERBONCOEUR: Our response will also refer to confidential information.

THE COURT: Okay.

MR. GARDNER: Yeah. The next motion is -- there are two motions that we think are linked. One is QUALCOMM's motion to strike regarding the '372 patent on the summing limitations and QUALCOMM's motion for summary judgment on the same issue. And the impact of this would be to eliminate all of the claims of the '372 patent that are currently at issue in the case, and that's because, as we'll discuss, all of the claims that are remaining in the '372 patent include the same summing requirement. And because ParkerVision has failed to rely or produce any adequate evidence and because the evidence that QUALCOMM has submitted indisputably establishes that we do not do summing in our order required by the claims, we think that a motion to strike and summary judgment is proper.

So I want to provide the Court just a very brief background on what happens during the chip design process. So in the chip design process you go from sort of concept, you know, like what are the kinds of functions and features that I like. You then provide a schematic, which does a logical discussion of how the circuit should operate. That schematic does not actually show the structure of, like, of what's built. Right? So if I want to actually manufacture a chip, I need to tell the manufacturer, often referred to as a foundry, how to actually manufacture the chip. And what I use for that process is something that's called a layout. [redacted]

[redacted]

Now, I provided a couple of textbooks, just because I didn't want the Court to feel like they were relying on my description of how this process goes. So as you can see in slide 76, we have the textbook that talks about there's the circuit design process. That would be that logical step of defining how, sort of, logically how the circuit is operating, and then we have the physical layout process, and then, finally, that is passed on for fabrication and testing.

Again, if we look on slide 77, we see the same thing. We see that we do logic diagrams and description, schematics, then we do the VLSI design and layout, and then we verify that, and then that goes to mask generation and other steps that are about actually building the physical device.

I'm going to skip slide 77, getting repetitive.

Slide 79 is yet another book just confirming that we go from circuit level to actually physical level. So the schematic relates to the circuit, the logical analysis in the circuit, you know, and then we go to the physical level.

Analogies are always dangerous. So I'm going to start by saying that no analogy is perfect, but we wanted something to be able to help ground the Court in this, given that you're not a circuit engineer or a layout designer.

So when you're going to design a house, you know, you might start with the concept. Somebody will draw a picture of what your house is going to look like. You then need to go from there and you need to do something that would be akin to a schematic. You need to do the floor plan, you know, like how is the house going to be laid out in some way.

But there are additional details that aren't covered in a document like that. For example, if I wanted to know exactly what the plumbing in my house is going to look like, I would need to look at something that actually tells me what the plumbing looks like. I might be able to logically assume, you know, make certain assumptions about where plumbing is going to be in my house, because I know where bathrooms are and things like that, but it doesn't give me a true defined idea of what the plumbing is going to be. So the schematics in our case are like a, you know, sort of the drawings that you get for your house. You can make certain logical assumptions from those drawings, but you need -- if you wanted to know exactly how the plumbing is laid out, you would need to look at other information.

I'm going to, in the interest of time -- I think the Court will understand these points.

The issue here is that Dr. Steer made logical assumptions, but he didn't actually verify those logical assumptions by looking at the layout.

[redacted]

[redacted]

And, again, there's no dispute that Dr. Steer had access to this information. I mean, during his deposition, I think he provided some testimony that's different, but know that -- or I would assume that ParkerVision is not going to dispute that fact, given that he actually -- what happened in the previous

cases.

Now, as I said, the Cadence file has two parts. It has the schematic view and it has the layout view. And when we go back to exactly what Dr. Allen said in his own testimony -- as we discussed earlier, this was during that 2015 hearing in this case when they were demanding, like, access to additional information. And what Dr. Allen said is that these -- he characterized what schematics have in them. So he says at the bottom of his testimony on page 89, "They would be created using a software tool that you mentioned called Cadence with a schematic capture capability." And, again, he talks about that. He acknowledges it. He understands it. This is well known.

Dr. Allen, going to slide 90, he said, "But there's even more information and all that would not be available in the schematic." Right? And what he's referring to is, if I want to know the physical information, that's in another file called a layout.

Well, I'm sorry. I misspoke. It's not a different file. It's the exact same file.

THE COURT: Right.

MR. GARDNER: It's just a different view within the same exact Cadence file.

So Dr. Allen recognized the importance of this information and understood well that you need to be able to look at layouts.

Now, I don't want you to just believe me that this is just

a switch of a button, a click of a button in order to be able to switch views. So we'll look at Jim Jaffee's testimony. He's an engineer at QUALCOMM. And he says, "The ultimate way to validate this is that you switch the view. Instead of being schematic view, you would switch to the layout view." So he makes very clear in his testimony it's just simply switching the view. You know, this wasn't hidden information in any way. It was easily accessible. All somebody needed to do was push a button.

Now, Dr. Steer, when we deposed him and asked him, Why didn't you look at the layouts -- you know, the summing limitations are about the physical layout of a device. And we asked Dr. Steer, we said, Why didn't you look at this information? He said, I didn't have access to it. That's what his testimony was during his deposition in this case.

And, again, there's a long history here. During the ITC case, Dr. Steer performed some analysis when he didn't look at the layouts, and QUALCOMM raised the exact same issue we're raising in front of this Court. We said, It's improper for Dr. Steer to have failed to look at the layouts. And in response, do you know what Dr. Steer did? He went and looked at the layouts because that's what's required. So Dr. Steer in that case didn't say, Hm, I don't need to look at them. ParkerVision's counsel demanded to be able to look at those layouts, and Dr. Steer was given access to those layouts.

In fact, this is from his witness statement submitted in ITC. He talks about a series of documents and he says, "Yes, these are the layout documents for the WTR39251," one of the products, and he says, "They show how the chip is laid out." Dr. Steer fully understood what layouts were. He fully had access to those layouts. Those are the exact same files that were available to him in this case. He had that information, but he chose not to look at it.

Once again, we keep on coming back to this, the *Daubert* issue, and the Court seems very familiar with the law. So what we're talking about here is we're talking about the difference between Dr. Steer looking at something that does not tell you physically what the device looks like. It's undisputed. I mean, a schematic cannot possibly tell you how the device is physically laid out. That's just a impossibility.

What tells you how a device is laid out, as Dr. Steer testified to in his ITC deposition, as the books that we talked about show, as QUALCOMM's engineers talked about, is the layout itself, and failure to look at that is just completely improper on Dr. Steer's part. Right? The summing limitations are all about physically how are things connected inside the chip, and Dr. Steer chose to ignore them, or, alternatively, Dr. Steer looked at them and realized that they were very damaging to his case and so decided to try to rely on something else.

Now, we submitted briefing on this and we argued that

layouts show how the signals are combined in the final product. That was a statement of undisputed fact that we included. ParkerVision didn't respond. So we assumed that, under this Court's procedures, that that would be -- that would be an undisputed fact in this case.

ParkerVision instead just continues to make this argument that the schematics themselves are reliable and that they can rely on that schematic information. As we'll see, that's factually established to not be correct. The schematics in this case do not show how the products are laid out.

If we go to slide 97, we have here sort of a summary, and I'm going to refer to this as sort of a cascaded summing that's required by these claims. So, first, we have to take -- so we have four signals that need to be summed. I'm going to refer to them as signals 1 through 4, rather than what the claim language requires, but I don't think that there's any dispute about this. I just want to be clear to the Court. So in this -- and I think I really liked the analogy Dr. Razavi used. He said, We have wet ingredients, and we have dry ingredients. So if we say that signal 1 and 2 are wet ingredients and signal 3 and 4 are dry ingredients, what the patents require is that you first add together the wet ingredients and the dry ingredients separately, and then you take those combined sets of ingredients and you add them together into one final signal. And so it's undisputed that that is the requirement of these claims.

