

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD,
Petitioner,

v.

WIPQTUS INC.,
Patent Owner.

IPR2024-00023
Patent 10,038,339 B2

Record of Oral Hearing
Held: January 10, 2025

Before KARL D. EASTHOM, STEVEN M. AMUNDSON, and
RUSSELL E. CASS, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing on Friday, January 10, 2025, commencing at 1:00 p.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P R O C E E D I N G S

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JUDGE EASTHOM: Please be seated. Good afternoon. I'm Judge Easthom and on the video with me is Judge Amundson and Cass. This is a hearing for IPR2024-00023, Patent 10,038,339 B2, which we'll refer to as the '339 patent, *Samsung Electronics Co., Ltd., Petitioner v. WiPQTUS Inc., Patent Owner*.

Each party has one hour to present their case. Petitioner has the burden of proving unpatentability and will proceed first, followed by Patent Owner, then followed by Petitioner if each party -- followed by respective rebuttals by each party if reserved.

Let's have appearances by Petitioner, please.

MR. WARD: Good afternoon, Judge Easthom, Judge Amundson, Judge Cass. Trenton Ward on behalf of Petitioner Samsung Company Electronics. And I'd like to reserve 20 minutes for rebuttal, Your Honors.

JUDGE EASTHOM: Great. Patent Owner?

MR. CARPENTER: Brian Carpenter for WiPQTUS, Inc. With me is Timothy Craddock. Both of us are with Cole Schotz. I'll be presenting today.

JUDGE EASTHOM: Welcome, gentlemen. Okay.

MR. CARPENTER: And as far as rebuttals, if I could save five minutes for the -- anything to do with the motion to amend.

JUDGE EASTHOM: Okay, sounds great. I'm sorry, Mr. Ward, you said you wanted 20 minutes.

MR. WARD: Twenty minutes.

JUDGE EASTHOM: Twenty.

1 MR. WARD: Yes, please. Thank you.

2 JUDGE EASTHOM: Okay. Why don't we proceed?

3 MR. WARD: Good afternoon, Your Honors. It's a pleasure to come
4 before the Board this afternoon and discuss this IPR proceeding. Our
5 discussion this afternoon is going to focus on arguments that Your Honors
6 are familiar with because it's a topic that comes up in numerous inter partes
7 review proceedings, and that is that the majority of Patent Owner's
8 arguments are not commensurate with the scope of its claims. They're not
9 commensurate with the scope of its originally issued claims nor are they
10 commensurate with the scope of its claims proposed and its revised motion
11 to amend.

12 I've got five topics, Your Honors, that I'd like to cover in my initial
13 comments this afternoon and I'm now looking at slide 2 of Petitioner's
14 demonstratives and I give you my roadmap for my discussion. The five
15 topics I'd like to address start with claim 1(e) and specifically I want to talk
16 about the clause to obtain a modified form of said received power recited in
17 claim 1(e). Your Honors, as I mentioned, because of the fact that some of
18 these arguments are focused on the lack of being commensurate with the
19 scope of the claims, you won't be surprised that a lot of what we'll talk about
20 today is claim construction. My second topic is a claim construction topic.
21 I'm going to talk about the proposed and appropriate construction of the
22 phrase "one of (a) or (b)." Third is the construction of the term "impedance
23 network." And fourth, I'd like to talk about how to apply that proper
24 construction to our ground 1 in the petition. And then finally, I want to
25 touch on the revised motion to amend.

1 So moving to Petitioner's, slide 4. You'll see on Petitioner's, slide 4,
2 to set the table for us, I have reproduced the first portion of claim 1 of the
3 '339 patent. And claim 1 of the '339 patent recites a dual mode wireless
4 power receiver comprising one of coil and capacitor electrodes; first
5 circuitry comprising an impedance network, switch network, and filter
6 capacitor; and a second circuitry comprising control logic circuit, and a
7 modulator/demodulator circuit.

8 If you turn to slide 5, I want to point out just one specific portion of
9 claim 1 here. And what you see on slide 5 is the remainder of claim 1. And
10 I want to identify specifically the second clause that's on slide 5 there that
11 states, "said first circuitry, based on an input from said control logic circuit,
12 configured to change impedance of said impedance network and topology of
13 said switch network to obtain a modified form of received power."

14 Moving to my slide 6.

15 JUDGE AMUNDSON: This is Judge Amundson. I had a question on
16 that --

17 MR. WARD: Yes, Judge.

18 JUDGE AMUNDSON: -- phraseology, a modified form of said
19 received power. I don't think there's any dispute that that phrase
20 encompasses changing from AC to DC or DC to AC. What I'm a little less
21 clear about is whether that phrase encompasses a change in the AC power
22 level or the DC power level. Do you have a position on that?

23 MR. WARD: Your Honor, our position is that it does not require
24 what the Patent Owner argues, which is that you are modifying the
25 impedance of the impedance network or changing the topology of the switch

1 network while you are concurrently receiving power. That's what Patent
2 Owner argues, Judge Amundson. And we differ with that.

3 We agree with your construction in the Institution Decision, Your
4 Honors. It's at slide 6 of my demonstratives, the third bullet point where you
5 state that, "Limitation 1(e) does not require an ability to change the
6 impedance of the impedance network during the receiving power mode."