Now, ParkerVision doesn't have any reliable evidence that the accused products actually sum in that order. Again, what they point to are schematics, but schematics do not show physically how the different components are connected in order to see how they sum, and for that reason -- well, I mean, I think that there are two stages to this. Their failure to rely on any information or any reliable information means that their expert's opinions are excluded, and once their expert's opinions are excluded, summary judgment is proper. As we also have shown and when we actually look at the only reliable evidence, when we actually look at the layouts themselves, they show that summing is done in a different order.

[redacted]

[redacted]

[redacted]

[redacted]

So where are we? Well, on the one hand, we have an expert who made assumptions. He said, I looked at the schematics, and so I'm going to assume that summing was done in this order. All I had to do was click a button, and I could have looked at the actual layout, the actual physical design of the device. That's all I needed to do. I didn't do that. Right? I'm just going to rely on the schematics.

That's like looking at this design of a house and saying, I know there's a bathroom there. I know how the plumbing is. Close enough, right? That's not sufficient for an expert's analysis in a case. The expert doesn't get to make up logical

assumptions about, you know, what he believes should happen or could happen. The expert actually has to actually look at the physical device in order to be able to understand it.

Now, again, there are various reasons why, and I don't know if ParkerVision -- they didn't address them in their briefing. I think we clearly refuted each of Dr. Steer's excuses during his deposition as to why he didn't look at the layouts. But the fact is, he had access to this, and he chose not to look at them, and that's not sufficient.

Now, again, we think it makes sense to argue this all together. The fact is that there's just two -- there's two reasons why ParkerVision -- why summary judgment should be granted in our favor, and one is that once the motion to strike is granted, which we think it should be because of ParkerVision's failure to rely -- or ParkerVision's expert's failure to rely on reliable information about the physical structure of a device, then they have no evidence, and so, therefore, their infringement arguments must fail.

The second reason we think summary judgment is proper is because the undisputed facts show that the accused products -- if we actually did look at the layouts, right? So we say, Hey, your failure to look at the layouts is determinative. But then we say, If you actually did look at the layouts, then this would prove noninfringement in this case.

Now, our concern is that what ParkerVision wants to do is

they want to go in front of a jury and say, Gosh, we know there's information out there that proves beyond a doubt that our infringement theory is not correct in this case, but we should be able to present that kind of information to the jury anyway. And our view that that is not what the court system is for. The court system is to exclude that kind of analysis where an expert just stands in front of a jury and says, Trust me. Even though I didn't look at the information I should have looked at, that I was given access to look at, jury, you just trust me because I'm an expert in this field. And we think that that's wholly improper and that the proper way to decide this is by the Court granting our motion to strike and our motion for summary judgment.

THE COURT: Thank you.

MR. VERBONCOEUR: Your Honor, I'm going to address the motion to strike aspects of this; whereas Mr. Burgess is going to address the motion for summary judgment.

THE COURT: I don't know which of your gentlemen would be speaking to this point, but is there any disputes? I know QUALCOMM had admitted facts that are not in dispute and there was no objection or claim that they were not correct, so I've been operating under the presumption that the manner in which the accused devices sum is as explained by your colleague, that they don't combine in a cascading manner, that they go in the manner that was just discussed. I didn't see any opposition to

that. So I assume that to be an undisputed fact.

MR. VERBONCOEUR: No, Your Honor. Sorry if that point wasn't clear. We cited to Dr. Steer's testimony that that understanding of the product differs from his. He cites to -- and I'll go through this. He cites to various sources of information that contradict the version of events that QUALCOMM's put forth.

But before I do that, if you don't mind, Your Honor, I would like to comment on the last motion just briefly.

THE COURT: Sure.

[redacted]

[redacted]

The other point I wanted to bring up is, I mentioned the motion that QUALCOMM has against Mr. Sorrells' report. That wasn't brought up at all in their presentation. So we're not sure if that motion is dropped or if we should address it in more detail.

THE COURT: I'm sorry. This is the expert where your position was there was a very brief argument by the defense that his opinion shouldn't stand and then you spoke to the merits of his opinion?

MR. VERBONCOEUR: That's correct.

THE COURT: All right. I think that issue has been submitted.

MR. VERBONCOEUR: Okay.

THE COURT: All right. So you're covering the motion to strike, and you're colleague is covering summary judgment. So the issue is layouts. Why not look at layouts?

MR. VERBONCOEUR: Thank you.

QUALCOMM's counsel just told you it was an impossibility to rely on schematics to show summing. This is QUALCOMM's expert, Dr. Razavi's sworn report, and under a clear and convincing evidence standard for invalidity, that is the higher position for invalidity and about QUALCOMM's alleged system prior art. Dr. Razavi for the summing limitations cites a QUALCOMM

schematic. Now, of course, QUALCOMM has its layouts for this. I mean, they've had them for 20 years now. This is a QUALCOMM product. QUALCOMM created this product.

And if what Mr. Gardner just told you is true, that QUALCOMM always creates layouts of its products, we have to question the trustworthiness of Dr. Razavi's declaration if to show clear and convincingly that the summing means are present in QUALCOMM's own products Dr. Razavi looks right to the schematic. And Dr. Razavi signed this report and submitted it, just like he signed the declaration saying exactly the opposite, that you cannot trust schematics.

THE COURT: But is this for the same purpose, because they're different? You know, I'm thankful that in my former life, when I was a products liability lawyer, I sued a power company, and it was all schematic diagrams as to how the large substation worked before it blew up and injured people. It was a new substation, so it was pretty simple that something went wrong between either the component part supplier or the way it was installed. So we had a pretty narrow issue in front of us. But, you know, we spent a year and a half poring over blueprints. They're not exactly the same as a layout. You and I know about that.

So when the defense expert in speaking to invalidly points to the first summer or second summer, is that necessarily the same as looking at layouts that deal with cascading versus other

ways that the summing occurs, because they may be apples and oranges?

MR. VERBONCOEUR: This is oranges and oranges because they're exactly the same claim limitations. These are the summing limitations that QUALCOMM alleges are missing in order to make its motion for summary judgment. These are the same limitations. And so if Dr. Razavi is able to say, By reviewing QUALCOMM product schematics there are summing means in those products, it's inconsistent for him then to say, You can only look at layouts to show summing means in any product.

THE COURT: Isn't it more nuanced, though? I mean, the argument as I appreciate it was that your patent has summing occurring at a certain specific order, 1 and 2, 3 and 4, 1 and 2 plus 3 and 4 equals. Whereas their products sum in a variety of other ways, but not the way that your patent teaches. So if it's summing in a different way, it doesn't infringe by definition. Isn't that the difference? And the layout tells you that, not necessarily a schematic that speaks to summers being present but not necessarily the way in which they communicate.

MR. VERBONCOEUR: Two responses to that, Your Honor. First, for *Daubert* purposes, no, because these are the same claim limitations, and the issue at hand in *Daubert* is, is it reliable methodology for an expert to consult schematics to show how products sum? The answer to that question, based on

Razavi's citation to the schematics, in Razavi's view should be, yes, it is reliable to do so.

The second response to this is, whether or not the accused products actually do this and whether ParkerVision has evidence is an issue for the summary judgment argument that I think will come up shortly.

And to be clear, Dr. Razavi is using QUALCOMM's own product schematics to show a first summer and the second summer in the same ordered limitation arrangement that's in the '372 patent claims at issue here. And so far from an impossibility to discern summing means from looking at a schematic, it's something that Dr. Razavi relies on to meet a higher evidentiary burden than ParkerVision has to show infringement in this case. As the *Microsoft v. i4i* case tells us, QUALCOMM, citing their own product schematics has to show summing means by clear and convincing evidence; whereas ParkerVision to show infringement has to meet its burden by preponderance of the evidence.