7 We agree with that and we think that you gave a great summary of an
8 example of this in your Institution Decision. At page 6 of your Institution
9 Decision you provided -- go ahead, Judge. Do you have a question?

10 JUDGE AMUNDSON: Well, yeah, I understand your position. But
11 I'm still a little unclear about whether Samsung has a position about whether
12 modified form can encompass just changing the power level, changing it up
13 and changing it down. Maybe you don't have a position, I don't know.

14 MR. WARD: Well, our position is that changing -- that obtaining a
15 modified form of received power can be modifying, let's say, a received AC
16 signal to a DC signal.

17 JUDGE AMUNDSON: Right.

18 MR. WARD: That's obtaining a modified form of received power. It
19 doesn't necessarily require that you're somehow changing the impedance of
20 the impedance network while you're obtaining that modified form of
21 received power. It also doesn't require that you're changing the topology of
22 the switch network while you're receiving the AC signal and converting it to
23 a DC signal.

24 JUDGE AMUNDSON: All right. All right. Thank you.

25 MR. WARD: So that's our position, I would say, Your Honors. And
26 we agree with that characterization of the '339 patent that appeared at page 6

1 of the Institution Decision, that limitation 1(e) does not require real-time
2 modification of the impedance, but merely a change of the impedance to
3 enable the first circuitry to obtain a modified form of said received power.

4 I want to move on to slide 8 of the Petitioner demonstratives and I
5 want to talk about construction of the claim phrase "one of (a) or (b)." What
6 we see at many instances in the '339 patent, both in the specification and in
7 the claims themselves, is the use of this claim phrase, "one of (a) or (b)." In
8 fact, we see it in claim 1(b). And at slide 8 of Petitioner's demonstratives I
9 provide you the recitation in claim 1(b). We actually just took a look at it.
10 But claim 1(b) recites "one of coil and capacitor electrodes" and the Patent
11 Owner argues, and Petitioner agrees, that this should be construed as
12 requiring either a coil or capacitor electrodes.

13 Interestingly enough, Your Honors, the Patent Owner takes a
14 different position when that same claim phrase, "one of (a) or (b)," is used in
15 claim 3. Claim 3, as set forth on slide 8, recites "the dual mode wireless
16 power receiver of claim 1, wherein said impedance network of said first
17 circuitry comprising elements that are one of chosen a priori with fixed
18 values and tuned during operation over a range of values." Patent Owner
19 argues that this is essentially a Boolean "and," Your Honors, that this
20 requires both that the elements be chosen a priori with fixed values and
21 tuned during operation over a range of values.

22 We disagree with that proposed construction, Your Honors, for a
23 number of reasons. First and foremost, it's unclear to us how a passive
24 component, a fixed value component, could be tuned during operation. But
25 in addition to that, Your Honors, we suggest that as the Board identified in
26 your Institution Decision, the proper construction of this claim phrase in

1 claim 3 is just as it's recited in claim 1. It means that the elements are either,
2 A, chosen a priori with fixed values or, B, tuned during operation over a
3 range of values.

4 And that's important, Your Honors, because that the construction of
5 the term "impedance network" in claim 3 tells us also about the proper
6 construction of impedance network with respect to claim 1, because, of
7 course, claim 1 has to be broad enough to include all of the limitations of the
8 claims that depend from it. Your Honors cited the *Littelfuse* case for this
9 proposition. In the decision on Institution at page 27, you cited *Littelfuse v.*
10 *Mersen* for the proposition that an independent claim is broader than the
11 claim that depends from it. So when properly construing claim 3, we know
12 that we have to construe the impedance network of claim 1, such that it at
13 least includes all of the embodiments recited in its dependent claims, of
14 which claim 3 is one.

15 So now I'd like to move --

16 JUDGE CASS: Counsel, this is Judge Cass.

17 MR. WARD: Yes, Judge Cass.

18 JUDGE CASS: Reading Patent Owner's response with respect to
19 limitation 1(a) and 1(b) on the Patent Owner response, page 33, they appear
20 to argue that, you know, that what they're really seeking is that limitation
21 1(a) is construed as being separate from the impedance network recited later
22 in the claim. Is that still a live issue? What's your response to that?

23 MR. WARD: Judge Cass, is your question that you understand Patent
24 Owner's position to be that the one of a coil or capacitor electrodes is
25 unrelated to the claim 3?

1 JUDGE CASS: Yeah, I'm just reading off of the Patent Owner
2 response, page 33. And so I was wondering if you had a response to that or
3 if I'm characterizing Patent Owner's argument wrong, let me know that.

4 MR. WARD: I don't have Patent Owner's response in front of me just
5 at this moment, Judge Cass. But maybe if you -- I don't understand the
6 question.

7 JUDGE CASS: Okay. So I'll just read this to you. So on page 33 of
8 the Patent Owner response, it says, "Patent Owner agrees with the Board that
9 inductive coils L1 - L6 all meet limitation 1(a) of a coil. The point of
10 dispute that requires construction is that these inductors, L1, et cetera,
11 cannot also be counted in the attempt to apply the claims to the circuits of
12 *Chatterjee* as part of the impedance network since the coil and first circuitry,
13 including the impedance network, are required to be separate elements in
14 claim 1. Since Patent Owner has raised a claim construction issue relevant
15 to the outcome, Patent Owner requests that the Board expressly construe
16 limitation 1(a) as being separate from both the impedance network and the
17 switch network."

18 MR. WARD: Yeah, Judge Cass, you're breaking up a little bit there
19 on us.

20 JUDGE EASTHOM: Can we go off the record for a second, please?

21 (Recess)

22 JUDGE EASTHOM: And we're back on the record here, Judge. Mr.
23 Ward, did you understand Judge --

24 MR. WARD: I did, yes. Judge Cass, I think I got at least the gist of
25 your question, and you can --

1 JUDGE CASS: Okay, thank you. I apologize for the technical
2 difficulties.

3 MR. WARD: No problem. No problem at all. And I'll point you to
4 slide 14 of Petitioner's demonstratives. And what's being addressed that that
5 portion of Patent Owner's arguments is whether or not the coil is being
6 counted as part of the impedance network. But in the petition ground 1, we
7 identify what's shown in -- it's our demonstrative slide 14, the inductive coil
8 L3 is what's identified as meeting the one of coil or capacitor electrodes
9 limitation in claim 1. Separate from that capacitor C2 is what's identified as
10 the impedance network.

11 So that's not an issue, Your Honors, that we feel like is an issue with
12 our claim mapping with respect to ground 1 in view of the limitations of
13 claim 1.

14 JUDGE CASS: Okay. That sounds good. Thank you for responding.

15 MR. WARD: Yes, thank you. Thanks for the question.

16 Okay. Well, let's -- so let's move to Petitioner's slide 11. And I want
17 to talk about the proper construction of impedance network. And
18 specifically, I want to talk about the multiple different proposed
19 constructions that we have from Patent Owner with respect to the impedance
20 network. They gave Your Honors two different proposed constructions for
21 impedance network, and I've set forth both of those on slide 11.

22 The first they set forth in the Patent Owner response where they
23 proposed that impedance network be construed as "a collection of two or
24 more electrical components chosen from the list, 1, one or more passive
25 components; 2, active components; and, 3, switches." This particular
26 proposed construction, we cross-examined Patent Owner's expert Dr. Direen

1 in his deposition about this construction and what we believe the ambiguous
2 and indefinite nature of this construction. And after that, we saw the Patent
3 Owner come back with a different proposed construction for impedance
4 network and that's what's set forth in their surreply. And it's on Petitioner
5 slide 11.

6 In the surreply they propose that impedance network be construed as
7 "a collection of two or more electrical components, one of which must be a
8 passive component and one of which must be either an active component or
9 a switch."

10 We had a chance to ask Dr. Direen about what a person of ordinary
11 skill in the art, which Patent Owner represents their expert, Dr. Direen, is,
12 how they would understand the claim term "impedance network." And at
13 slide 12, I've reproduced some of the excerpts from Dr. Direen's testimony.

14 Dr. Direen testified that the impedance network of claim 1(e) can be
15 met by a passive component such as a resistor or capacitor and a switch.
16 Specifically, I asked -- I really drilled down on this topic with Dr. Direen.
17 I'd recommend to Your Honors that you take a look at this particular portion
18 of Dr. Direen's testimony. It's at Exhibit 1019, page 82. And I asked him
19 whether or not the impedance network could be as little as two passive
20 components. And Dr. Direen replied, no, it can't. It has to have at least
21 something that makes the impedance modifiable.

22 And he gave a further description later in his deposition that's
23 reproduced on slide 12. And he talked about what he would view as an
24 example of an impedance network. And I specifically call out this example
25 that was relayed to us by Dr. Direen because it's very similar to the example
26 that we rely upon from *Chatterjee* that's cited in petition ground 1. Here's

1 what Dr. Direen says. It's on Petitioner slide 12. He testified that the
2 following would constitute the claimed impedance network. He said "it
3 would have to be potentially a capacitor that's connected to a switch and a
4 priori you close that switch to make that capacitance fixed during the
5 operation of received. You could afterwards, if you go into transmit mode,
6 you could pull that capacitor out completely by unswitching the switch and
7 then you would a priori fix that impedance."

8 So I want to turn now to our slide 14 and take a look at Dr. Direen's
9 testimony about what constitutes an impedance network in view of what's
10 cited in the petition with respect to *Chatterjee*. And this is going back,
11 Judge Cass, to that figure that we were looking at earlier. And on slide 14 of
12 Petitioner's demonstratives, Petitioner explains in the petition that
13 "*Chatterjee*'s processor 413 sends control signals G1 and G2 to turn off the
14 H-bridge branch 611." It's shown in our -- the figure that's reproduced from
15 *Chatterjee* Figure 6B on slide 14 has been annotated and our annotations are
16 in color. H-bridge branch 611 is annotated in gray to show that it's inactive.

17 And it goes on to say that "signals G3 to G6 operate the shared
18 branch 612 and sync bridge branch 613 such that the capacitor C2 is not
19 used as part of the circuitry, as shown below in yellow highlighted
20 circuitry." So the yellow highlights of the figure 6B show the active
21 portions of the circuit.