And I will also point out, Your Honor, that there are something of moving *Daubert* goalposts here. On the one hand we're told, when QUALCOMM says it's the case that only simulations or calculations are -- or only those can show certain limitations, and anything else is unreliable. But for other limitations, when QUALCOMM decides it suits them, only layouts are proper. And so there's this moving goalpost of *Daubert* where whenever QUALCOMM identifies a piece of evidence

that supports its side of the case, it's suddenly unreliable to rely on any other evidence to show a contrary proposition. And I think that's problematic for *Daubert* because it focuses on methodologies, rather than the conclusions of the expert. It focuses on whether it's reliable for the experts to do these things, not whether QUALCOMM happens to disagree with the facts the evidence show.

THE COURT: Isn't the argument by QUALCOMM, though, that the schematics don't tell the order in which the summing occurs? It shows there's summing that takes place. I don't think they dispute that in the patent, but not necessarily order. You have to look at the layout of the accused product in this case. You have to look at the schematic of the accused product. You have to look at the layout to see how it actually works, as opposed to a schematic that simply says, Yep, there are summers. There are several of them. But the way in which they interact requires a layout. That's what they seem to be saying.

This Dr. Razavi reference that you have at slide 159, and I may be wrong about this, but he's talking about prior art where he's saying prior art has taught summing, not necessarily the order in which it sums. So it may be different, that he's saying a schematic shows that this notion of summing is not new or novel. It was obvious. That's different than saying the accused device practices it in a certain way. Or am I wrong

with that?

MR. VERBONCOEUR: Respectfully, I disagree with that.

THE COURT: No. I don't profess to be the expert here. When I'm saying you, I'm asking because I don't know.

MR. VERBONCOEUR: Yeah. The '372 patent asserted claims had a set of limitations. ParkerVision must show that each of those are present in the accused products.

THE COURT: Right.

MR. VERBONCOEUR: QUALCOMM has argued that by not looking at layouts, we failed to show some of those limitations. By contrast, by citing to this schematic, QUALCOMM has alleged that BBA2 discloses all of those same limitations. So in other words, if the schematic is sufficient to show what would be infringement in the prior art, it has to be sufficient to show what would be infringement for ParkerVision. It's, in essence, proving that the prior art performs all limitations. It just so happens that the prior art predates the patent, but it would be, in effect, practicing the invention.

And so what Razavi is doing here is saying, All of the summing limitations of the '372 patent are met by its earlier product. Now, if this product happened to postdate the patent, that would be infringement. It's the same analysis is what I'm telling you. And so to the extent QUALCOMM argues there's an order requirement, they have to show that it's met in prior art, just like we have to show that it's met for infringement.

And so what that means is that QUALCOMM's expert is saying by clear and convincing evidence that the same claim limitations are depicted on a schematic and he's able to swear that's the truth, but then files a declaration saying that, Well, when it comes to infringement, you can't look at schematics to show the very same claim limitations in the very same order. And I think that's a contradiction.

I'll point out that -- and this is going towards my moving goalpost of *Daubert* argument -- that when it suits them, QUALCOMM cites the schematics and design review documents, like the kind we've been discussing in the simulation conversation. When it doesn't suit them, they challenge them under *Daubert* and say that the documents are -- it's unreliable to rely on such documents about the way the accused products operate.

And here is the relevant portion of our expert's report, and our expert relies on design review documents and deposition transcript testimony, and I'll add that one of the deponents on whom he relies is the same Jim Jaffee that testified about the layouts. And, again, this has come up several times, but this is something experts reasonably consider in relying -- or reasonably rely on in considering how a circuit operates.

And I think at bottom, putting aside the contradictions in Dr. Razavi's declaration and his report to show the very same claim limitations in two different QUALCOMM products, one just so happens to predate the date of the inventions at issue here,

the problem is that there are two versions of events. There are documents that QUALCOMM produced that weren't made in anticipation of litigation, and there are documents they make to show how their products operate, and our experts reached different conclusions having considered these. And that is something for the jury, and if QUALCOMM believes that its schematics -- or, sorry, its layouts are more correct than the schematics, they can cross-examine Dr. Steer on that point.

And I will address the only cited case in QUALCOMM's motion about the layouts in their motion to strike, and that was this -- I don't know how you pronounce this but -- *MiMedx*. And it was a case out of Georgia, and it had nothing to do with schematics or layouts. It had to do with forceps testing of dehydrated tissue grafts. So it was totally inapposite. And it's not a situation where a Defendants' expert says schematics can show all of the summing limitations of the '372 patent in this one QUALCOMM product, but you can't look at the same exact document for another QUALCOMM product. And QUALCOMM hasn't argued that they -- they have no evidence that schematics used to be reliable and somehow it wasn't and everyone knew. That's not the argument they're saying. They're saying it's an impossibility for a schematic to ever have this, which, again, is contradicted by their report.

Thank you, Your Honor.

THE COURT: Thank you.

Mr. Burgess, when you're ready.

MR. BURGESS: Thank you, Your Honor.

THE COURT: So I guess the question is, if the patent requires summing to happen in this cascading fashion, which has been discussed by your colleague, and if the accused devices do not have that cascading summing process, would you agree there's no infringement? I know you're going to, I assume, argue that the accused products don't operate in the way that QUALCOMM alleges. But assuming the argument is correct, that it doesn't meet the claim limitations, and, therefore, the accused devices don't infringe, would that be fair? That seems like a common sense statement.

MR. BURGESS: Sure. That would be fair, Your Honor.

THE COURT: All right. So why is that wrong?

MR. BURGESS: Well, it's wrong, first of all -- and a lot of this will be -- a lot of this will be repetitive because we've seen some of these slides already. But Dr. Steer considered not just QUALCOMM's schematics, but also additional technical materials, like the design reviews we've heard about and also testimony from QUALCOMM's witnesses, and he's concluded, after analyzing all of the schematics and all of these other materials, that the summing limitations have been met, as cited on slide 72. And QUALCOMM doesn't say -- I didn't hear them say today, I didn't see them say in their briefs, that Dr. Steer made any mistakes. They haven't said that, Oh, he

looked at these schematics and he got it wrong, or he looked at this deposition testimony and he misunderstood what our engineer was saying, or he looked at this design review and he just misconstrued it. They don't say that. They simply say he looked at the wrong stuff. That's the beginning and the end of their argument.

And, you know, the problem is, and this is what you just saw, their own expert has relied on the same thing, schematics, QUALCOMM's schematics, not layouts, to prove exactly the same thing that's at issue here. And so at minimum, at minimum, this creates a disputed issue of fact for the jury.

The *Micro Chem* case is on point. When, as here, the parties' experts rely on conflicting sets of facts, it is not the role of the trial court to evaluate the correctness of the facts underlying one expert's testimony. And that's very much what we have here. We have Dr. Steer looking at a panoply of facts, schematics, technical design reviews, testimony from QUALCOMM's own witnesses, coming to one conclusion, and QUALCOMM doesn't say that he analyzed those materials incorrectly. Dr. Razavi looks at a different set of materials, when it's convenient. Sometimes he looks at the same materials that Dr. Steer looked at to prove the same thing. He comes to a different conclusion. It's not the province of the Court, according to the *Micro Chem* case, to decide who is right. That's the question for the jury. It should preclude summary

judgment.

And I just want to be -- I want to be clear about the question that I answered when we first started. I wasn't attempting to sort of answer on behalf of all of the pending claims sort of in general, but, obviously, if it turns out that the claims have particular -- I mean, you used I think the term cascading and cascading isn't --

THE COURT: Just taking their term.