22 And if you flip to the next slide, slide 15, you'll see the additional
23 description about changing between the different modes, the power transmit
24 mode and the power receive mode, and that capacitor C2 is taught in
25 *Chatterjee* as being inserted and removed in order to modify the impedance
26 of the impedance network. That is exactly what Dr. Direen was describing

1 when he described impedance network. And at slide 15 the petition explains
2 that "capacitor C2 provides different impedance under different modes: in
3 the power transmit mode, the impedance network provides capacitive
4 resistance, $Z_{\text{sub-1}}$ equals negative $1/\text{j}\omega C$; and in the power receive
5 mode, it does not, $Z_{\text{sub-1}}$ equals 0." So in the power receive mode, which
6 is shown on slide 15, the capacitor C2 is removed from the circuit and in the
7 power transmit mode the capacitor is inserted into the circuit, thereby
8 modifying the impedance of the impedance network.

9 And, Your Honors, on the next slide I identified to you how this is
10 very similar to embodiments that are disclosed in the '339 patent. In fact,
11 embodiments that Your Honors recognize in the Institution Decision. The
12 first is this embodiment of the impedance network that's shown in figure
13 10C that's reproduced on Petitioner's slide 16. You'll see there that figure
14 10C shows impedance network 101 with a single capacitor, C-sub-p. It's
15 labeled C-sub-p to designate that that capacitor is placed in parallel to the
16 inductive coil 106. We asked Dr. --

17 JUDGE AMUNDSON: This is Judge Amundson.

18 MR. WARD: Yes.

19 JUDGE AMUNDSON: I had a question on this impedance and the
20 switching of impedance between the power transmit mode and the power
21 receive mode. And it concerns one of Samsung's alternative arguments that
22 appears in the reply. I don't know if you have the reply there or not, but I
23 can quote the sentence I had a question about.

24 MR. WARD: Yes, I do have the reply Judge Amundson.

25 JUDGE AMUNDSON: Okay. It's going to be on page 21 in the reply
26 and it's the first full sentence under the highlighted figure B. And that

1 sentence states, "The interaction of the bidirectional coil assembly 632 with
2 unswitched H-bridge branch 611 or unswitched sync bridge branch 613
3 results in the desired change of impedance in the bidirectional coil assembly
4 632 (claimed impedance network)."

5 Now, my question is, can you explain what you mean by the
6 interaction of the coil with an unswitched component? I didn't really follow
7 that.

8 MR. WARD: Yes, the interaction of the bidirectional coil assembly
9 632 with the unswitched H-bridge is essentially what's shown above on that
10 page of the reply. On page 21, Judge, it's shown as the gray highlighted H-
11 bridge branch 611. That is the unswitched H-bridge branch or the
12 deactivated H-bridge branch, if you will. And that by deactivating H-bridge
13 branch 611, you're essentially removing capacitor C2 from the circuit, so
14 power does not flow through capacitor C2, thereby changing the impedance.

15 And this is exactly what Dr. Direen talked about during his
16 deposition, Your Honor. He talked about the fact that in order to have an
17 impedance network, you needed to be able to change, vary the impedance
18 during different modes, have a certain impedance during power transmit
19 mode, have a different impedance during power receive mode. And that's
20 what's happening here in *Chatterjee*. In the power receive mode, C2 is
21 essentially not part of the circuit. It's because of the unswitched H-bridge
22 branch. But if you flip back up to page 20 in the same reply brief there,
23 Your Honor, you'll see the other mode, power transmit mode, in which the
24 H-bridge branch 611 is active selected, and the sync bridge branch 613 is
25 inactive. And in that configuration for power transmit C2 is part of the

1 circuit, current flows through C2 and, therefore, changes the impedance of
2 the impedance network.

3 JUDGE AMUNDSON: All right. I think I understand your position.
4 Thank you.

5 MR. WARD: Yes.

6 JUDGE EASTHOM: Mr. Ward?

7 MR. WARD: Yes.

8 JUDGE EASTHOM: Your friends didn't argue that these two figures
9 aren't changing the topology of the network. Is that right? Is that your
10 understanding?

11 MR. WARD: Well, what they argued is that these figures aren't
12 changing the impedance while receiving power because what we're talking
13 about --

14 JUDGE EASTHOM: Right, right, I understand that, but they didn't
15 address the argument that they're addressing in their amendments about the
16 topology changing. They didn't assert that that element was missing from
17 your showing for these original claims?

18 MR. WARD: Yeah. My understanding is that they're asserting that
19 the -- for the amended claims, the change of topology has to happen while
20 you're receiving power. And this doesn't because this happens -- it's the
21 switch between the inverter and the rectifier.

22 JUDGE EASTHOM: So it changes the topology or basically?

23 MR. WARD: Yes. Exactly. So we would argue that this difference
24 between the highlights of figure 6B are the change of topology.

1 JUDGE EASTHOM: It just seems interesting to me because in both
2 situations you end up with a full bridge, one's an inverter, one's a rectifier.
3 But, okay, I understand.

4 MR. WARD: Potentially, based upon how you would actually
5 implement *Chatterjee*. And we do suggest in our proposed ground for the
6 revised motion to amend in opposition to that, that modifications could be
7 made to make it both non-synchronous and synchronous rectification
8 occurring.

9 JUDGE EASTHOM: With the added, what is it, the other reference?

10 MR. WARD: *Corbridge* --

11 JUDGE EASTHOM: *Corbridge*. Thank you.

12 MR. WARD: is -- yes, the additional reference. It's also used in this
13 ground, but not for that particular point with respect to the original petition.