MR. BURGESS: Yeah. It's not in the claims, right?

THE COURT: Right.

MR. BURGESS: But assuming, of course, if the claim limitations aren't met, there's no infringement. I mean, that's actually met.

[redacted]

[redacted]

So in sum, Your Honor, I truly believe that this is simply a case of two different experts looking at two different sets of underlying materials and coming to two different conclusions, and I think it's up to the jury to decide which expert looked at the right materials.

THE COURT: Thank you very much.

MR. BURGESS: Thank you.

MR. GARDNER: Can you leave up I guess it's your slide with Dr. Razavi's expert report on it?

THE COURT: Mr. Gardner, your colleague makes a good point about the fact that Dr. Razavi has referred to schematics in demonstrating why prior art --

MR. GARDNER: I think that --

THE COURT: -- wins the day.

MR. GARDNER: I'm so happy to address this point, Your Honor, because this is just a great example in reading.

So let's start at the far right-hand side of this. Do you see in the right-hand corner of slide 73 where it starts? I mean, we can do the read-along.

"To the extent" -- those are always really important words -- "the double-balanced mixer outputs in the accused products are summed using the claimed first summer second summer and summing means, BBA2 also discloses these claim elements." Dr. Razavi did not, absolutely 100 percent did not, testify that schematics are sufficient. In his report he goes through and he

details why for this claim limitation you have to look at the physical structure. You know, and any suggestion impugning Dr. Razavi on this I take very much to heart. He did not say schematics are sufficient.

Their entire argument is built off of a mischaracterization of what Dr. Razavi said in his report. He said, Look, if the Court is going to allow this theory, if you are going to allow a theory that I can rely on schematics for the accused products, then BBA2 shows the exact same thing, so, therefore, that's enough for invalidity.

It's the exact same argument that Mr. Verboncoeur just made. He said, Well, you know, if it meets for infringement, it meets for invalidity. That's true. But Dr. Razavi did not say schematics are sufficient. He said, "to the extent that." And that is an incredibly big difference. Dr. Razavi in his expert report details why you had to look at layouts for this case.

The other thing that I think is very surprising here is essentially what Dr. Razavi has done is he has gone and looked at the physical device by looking at the layout. Right? And he's saying, Look, we know exactly what the physical layout does. So if we had a case where, you know, we needed to take a measurement and it was 5 inches, right, and we had a way to be able to make that measurement, and their expert didn't do it and our expert did, and their expert says, You know what, I looked at all of these other different documents, I asked them

questions, and I think it's reasonable to conclude that this is 5 inches, and somebody measures it and it's five inches, that's not the kind of dispute that goes to a jury. That's the kind of dispute that's appropriate.

So I think that, again, we have these two issues. One is the motion to strike, and on the one hand, they say the only basis they've said for saying that schematics are sufficient is they've tried to suggest that Dr. Razavi did that here. He absolutely did not. I mean, he said, To the extent that the accused products meet this limitation based off of ParkerVision's theory of the case, then, yeah, then this prior art reference discloses the exact same thing.

But if we're going to look at the proper analysis, Dr. Razavi provides his expert opinion that you have to look at layouts, and that's consistent with the depo testimony that we cited to them and that we presented to the Court in the other slides. So on the motion to strike issue, the only evidence that they've collected is this, and it just doesn't support their point.

The second issue is this summary judgment issue, and they say, Well, we should be allowed to submit this different evidence to the jury. We have the evidence how the product was actually manufactured. We can look at that without any doubt in the entire world about how the summing is performed. Right? We can look at that document. The fact that you can make logical

assumptions from the other documents, yeah, if there was no other information, then we could make those logical assumptions, but we have the layouts.

It's like in your case, if in that case somebody couldn't actually go to the physical site to see how things were laid out, so you had to be able to look at the schematics and design diagrams, the blueprints and things like that in order to be able to do that because -- you know, but imagine in your own case if somebody said, Well, I actually went to the physical site, you know, and I took a measurement or I looked at how it was set up and that's inconsistent with the blueprints, would it go in front of the jury saying, We don't have to believe what the physical site looks like because we have the blueprints? I mean, that is exactly what's happening here is they're trying to rely on something when we have the physical design documents that show exactly how the summing is performed.

And there's no dispute about this. I mean, they didn't come up here and say Dr. Razavi's analysis is wrong. They just said, Oh, well, we want to rely on different evidence, but that evidence is as a matter of law insufficient.

THE COURT: All right. Thank you, sir.

MR. GARDNER: Do you have any questions?

THE COURT: I don't. Thank you so much.

MR. GARDNER: So I think -- well, what motion would the Court like to address next?

THE COURT: Well, aren't we at -- we have now moved from the first set of motions into the motion for summary judgment because you had tied together the '372 patent on motion to strike and summary judgment. So whatever is left in summary judgment, if there is anything left -- I don't know there is. I think it was all summing related, wasn't it?

MR. GARDNER: Well, this would be my suggestion to the Court and I'll look with opposing counsel how they respond, but we have in QUALCOMM's motion for summary judgment in this case, docket -- I'm going to refer to it by docket No. 494, we have multiple issues.

THE COURT: We do.

MR. GARDNER: The most meaty -- meatiest, I don't know what the proper term is -- of those issues is the collateral estoppel and noninfringement issues related to the '907 and '940 patents. But given the time of day, we would suggest starting with the harmonically rich signal issue and the willfulness issue and then visiting the collateral estoppel issue, you know, if we have time at the end; otherwise, we would be able to start that early in the day tomorrow. Because I fear that that's probably going to require the greatest amount of discussion and I don't know what time the Court plans on --

THE COURT: I think that makes sense. We'll wrap up today at five. We have all day tomorrow. Wednesday I'm booked the entire day in sentencing. So we have to be done tomorrow.

MR. GARDNER: Okay. All right. So we will do -- Can you pull up --

THE COURT: This is the '940 and the '372 harmonically rich signal.

MR. GARDNER: That's correct.

MR. VERBONCOEUR: Your Honor, I'm sorry to interject.

THE COURT: Go ahead.

MR. VERBONCOEUR: From ParkerVision's perspective, would it make sense for us to quickly address the last set of issues in the '372 -- I apologize that it's split between two attorneys here -- and then before we move on to these other issues?

MR. GARDNER: I think we are --

THE COURT: Is there anything to add that we haven't already talked about? There seems to be a disagreement over whether or not schematics are enough, and the parties have stated their positions pretty strenuously as to how I should interpret that.

MR. VERBONCOEUR: Sorry, Your Honor. Let me confer real quick.

THE COURT: Sure.

MR. VERBONCOEUR: I think we do have additional on the motion for summary judgment.

THE COURT: All right. Very briefly, please.

MR. BURGESS: Very briefly, Your Honor.

THE COURT: Sure. You can do it from there if you like. It's no problem.

MR. BURGESS: Okay. Thank you.

So just to reiterate, Your Honor, my earlier sort of qualification, there is no cascading or batting order limitation in these plans. They simply require summers. There isn't any dispute about whether or not they're summers, but when I say that we did -- or I think my colleague, Mr. Verboncoeur, said we do dispute their alleged statement of undisputed facts and we do. It's in our brief.

THE COURT: Well, usually undisputed facts are jointly stipulated to, so --

MR. BURGESS: These are not jointly stipulated.

THE COURT: Right. I appreciated that point earlier.

[redacted]

[redacted]

[redacted]

Are we at a point where we can invite anybody back, if anyone stayed with us? They may have all left by now, but if anyone outside has stayed with us, if we're at a point in time we can bring them back. I'm mindful that we have, obviously, an open-door policy.

(Proceedings unsealed.)

MR. GARDNER: I think from our standpoint, Your Honor, for the next motions, as we expected to hear them, that we would be comfortable going back on the nonconfidential record.

THE COURT: Could we have one of the folks who are in the back, just if there's anyone out there, let them know they're welcome to come back. If there's not, that's fine too.

MR. GARDNER: So, Your Honor, I want, like, to prevent

any, like, just ping-ponging back and forth, but we presented in our opening motion that that's what's required by the claims. If you read their opposition, there's not a dispute about this, and I think that Your Honor can just go through the claim language yourself, and you'll see that what the claims require is that you form -- you take two signals and you form a different signal; you take two other signals and you form a different signal; and you take those two different signals and you sum them. This is not -- I don't think there's any dispute about this. To the extent they're trying to raise some new claim construction argument now, then I guess that we would need to deal with that.

Unless there's any more questions on that motion, we truly will move on to docket 494.

THE COURT: Great.

MR. GARDNER: So as I noted, we'll start -- and I'm not following the chronological order of the briefing, but we'll start with the harmonically rich signal and then proceed forward. We'll see what we'll be able to get through today.

THE COURT: And just for time management tomorrow, I thought the motion for summary judgment of prior art was the easiest to follow along on my part. So it will probably take the least amount of time. It was whether it was available and should have been used. I mean, I think that's going to be a pretty quick one. I just thought I would notice everything

while we were all here, in case there was something, you know, unique you wanted to add to it.

Okay. I'm sorry to interrupt. Go right ahead.

MR. GARDNER: No problem. Thank you, Your Honor.

So I want to start by just looking at the claim construction for harmonically rich signal that's in this case, and it actually requires us to look at two claim constructions. So first, we have a construction that a harmonically rich signal means a signal comprised of a plurality of harmonics.

THE COURT: Right.

MR. GARDNER: Right? And then we have to know what a harmonic is. So then we go to the next step. A harmonic means a frequency or tone that when compared to its fundamental or reference frequency or tone is an integer multiple of it, including the fundamental frequency of the first harmonic. If we meld these two claim constructions together, what this effectively requires is that a harmonically rich signal must be a signal that comprises, which means includes, a plurality of frequencies or tones that share this integer multiple relationship. So that is what is clear based, I think undisputed, just based off of the plain language of the claims construction.

What I also understand to be undisputed, at least based off of the briefing, is that ParkerVision's expert is relying on LO plus or minus BB. So that's LO stands for local oscillator

signal, and BB typically stands for baseband. 3LO plus or minus BB, 5LO plus or minus BB, et cetera. They say that those are harmonics. So those are what they point to as the quote/unquote harmonics. And they need to show that they share this integer multiple relationship.

Now, another issue that I do not believe is in dispute, based off the briefing, is there is no frequency or signal -- or sorry. There's no frequency content. I'm sorry. I'm on slide 33, and I think it would be important to say there's no frequency content or signal content --

THE COURT: Right.

MR. GARDNER: -- at the frequencies LO, 3LO, and 5LO.

Now, what ParkerVision's infringement argument hinges on is we have to show this integer multiple relationship. So what ParkerVision points to for this integer multiple relationship is LO, 3LO, 5LO.

What this dispute centers on is that if there is no frequency there, there's no frequency content there, how can you possibly consider that part of or included within a harmonically rich signal, such that there would be infringement? Now, I said that I didn't believe that it was disputed that ParkerVision's expert is relying on LO plus or minus BB, 3LO plus or minus BB, et cetera.

On page 34 of -- I'm sorry -- slide No. 34, it talks about -- and this is a quote from Dr. Steer's report and he

says, "The harmonically rich signal includes the first harmonic at LO plus or minus BB, a third harmonic at 3LO plus or minus BB, and a fifth harmonic at 5LO plus or minus BB. So I hope that point is undisputed because it seems pretty clear from Dr. Steer's report.

The next issue that I said was undisputed was I said that there's no -- you know, it's agreed the purposes of this briefing, that for the alleged harmonically rich signal that ParkerVision is pointing to, that there is no frequency content at integer multiples of the LO. So if we look at LO, there's no frequency content there. If we look at 3LO, there is no frequency content there. If we look at 5LO, there is no frequency content there.

Dr. Razavi provided very detailed analysis in his expert report explaining this point. When we deposed Dr. Steer, he also confirmed this point.

When we briefed this issue, we read the briefing, we didn't see anything in ParkerVision's briefing where they actually dispute this point. Instead, what ParkerVision argues is that they argue -- they argue that this point is irrelevant because frequency content is not required by the Court's construction of harmonic.

Now, I want to be, I guess, somewhat careful here. I don't understand there to be any dispute. If there is, I guess we can address that, but we would expect that they would raise that as

part of their briefing. And I have intentionally avoided things that there are raised disputes. We don't think that there are raised disputes. But for the purposes of the Court, to just help simplify this issue, there are other facts that we raise, ParkerVision says they dispute them, we think based on our understanding of the deposition, but we see that there's a triable issue of fact on that. As to this issue, the only response that we got is that frequency content is not required by the Court's claim construction.

THE COURT: This was an agreed claim construction, wasn't it? When I went back to my claim construction, at 381, harmonically rich signal was agreed by the parties.

MR. GARDNER: There was.

THE COURT: So I didn't construe it.

MR. GARDNER: And the reason it was agreed by the parties is it was the claim construction that was used during the IPRs, and as we'll talk about, both parties had a clear understanding what it meant in the IPRs, and now ParkerVision is changing that understanding. And so I think that's why we are here today is because there was a clear understanding in the IPRs, and now ParkerVision is taking a different position.

So the first issue that we have is, understanding these two undisputed facts, that they're relying on LO plus or minus BB, 3LO plus or minus BB, 5LO, and there is no frequency content at LO, 3LO, 5LO, what the Court's -- as the Court's claim

construction is written, it requires that a harmonically rich signal actually include frequencies. Right?

Now, ParkerVision's argument is essentially, Well, that frequency exists, right? And our argument is that completely reads out what a signal is. So how can you possibly say that when you do not have any frequency content at a frequency that that's part of a signal? And I think that this is very easy to understand. On your radio dial -- I know that there might be people in this room who are not familiar with when radio dials worked this way, but there was a point in time when you would twist your radio dial in order to dial it in. Right? And on that radio dial, you would be able to dial in to any frequency. That frequency exists. But if you dialed into a frequency and there was nothing, then you wouldn't say, Oh, I'm getting a signal.

I mean, this is just plain common sense. This isn't something that QUALCOMM anticipated we needed a claim construction about or anything else. We think that the claim construction is clear. We think what a signal is is clear, that in order to have a significant, you have to have frequency content.

ParkerVision actually doesn't explain how you can have a signal without frequency content. So we know that the claim construction requires that we have to have these frequencies with this integer multiple relationship. They point to LO, 3LO,

5LO, and we know that there is no frequency content there. So what they're essentially arguing is that despite the fact that there's no frequency content, that that still can count as a harmonically rich signal. And QUALCOMM's view is that this just defies common sense in the plain language of the claim construction that a signal requires content.

The next issue is the issue that I just noted, which is, during IPRs both parties had a very clear understanding of what is required. So now ParkerVision says, Whether or not you have frequency content, they told the Court that that's completely irrelevant. What they told the Patent Trial and Appeal Board is completely different. So we just look at the language. So this is on slide 37. If we look at the patent owner response from the IPR, it goes through, and this is ParkerVision's argument, statements from ParkerVision's attorneys, "The frequency content of the combined output signal," and they go through what that frequency content says, and they say, "Critically, none of these calculated frequencies is an integer multiple harmonic of the LO signal."