14 JUDGE EASTHOM: Okay. I understand that. Thank you.

15 MR. WARD: Yes. So just --

16 JUDGE CASS: Mr. Ward, this is Judge Cass.

17 MR. WARD: Yes, Judge Cass.

18 JUDGE CASS: So I think in our earlier exchange, you know, I
19 pointed to Patent Owner's argument that limitation 1(a) is separate from the
20 switch network. And you pointed me to slide 15. But I think I heard in the
21 current discussion that you kind of included capacitor C2 as part of the sort
22 of impedance -- as part of the impedance network during one of the modes.
23 Is that right? And if so, how does that affect or relate to Patent Owner's
24 argument that this capacitor -- or this limitation 1(a) is separate from the
25 impedance? Does that make sense?

1 MR. WARD: Yeah, it does, Your Honor. And actually what I'll do, I
2 think it's best just to refer to our petition on that point and identify how we
3 mapped it with respect to the petition. So if you turn to page 26 of the
4 petition, Judge Cass.

5 JUDGE CASS: Sorry, give me a moment.

6 MR. WARD: Oh, yeah.

7 JUDGE CASS: Okay. I'm there.

8 MR. WARD: So at page 26, we identify the -- we're talking about the
9 impedance network limitation. And if you scroll down, you'll see first we
10 describe it as described in the '339 patent. That's figure 10E of the '339
11 patent. And then we identify figure 6B of *Chatterjee*. It's page 28 of the
12 petition.

13 JUDGE CASS: Yes.

14 MR. WARD: And you'll see there where we're noting the purple area
15 -- I'm sorry, well, it's sort of pink, I guess, as the impedance network. And
16 that corresponds to capacitor C2 between nodes 601 and 605 and a wire
17 between 603 and 605.

18 JUDGE CASS: Okay. And what are you pointing to as satisfying
19 1(a)?

20 MR. WARD: 1(a), the coil. Yeah, that would be, if you're taking a
21 look at page 28 of the petition --

22 JUDGE CASS: Yes.

23 MR. WARD: -- the figure from 6B, you see the coil L3 there?

24 JUDGE CASS: Yes.

25 MR. WARD: That would be the coil that we're identifying.

1 JUDGE CASS: All right. Isn't that part of the impedance network,
2 though?

3 MR. WARD: Well, it's part of the bidirectional coil assembly. But
4 what we're identifying as the impedance network is capacitor C2 between
5 node 601 and 605 and the wire.

6 JUDGE CASS: I see.

7 MR. WARD: So, I mean, not surprisingly, *Chatterjee* doesn't use
8 their claim phrase "impedance network", but it does include an impedance
9 network because it includes this capacitor C2 that can be inserted into the
10 circuit and removed from the circuit depending upon the power mode that
11 you're in, either power transmit or power receive. And so --

12 JUDGE CASS: Okay. So, yeah, you're just looking at that as I was
13 thinking that maybe you were including --

14 MR. WARD: Right.

15 JUDGE CASS: -- a set of components, but I think I understand your
16 method (phonetic) now. Let me ask another question.

17 MR. WARD: Yes.

18 JUDGE CASS: Do you have a construction for impedance network?
19 I know you talk about Patent Owner's construction, the expert. And then I
20 also noted that in your reply, this is page 6, you say that when construed
21 properly, the claimed impedance network must not exclude fixed value. So I
22 understand that part of your construction, but do you have a construction of
23 impedance network?

24 MR. WARD: Well, our construction, Your Honor, would be
25 supported by what's disclosed in the '339 patent. And actually, if you take a
26 look at slide 16 of Petitioner's demonstratives, what we identify there is the

1 question that we asked Dr. Direen about impedance network. And we would
2 agree with his response, which is that what is shown in figure 10C of the
3 '339 patent is an impedance network. He "agreed that impedance network
4 101 in figure 10C comprised of a single capacitor, C_p , constitutes the
5 claimed impedance network."

6 And similarly, Your Honors, if you turn to the next slide, figure 10E
7 is another embodiment here. Impedance network 101 in figure 10E
8 "comprised of a single capacitor, $C_{\text{sub-s}}$." The $C_{\text{sub-s}}$ designates that the
9 capacitor is in series to the coil. Previously in 10C it was $C_{\text{sub-p}}$ designates
10 of the capacitor is in parallel. But in both of those embodiments, Your
11 Honor, what constitutes an impedance network is a single capacitor, either in
12 parallel or series to the coil. And that is exactly what's shown in *Chatterjee*,
13 the prior art that we relied upon.

14 And, Your Honors, if you turn to page 18 of Petitioner's
15 demonstratives, you pointed this out in the Institution Decision, and we
16 agree with you, that if you rely upon Patent Owner's construction, you would
17 improperly exceed exclude these two embodiments. What I reproduced on
18 slide 18 is the comparative figure that you have in your Institution Decision.
19 The middle figure is figure 10C. The right-hand figure is figure 10E. Those
20 two embodiments of the impedance network must be properly part of the
21 construction of impedance network, i.e., a single capacitor either in series or
22 in parallel to the inductive coil 106.