So what they said was frequency content was very important. In fact, they said frequency content is critical. Now they argue that frequency content is irrelevant. We don't understand how both of these things can possibly be true. If frequency content was critical, as they represent during the IPRs, then frequency content is also critical to the issue here, and

because there's no dispute that there's no frequency content at those -- at what would be the integer multiples, then there is no harmonically rich signal. Now, we raised this and we said, To the extent that the Court doesn't believe the current claim construction resolves this issue -- we believe that the current claim construction resolves this issue because we would understand that a signal has to have frequency content.

ParkerVision disagrees. They argue, No, you know, we're taking a different view. No clarifying construction is required. I don't believe a signal needs to have frequency content. If ParkerVision is going to take that position, then QUALCOMM would ask for a clarifying construction in this case. It's not because we think that there's one that's necessary. We think that the plain and ordinary meaning of a signal would require frequency content. If you don't have any content, you don't have a signal. But to the extent that ParkerVision is going to, you know, basically argue in front of a jury that you can just have a frequency, and you don't actually have to have any frequency content at that frequency, we do think a construction is necessary.

And, you know, we cited the *O2 Micro* case for this proposition, and we also have added a citation on slide 38 about the fact that it's exactly these kind of statements that are made during IPR proceedings that can have a limiting effect on the claims. And so to the extent that ParkerVision is now

arguing that frequency content is not necessary, but after they argued it was critical to the Patent Trial and Appeal Board, then we want a clarifying construction on this point.

And I don't think I need to belabor this point. They've said that we waived this claim construction argument. There was no way for QUALCOMM to be aware, based off of the record. You know, QUALCOMM's understanding was that everybody was on the same page, based off of what happened in the IPRs, that frequency content is a required part of the signal. They've said we've waived any ability because we've agreed to the construction. When we agreed to the construction, we agreed to it with the same understanding as from the IPRs. You know, and now that they're taking a different position from the IPRs, we do think that a clarifying construction would be important.

THE COURT: In your briefing you had made some detailed reference to the fact that the patent explains unwanted frequencies of the harmonically rich signal and were moved through filtering at various places, and then you argued also that this specification consistently describes frequency in a harmonic, and as you indicated, which is a time when signal would exist, not just a numerical value at which there's no signal. So I don't know if you require any further or if you want to give any further elaboration, but is that related to this argument, the fact that there's a suppression of the unwanted frequency goes to the fact there must be a signal to be

suppressed?

MR. GARDNER: Yeah. Your Honor, you know my argument better than I do. I'm impressed. I even skipped over it when I had the slide.

So if we go back to slide 36, the first bullet point, or I guess it's the second bullet point, where we say, "The patent specification shows that there must be frequency content for there to be a signal," and we cite to our record evidence.

And I think that to better articulate the argument, one, we think it's just common sense that a signal has to have frequency content; two, we cited the specification for the proposition that in order for you to have a signal you have to have frequency content; and then, you know, ParkerVision hasn't come forward with any evidence that you can have a signal without frequency content; and we think that that's the issue here.

THE COURT: All right. Thank you.

Mr. Burgess, welcome back.

MR. BURGESS: Thank you, Your Honor. I'm going to start in the middle.

Slide 49, please.

So this is from QUALCOMM's motion at nine. And as you just heard, their whole argument hinges on this point. It is undisputed that in the accused signals in QUALCOMM's products there is no signal -- emphasize no signal -- at the harmonic frequencies omega local oscillator 3 times the omega. Omega is

just a frequency. Basically, the DLO frequency, 3 times the LO frequency, 5 times the local oscillator frequency, and further multiples of the local oscillator frequencies. They say it is undisputed that there is no energy at those frequencies -- or no signal at those frequencies.

One of the things they cite is Dr. Steer's deposition from the 9th of December 2020, and what I have here on slide 50 is spanning pages 156 and 157, and Dr. Steer is asked:

"So is it your understanding that at the sum of the output of the INQ mixers, the carrier is suppressed?" That's what we're talking about here.

He says, "That is the intent usually."

"So in QUALCOMM's products, is the carrier suppressed at the output of the sum of the INQ mixers?"

Dr. Steer says, "There would still be energy there, but it's suppressed to a low value... but there would still be energy there."

And it's not what QUALCOMM says. They say it's undisputed that there is no signal. Dr. Steer says, Yeah, it's going to be -- it's going to be suppressed, but there's still going to be a signal there. And the next bit of this is interesting too, and I'll touch on this some more later, but one of the interesting things about the signal that exists right at the carrier, right at the integer multiples of the LO, it's called the center frequency, and I'll talk about this later.

But one of the interesting things about it is the whole point -- the whole point of this exercise, of the modulation exercise, is to generate signals to carry information through the air. And that center frequency can't carry any information. It doesn't matter if there's a big signal there. It doesn't matter if there's a small signal there. It doesn't matter if there's no signal there. It's incapable of carrying information, as Dr. Steer testifies here. I'll show you in a little while, Dr. Razavi agrees. Whenever there's a signal that has zero bandwidth, as any signal that exists that this exact frequency would have, it can't possibly carry information.

THE COURT: Let me just jump back for a second, though, to the claim construction and the agreed upon claim construction --

MR. BURGESS: Yes, sir.

THE COURT: -- as to harmonically rich signal. The position, as I understand it, being taken by ParkerVision is that a harmonically rich signal can be a frequency at which there is no signal, which reads the word "signal" out of the claim construction, and it seems to read out from the patent -- I think it's at column 18, 61 through 65, and then it goes on to column 20, 22, 24, and 25 -- discussing how the unwanted frequencies are removed through filtering, so meaning the unwanted frequencies of the harmonically rich signal are removed. So if there's nothing there, as ParkerVision is

claiming, the frequency could have no signal. Why would you have to suppress or remove or filter anything?

And Steer seems to be saying there's some signal. It's just very low. A lawyer in a brief saying there's no signal at a frequency isn't necessarily very persuasive to me. The expert's saying there's some signal, it's just low.

My concern is at the time we were all talking about what this means, no one advocated that a harmonically rich signal means the absence of a signal. It wasn't argued.

MR. BURGESS: Can I address this, Your Honor?

THE COURT: Sure.

MR. BURGESS: Could I have slide 59, please? Let me just, if I could -- sorry, Mr. Verboncoeur. Would you bring up the construction again at 38?

So first of all, just to be clear, ParkerVision's position is not that a harmonically rich signal doesn't have to have a signal, and I'll get to that in a minute. But first, I want to talk about the agreed construction of harmonic.

And to be clear, this was an agreed construction, but this is a definition in the patent. The patent literally says harmonic colon, and this exact text, at least the first part of it that's in the agreed construction comes exactly from that definition, and the stuff at the end about the first harmonic is added on. But the guts of this that we're talking about today, that's directly out of a definition in the patent. So this is

what this means.

But the key is, for harmonic -- harmonically rich signal depends on a harmonic. Right? A signal comprised of a plurality of harmonics. Okay. So the key is what does harmonic mean? And if you look at that, it doesn't say anywhere that there needs to actually be a signal at the harmonic frequency. That isn't to say, as I'll show you in a minute, that a harmonically rich signal that's comprised of a plurality of harmonics doesn't have to have signal energy. Of course it does. But the point is, at the exact frequencies at the middle of those spectra, where no information is being carried anyway, there doesn't need to be a signal there. It's a frequency. The claim construction that comes from the express definition in the patent says, a harmonic can be a frequency. It never says it has to be a signal.

THE COURT: Isn't, though, the basic tenets of construction is not to read language out of the patent that's clearly stated? And here it says, "signal." That's the language you all put in your patent.

MR. BURGESS: Okay. I'm sorry, Your Honor. I'm not being clear. The harmonic definition, right, harmonically rich signal, what you're talking about, that depends on the definition of harmonic, and again --

THE COURT: Right.

MR. BURGESS: -- we're not saying -- of course, we're

not saying that a harmonically rich signal doesn't have to have a signal. Of course it does. It's the word, right? It's there.

But the point is, you can have a signal as -- well, let me just jump to -- let me just jump to my slide that illustrates this point. I think it's 59, please.

So this is a diagram on slide 59 from docket 523-11. This is Dr. Steer's opening report at paragraph 147, and this is actually a diagram from Dr. Razavi's paper, the paper that Dr. Razavi's wrote. Insofar as I know, QUALCOMM hasn't disputed that the signal spectra that are shown here, the WLO, the 3WLO, and the 5WLO, that's the way their products work. They generate spectra that look like that. And I'll go through in a little while the deposition of their 30(b)(6) witness and also of their design engineer to verify that.

But what's happening here -- at the top left, that's the basic circuit structure. You see a switch that's being driven by a square wave. And it starts out, the signal starts out, as what you see on the top, that X sub 1 of (f). That's called the baseband signal. And after it goes through -- after it goes through, it gets gated under control of the square wave, and then gets shifted up into frequency, and you see that that spectrum gets shifted up around the harmonic frequencies of the local oscillator frequency, three times the local oscillator frequency, five times the local. That's the way their -- that's

the way their products work. I don't think there's any dispute about that.

The dispute is right in the middle, which is what Dr. Steer, he identifies those as the harmonics, as they are frequencies that are integer multiples of the fundamental. They literally meet the construction of harmonic.

And the three spectra that get shifted up, the baseband that get shifted up, the three on the bottom plots, those together are a harmonically rich signal. They meet the definition. There's signal there, clearly. They include those harmonic frequencies. Those harmonic frequencies are right in the middle.

In fact, when you're referring to those spectra, you would call those the -- you would call those by their center frequency. You call it the first harmonic spectrum or the third harmonic spectrum or the fifth harmonic spectrum, and the patent, as Dr. Steer cites in his report, talks about the special significance of the center frequency and that you refer -- it's common. One of skill in the art knows that you refer to signals by the center frequency.

So it's crazy, I think, to say that the frequency that gives the signal its name is not part of the signal. And as we just saw from Dr. Steer's testimony, it's at least a disputed issue of fact.

THE COURT: As I appreciate, QUALCOMM is saying the

way their products work is that the accused products -- this is coming out of their brief -- have no signal at these frequencies, meaning the WLO, 3WLO, 5WLO, because they've been suppressed, that their products are designed to suppress the signal at the LO frequency, and, therefore, it doesn't meet the definition. Because your patent speaks to having a harmonically rich signal at these integers, and they're claiming, Hey, we've suppressed it, so we have no signal whatsoever.

MR. BURGESS: So what --

THE COURT: That's the difference, right? That's the claim of noninfringement.

MR. BURGESS: I'm not sure.

THE COURTROOM DEPUTY: Sir, please stand at the microphone.

MR. BURGESS: Can I approach to point, Your Honor, or no. Is that not going to work?

THE COURT: It's just hard to hear you. If you can keep your voice up.

MR. BURGESS: I'll talk loudly. And if I'm not, let me know.

THE COURTROOM DEPUTY: Or you can pull the microphone.

THE COURT: Yeah. Just pull the microphone your way. There you go.

MR. BURGESS: So as I understand QUALCOMM's argument, what they're saying is, these are the harmonic frequencies.

THE COURT: Right.

MR. BURGESS: Right. Again, the definition, the agreed construction, the express definition in the patent says, harmonics are frequencies or tones that are integer multiples of the harmonic -- or of the fundamental. So the fundamental is LO. Right? That's the frequency of the signal that's driving the gate. These are indisputably 1 times LO, 3 times LO, 5 times LO. Those are harmonics. They are harmonic frequencies. They literally satisfy the definition.

What QUALCOMM is saying, I think, is they say, first of all, that it's undisputed that right at these red lines, right at these frequencies, again, remember "no" italicized. No signal energy. That's the key to their argument. Well, Dr. Steer says there is some. Okay. So it's not undisputed. There's at least a question of fact there.

But even if, even if they're right -- and they're not -- but even if they're right and there's zero energy at these frequencies, these frequencies are within a larger signal. They are the center frequencies of these three harmonic spectra. They're right at the middle. So even if there's no energy exactly at those red lines, those frequencies are within this harmonically rich signal.

There's a signal here. This is signal, signal, signal. We're not reading that out. That's there. The signal contains the harmonic frequencies. That's all it has to do. That's what

all the construction says is, a harmonically rich signal contains multiple harmonics, and this literally does.

So for two reasons their argument fails. Number one, the assumption that they build their entire argument on is at minimum, at minimum, it's a question of fact, at minimum. Number two, even if their assumption is right, the system still satisfies the agreed construction of harmonic and plurality of harmonics.

And as to this idea that this is somehow a sneak attack and they should get a second chance to offer a different construction, well, first of all, Your Honor, that would be fruitless because this -- like I said, this is the clearest case of a definition I think that I've ever seen. It literally says harmonic colon. Bam, there's the definition. So there really isn't any wiggle room there. And all that's left is for the experts to take that definition and apply it to the accused product, which is what Dr. Steer has done, perfectly, appropriately. He's reached a different conclusion as Dr. Razavi, but Dr. Steer, as I've just gone through, his analysis is correct.

And number two, there's no surprise here. They act like they're surprised by this theory. They've known about this patent for years, years and years and years. This construction is in column 8 of this patent. It's right up front, the definition. They've known about this. They've known what a

harmonic is. They've known how the patent defines it. And furthermore, they of all people know how their system works. So the idea that they're surprised by this rings pretty hollow to me.

So I think that the answer is, Your Honor, that there's at minimum, at minimum, a genuine issue of material fact that precludes summary judgment, and QUALCOMM shouldn't get a third bite at the apple to seek a new quote/unquote clarifying construction, when the meaning to this term has been clear to everybody since day one.

THE COURT: This issue was at the PTAB, am I correct, or some version of it?

MR. BURGESS: Yes.

THE COURT: And how was it expressed to the PTAB?

MR. BURGESS: So as I understand the issue at the PTAB, in particular the quote that my colleague showed you, those signals were different. My understanding is, what happened there is there were signals where the -- what might have been harmonically rich signal didn't actually include the harmonic frequencies. The harmonic frequencies were outside of the signal, and so the signal didn't include those frequencies, and so it didn't satisfy the construction of a harmonically rich signal. That's my understanding.

THE COURT: All right. Anything else you would like to add to the argument?

MR. BURGESS: I think maybe just one thing, Your Honor.

Could I have slide 61, please?

So this is the section of Dr. Steer -- well, Dr. Steer cites this section in his report, and QUALCOMM takes him to task for it in their brief. And the point of this is that -- the point of this is the patent says that center frequencies, like the ones we've just been talking about, are significant. It says, "When describing the frequency of certain signals, reference is often made herein a specific value. It is understood by those skilled in the relevant arts that this reference is to the nominal center frequency of the signal," just like these red lines, the harmonic frequencies, "and that the actual signal may vary in frequency above and below the nominal center frequency," just like the harmonically rich signal that we just illustrated does.