23 JUDGE AMUNDSON: This is Judge Amundson.

24 JUDGE CASS: Oh, sorry. Go ahead.

25 JUDGE AMUNDSON: I was just going to ask, go ahead.

1 JUDGE CASS: Yeah, so I just want to confirm that. So you would
2 agree with the testimony of Dr. Direen?

3 MR. WARD: We would agree with the testimony of Dr. Direen that
4 the ability to have a passive component that can be inserted into the circuit
5 and removed from the circuit depending upon power received or power
6 transmit mode is an embodiment of the impedance network.

7 JUDGE CASS: Okay. And you don't have just a definition of work
8 post construction of an impedance network itself. Is that right?

9 MR. WARD: We would propose that it has to at least be construed to
10 incorporate these disclosed embodiments.

11 JUDGE CASS: All right, thank you. I'm sorry, Judge Amundson.
12 Please, please go ahead.

13 JUDGE AMUNDSON: All right, thank you. Yeah. While we're on
14 the subject of claim construction, before we run out of time, I want to talk
15 about the construction of the term "topology." And as I understand
16 Samsung's briefs, Samsung says use the plain and ordinary meaning. Maybe
17 I missed it, but I didn't see an explanation in Samsung's briefs of that plain
18 and ordinary meaning. Did I miss something there?

19 MR. WARD: The plain and ordinary meaning of topology, Your
20 Honor?

21 JUDGE AMUNDSON: Exactly. Yes.

22 MR. WARD: I don't recall off the top of my head whether or not our
23 briefs have set forth a proposed construction of just the term "topology."
24 But we've briefed extensively what a change of topology would constitute,
25 Your Honor.

1 JUDGE AMUNDSON: Right, I understand. Okay. So where should
2 the Panel go to determine the plain and ordinary meaning of the term
3 "topology"?

4 MR. WARD: Your Honors, we would suggest that you rely upon the
5 '339 patent and specifically these embodiments, 10C and 10E.

6 JUDGE AMUNDSON: Well, okay. Yes, they might -- the way I
7 understand things, they might and they do inform the analysis for the phrase
8 "change topology of said switch network." But I'm not sure that any of that,
9 anything in the '339 that addresses the meaning of the term "topology." So
10 anyway, should we go to a dictionary? Should we go to the IEEE
11 dictionary? Should we go to the Microsoft dictionary? What should we do
12 to figure out the plain and ordinary meaning of the term "topology?"

13 MR. WARD: Yes, Judge, I would suggest that what you have to do is
14 what's dictated by *Phillips*, which is to examine the intrinsic record to
15 determine what's disclosed in the specification and, if necessary, supported
16 by the extrinsic record, as you say, perhaps definitions.

17 But let's take a look at slide 24, if we can jump ahead on this
18 particular point. This relates to the motion to amend, but it touches on this
19 topic of topology. And at slide 24, I identify that, "Patent Owner argues that
20 topology means 'a group of circuit components that perform a type of
21 rectification or a type of power inversion.'" We would suggest, Your Honor,
22 that that is a very narrow and inaccurate definition of the term "topology."
23 And the reason why Patent Owner is suggesting such a narrow definition for
24 topology is because they need it for their next proposed claim construction,
25 which is also there on slide 24, as to what they propose the change topology
26 of said switch network means. They say, that it has to be "configured to

1 change topology in a way that changes the type of rectifier or the type of
2 inverter or a rectifier to an inverter or an inverter to a rectifier of the switch
3 network."

4 The reason, Your Honors, that they're proposing this very narrow
5 claim construction with respect to their motion to amend is because they're
6 trying to get around your finding in the preliminary guidance, the next bullet
7 point on slide 24 there. In the preliminary guidance, we believe that you
8 correctly construed this term "change of topology of said switch network" to
9 broadly "encompass 'changing the connected/disconnected states of the
10 switches.'" Specifically, what we're talking about here, Your Honors, is that
11 cycling of the switches for a synchronous rectifier constitutes a change of
12 topology. That's a determination that you made in the preliminary guidance
13 initially. We believe it's a correct determination. It's a correct determination
14 because what's happening when you're cycling the switches of a
15 synchronous rectifier is you're changing the topology of the network.

16 If you move to my next slide there, slide 25, you'll see that the third
17 bullet point, Patent Owner appears to acknowledge that "the switches of the
18 switch network can be 'open,' i.e., in a disconnected state, or 'closed,' in a
19 connected state, so as to change the topology of the switch network." So
20 they agree to this basic premise that an open switch and a closed switch,
21 changing between the two changes the topology as required by the claims.
22 But somehow they don't believe that cycling the switches for a synchronous
23 rectifier constitutes changing topology. We suggest that it does. And we
24 agree with your at least initial determination that the cycling of the switches
25 for a synchronous rectifier constitutes a change in topology.

1 We asked about this particular proposed construction of the expert,
2 Dr. Direen, in yet a second deposition after the motions to amend were filed,
3 and we asked him specifically about this, the "type" term, and what it meant
4 to change a type of inverter or rectifier. The specification doesn't use the
5 term "type." It uses the term "classes of inverters and rectifiers." And when
6 we asked Dr. Direen whether the classes of inverters met the proposed
7 construction of a type of inverter, he said that he would have to study that
8 offline. He was unable to give us an answer as to what constituted --
9 whether a class of rectifier constituted a type of rectifier.