But the patent says it's customary in the art to refer to those signal components by the center frequency. So this would be the fifth harmonic component. That's just the way that you refer to these things. So the idea that we would call the thing by its center frequency, when it's right in the middle, even if QUALCOMM's right -- and they're not -- but even if they're right and there's a little notch right in the middle at that frequency, to say that that's somehow not part of this signal that it defines is just silly, I think, especially in light of

the special significance that the patent assigns to the center frequency. And furthermore, as I mentioned earlier, you know, the whole point of this exercise is to create these signals that carry energy -- or I'm sorry -- carry information.

And it's undisputed -- I'm a little bit hesitant to use that word because everything that's been claimed to be undisputed actually is. But I believe it's undisputed. Both parties' experts agree that you can't carry any information on this center frequency.

So whether it's small, as Dr. Steer says, or whether it's large, or whether it doesn't exist, as QUALCOMM I believe incorrectly says, it's unimportant because that signal is just there to mark the center of the spectrum that actually carries the signal. That's the signal part of the harmonically rich signal.

So that's all I have, Your Honor, unless you have questions.

THE COURT: Thank you.

MR. GARDNER: A few points, Your Honor, and then I hope that you're done hearing from me today.

I want to make sure that our argument is clear. I did not stand up here is say no signal. I said there's no frequency content. That is the issue, and on this issue there's no dispute. ParkerVision's counsel said there's no information at the LO or multiples of the LO, 3LO, 5LO. On ParkerVision's

slide 62, if we just take a look at it, ParkerVision acknowledges, they say, "Center frequency does not carry information." That's the definition of not having any content on it. Our argument --

THE COURT: Does it matter -- I'm sorry. Just before I forget it. Does it matter there's content on either side of that center point? As I see it, just to visualize it, the frequency range is shown as the little hill, if you will, with the WLO and 3 and 5 and so forth. So at those integers you have depicted the wave and then the midpoint of that wave is the area where you're saying there's no signal, there's nothing happening there. If I understand the argument correctly, what ParkerVision is saying is, on either side of that wavelength there is, and therefore it's all, essentially, one signal.

MR. GARDNER: Right. And this is exactly what the parties addressed during the IPR. So it's not enough that you can just point to a signal existing. You have to show that that is actually included in the signal. Right? So this was the dispute that we had during the IPRs. And as I've showed, Your Honor -- well, first, I want to make really clear. I said the issue is about frequency content. Again, on their slide 62, it seems to me that we're in complete agreement on this point.

And I didn't say no signal because I was very careful about this because I understood from the briefing that they would emphasize that there was a dispute about signal, and so I

narrowed this. As I told the Court in my opening argument, I don't want to go through a bunch of stuff that's disputed. I only want to go through what's not disputed.

What is not disputed is that there is no frequency content at LO, 3LO, 5LO. Counsel told us that there's no information there. There's no content there. I wrote these down when we were going through. And if we look at slide 62, it says the center frequency does not carry information. It does not have content. There is no frequency content. Now, I also pointed out that ParkerVision's opposition brief, they didn't dispute this point. They didn't dispute it here. They made a different argument about signals. We do have a lot of disputes about other points, but I just want to narrow the Court down to exactly what's at issue here.

Here, they say this argument is irrelevant. They've said that our argument is irrelevant because frequency content is not required. And that's where we run into a fundamental dispute is how is it possible -- they say that frequency content is irrelevant. We say frequency content is relevant. We have a fundamental dispute between the parties. And we think that's important because during the IPRs they pointed out the frequency content was.

Now, once again, we think that this can be addressed just by the plain language. How can you possibly have a signal without frequency content? If we look at the arguments that

were made, what we're presenting to Your Honor is completely consistent with the IPR record, with the patents.

I understand that there's a number of disputes. And I do want to make clear that QUALCOMM does not agree with the cartoon that's drawn there that they do from Dr. Razavi's paper, that that's representative of the accused products. I mean, that's disputed quite a bit. But the whole reason I'm staying away from that is because I don't want to get into that issue.

What I want the Court to focus on is ParkerVision's statement, they say frequency is irrelevant. During the IPRs, they said frequency content is relevant. We think that this decides this issue. They say, Oh wait. No. There's disputed issue of fact because there's signal. That is not the issue. We have an issue of there's no frequency content there. It's undisputed. It's undisputed from the IPRs and from the patent itself that frequency content is required. Summary judgment is appropriate.

I'm going to pass to my colleague, Mr. Brigham, who's going to address the last argument, and then I guess I will precondition this. The Court will probably close early. Just based on this fact, I guess I will be back if we get to the estoppel issue.

Thank you, Your Honor.

THE COURT: Thank you.

MR. BURGESS: Your Honor, I apologize. Could I make a

brief remark in response to what my colleague just said?

THE COURT: Sure. I've given up on the not going back and forth.

MR. BURGESS: Sorry, Your Honor. He got to talk twice, so it just seems fair.

THE COURT: I lost that battle about three hours ago.

MR. BURGESS: So a couple of things. Mr. Gardner just said that he was very careful not to say no signal, but in their brief that's what they said and that was the linchpin of their argument. What he's saying now is, no frequency content, and he says that what that means is no information, and if that's the standard, if you have to have an information bearing signal at the harmonic frequencies, if that's what was required, then there's no system in the world that satisfies this, right, there's no such thing as a harmonically rich signal, because the evidence is unequivocal. Both experts have testified that in a single frequency signal with zero bandwidth you can't carry information. That's why I said, because the point of this is to carry information, it doesn't matter -- that the frequency is there to define the signal. It doesn't matter if there's a carrier there because it can't carry any information. It just can't. And so if what my colleague is saying is true, there's no such thing as a harmonically rich signal. It just doesn't exist. It's a unicorn.

One more thing on the IPR. Could I bother you to put your

slides up for me?

MR. BRIGHAM: Do you remember what number?

MR. BURGESS: No. 37. I'm sorry. I apologize, but I appreciate your indulgence. I just want to make a point about the IPR argument. The Court will note that the fundamental frequency here is .9 megahertz, and, you know, the sort of main requirement of being a harmonic is that you're an integer multiple. Right? So you look at these and they're clearly not. Right? 3.1 is not. It would be 2.7, right? So this is not -- these aren't harmonics for the most basic reason, which is they're not integer multiples of the fundamental. You didn't even need to talk about things like frequency content or anything like that. These just don't satisfy the baseline.

Thank you, Your Honor, I appreciate your indulgence.

THE COURT: Thank you. We have about ten minutes. Does it make sense to take part of it now and finish in the morning or do you think it make more sense to just pick up in the morning?

MR. BRIGHAM: Whatever Your Honor prefers. We're happy to pick it up tomorrow morning. I don't think this argument will take long, but certainly I think both sides will take longer than the ten minutes.

THE COURT: All right. Why don't we start in the morning at 9:30. We'll pick up with this argument. That way I can hear both sides at one time and be able to digest it and not

forget about it overnight. I don't have a transcript available. So I'm just going by my notes as I'm taking them. I do have a fantastic rough transcript Suzie is preparing, but it's not always accessible the very same day. So we'll start at 9:30. We'll pick this up.

Are you all optimistic we'll get through this tomorrow?

MR. BRIGHAM: Yes, Your Honor, we will. I promise.

THE COURT: I like the sureness of your -- all right. Well, thank you all very much. Have a good evening. See you guys tomorrow morning.

MR. BRIGHAM: Thank you, Your Honor.

THE COURT: Thank you. We'll be at recess.

(WHEREUPON, this matter was concluded at 4:51 p.m.)

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CERTIFICATE OF REPORTER

I certify that the foregoing is a correct transcript of the record of proceedings in the above-entitled matter.

/s/ Suzanne L. Trimble 2/1/22

Suzanne L. Trimble, CCR, CRR, RPR Date

Official Court Reporter