10 And just to address, I guess more broadly this point with respect to
11 the revised motion to amend, if you flip back to slide 20, you'll see I've
12 summarized here for Your Honors what's essentially left pending in this
13 case. There were more amendments proposed in the initial original motion
14 to amend. But what's shown on the right-hand side are the amendments that
15 are now pending before Your Honors with respect to the revised motion to
16 amend, and those are proposed amendments to claim 21. Claim 21 is a
17 proposed substitute to claim 1, and they're largely unchanged from the
18 original motion to the revised motion. The only change that is made is that
19 they took out their original construction of impedance network that they
20 inserted into the amended claim 21 for the original motion and replaced it
21 with their revised construction for impedance network with respect to the
22 revised motion to amend.

23 And turning to slide 21, Your Honors correctly determined in the
24 preliminary guide guidance, the second bullet point on slide 21, that the
25 limitation containing this language lacks written description because the
26 cited disclosures do not appear to disclose changing the impedance of the

1 impedance network and the topology of the switch network during the power
2 receive mode while the apparatus remains in that mode. And specifically,
3 Your Honors, on this point, you found that there was lack of written
4 description. And we've analyzed the support that they provided to the
5 original motion and now the support that they've provided to the revised
6 motion. It's largely the same. And what they rely upon is one paragraph.
7 It's a single paragraph that occurs at column 4, line 4 of the '339 patent. And
8 it says this. It says that, "The dual mode wireless power receiver adjusts the
9 impedance of its impedance network. The dual mode wireless power
10 receiver also adjusts the topology of the switch network, for example, from
11 the default non-synchronous rectifier to the fully synchronous rectifier."

12 That's the only mention, Your Honors, of this changing of the type of
13 rectifier while receiving power in the '339 patent. And Patent Owner
14 concedes that this example is not in the '312 provisional. The '312
15 provisional is their priority document. They are suggesting that the claim 1
16 has benefit to the '312 provision provisional and also that this proposed
17 substitute claim 21 will have benefit to the provisional.

18 JUDGE AMUNDSON: Yes, this is Judge Amundson.

19 MR. WARD: Yes.

20 JUDGE AMUNDSON: On this point, on this lack of written
21 description support point and what's in the '312 provisional as opposed to
22 what might be in the '929 patent or the '339 patent, do you have the '339
23 patent there?

24 MR. WARD: I do, yes, Your Honor.

25 JUDGE AMUNDSON: Yeah. If you go to column 4, column 4, and
26 starting line 4 through line 7, and as I understand the Patent Owner's papers,

1 they're also pointing to that disclosure which is repeated in the '929 patent.
2 So my question is, so what difference does it if that disclosure that's in the
3 '339 patent and the '929 patent, what difference does it make if it's there but
4 it's not in the '312 provisional? It seems to me like there's still support, at
5 least in the '339 patent, and it's all the rules require.

6 MR. WARD: The difference, Your Honor, is that they don't have
7 support to the date at which they're claiming priority, which opens them up
8 to additional prior art. The provisional application was filed on August 13th
9 of 2012. The '929 patent wasn't filed until a year later. So that's a year of
10 additional prior art that could be at issue here. And specifically, it's their
11 burden, in accordance with the new codified rules for motions to amend,
12 Your Honor, their burden to show written description support in the priority
13 document, and they cannot show it in the '312 provisional because the '312
14 provisional doesn't include a single statement about changing the type of
15 rectifier while you're receiving power.

16 JUDGE AMUNDSON: Well, okay. I'm still a little unclear here, but
17 as long as they -- okay. As long as there's some support in the '339 patent,
18 why doesn't the Patent Owner satisfy the regulatory requirements?

19 MR. WARD: Because, Your Honor, and I don't have the CFR in
20 front of me, but if you take a look at the Board's rules with respect to a
21 motion to amend, not only do they have to show written description support
22 in the specification, they have to show it in the priority document. There's
23 two different requirements there, and they're not meeting that second
24 requirement. They're not showing support in the '312 provisional for these
25 proposed amendments.

1 Now, had they said, okay, we don't get the benefit of the priority
2 date, we don't get the benefit of the original provisional, maybe that's
3 different. But that's a different scenario because now we're talking about
4 additional time for prior art to be intervening.

5 JUDGE AMUNDSON: All right. I think I understand your position.
6 Thank you.

7 JUDGE EASTHOM: Mr. Ward, I know we're running into your
8 rebuttal time, but I was just curious even if we say there's support, are you --
9 it seemed in your surreply you're saying that *Corbridge* -- does change from
10 synchronous to non-synchronous. Does that moot the issue if we agree with
11 you on that on *Corbridge*?

12 MR. WARD: Yes, Your Honor, it does. And let me show you that
13 specifically, what's taught in *Corbridge*. And that's what we rely upon. If
14 you turn to my slide 29, our second ground that's in our opposition to the
15 revised motion, Your Honors, differs from our first ground because in the
16 second ground, we assume that Patent Owner's construction is correct.
17 Obviously, we don't agree with it. But for purposes of ground 2, we assume
18 that it is correct. And the cited prior art still renders obvious this proposed
19 substitute claim 21 because *Corbridge* teaches exactly what Patent Owner is
20 arguing is required by the claim: the idea that you can switch between non-
21 synchronous rectification and synchronous rectification while you're
22 receiving power.

23 And if you look at slide 29, I tried to blow it up for Your Honors, so
24 you could kind of see it in more detail. That's an excerpt of *Corbridge*'s
25 figure 7B. Now, what *Corbridge* teaches is a transistor diode pair. You can
26 see it illustrated in the circuit there of 755. And the reason that *Corbridge*

1 teaches a transistor diode pair is because it allows you to switch between
2 non-synchronous rectification in a low power mode to synchronous
3 rectification with a transistor in a higher power mode. This is something
4 that was well known to those of skill in the art.

5 You can take a look at our expert, Dr. Phinney, Exhibit 1021 at
6 paragraph 85, where he describes this, that it was known that there were
7 benefits and drawbacks to both: benefits to non-synchronous rectification
8 and synchronous rectification. The problem with non-synchronous
9 rectification is that you get a voltage drop. There's loss that's associated with
10 using a diode for rectification. It's the voltage drop of the diode. You don't
11 have that loss with a transistor, but with a transistor you have to have a
12 certain threshold level of power in order to be able to power the transistor.

13 And what's taught by *Corbridge* is the capability with its transistor
14 diode pair to switch between, if you're in a low power mode, you can do
15 non-synchronous rectification with the diodes and when you have sufficient
16 power, you can do synchronous rectification with the transistors. And it's
17 specifically paragraph 86 of *Corbridge* that says, "In each of the transistor
18 diode pairs, a transistor, typically a MOSFET, is connected in series with a
19 diode to eliminate voltage drop across the diode when the diode is forward
20 biased." So what *Corbridge* is teaching is this concept of having the
21 flexibility to change between synchronous and non-synchronous
22 rectification.

23 My slide 30 shows the full figure of 7B from *Corbridge* and
24 Petitioner's ground 2, and our opposition to the revised motion to amend is
25 that it would have been obvious to use these teachings from *Corbridge* to
26 incorporate these transistor diode pairs, rectifiers that allow you to switch

1 between non-synchronous rectification and synchronous rectification, to
2 have incorporated those into *Chatterjee*'s circuit that we saw earlier. And
3 you would arrive at a proposed combination in which you could change the
4 type of rectifier while receiving power. So even use using Patent Owner's
5 claim construction, which, of course, we disagree with, it's still rendered
6 obvious in view of the cited prior art, *Chatterjee*, in view of *Corbridge* and
7 *Cook*.

8 And I see Your Honors that I'm -- go ahead.

9 JUDGE AMUNDSON: This is Judge Amundson. I Just -- I had a
10 follow-up question on slide 30 and --

11 MR. WARD: Yes.

12 JUDGE AMUNDSON: -- *Corbridge* figure 7B there. I think I
13 understand what you're trying to convey for most of it. But what escapes me
14 is what concept are you trying to convey with the yellow highlighting? It's
15 also in, I think, your second opposition. I wasn't sure what you were trying
16 to do there.

17 MR. WARD: Yeah. Well, we're conveying that they're -- the
18 connections between the multiple transistor diode pairs. So what's shown in
19 -- what's highlighted in blue are the transistor diode pairs. There's four of
20 them.

21 JUDGE AMUNDSON: Right, I got that. And I understand what's
22 highlighted in green is the Op Amps and circuitry driving the Op Amps or
23 driving the transistor diode pairs. But I just was a little unclear or a lot
24 unclear on the yellow highlighting.

25 MR. WARD: Yes. Nothing more than just illustrating the circuits
26 connecting the four transistor diode pairs, Your Honors.

1 JUDGE AMUNDSON: All right. Thank you.

2 MR. WARD: Okay. I see I'm seven minutes into my rebuttal, Judge
3 Easthom, so I think I'll rest there and say the rest for rebuttal.

4 JUDGE EASTHOM: Sounds good. Thank you, Mr. Ward.

5 MR. WARD: Thank you.

6 MR. CARPENTER: All right. Good afternoon, Your Honors.

7 JUDGE EASTHOM: Good afternoon, Mr. Carpenter.

8 MR. CARPENTER: Pleased to be here today after almost two --

9 JUDGE EASTHOM: Can you give me one second? Sorry.

10 MR. CARPENTER: Yes, sir. Yes, Your Honor.

11 JUDGE EASTHOM: I'm clock challenged here. I'm just going to set
12 you up with 50 minutes total. And if you want -- because you said you
13 wanted 55, but.

14 MR. CARPENTER: Five or ten to --

15 JUDGE EASTHOM: Okay. That way we won't have to reset it.
16 Whenever you're ready. Go back on the record if we're not already on it.

17 MR. CARPENTER: Yes, Your Honor. Go back on the record,
18 please.

19 Your Honors, this is actually a pretty easy case for you to, a short
20 opinion, for you to deny the petition. The dispositive issue is the meaning of
21 limitation 1(e). It is dispositive because if it means what WiPQTUS says it
22 means, then the Petitioner has admitted that the combination of ground 1
23 does not meet it. The admission I'm referring to is that the response in
24 opposition on the motion to amend, Paper 20, page 10, and I'll read it into
25 the record. "However, neither *Chatterjee* nor *Corbridge* expressly disclose
26 changing impedance of the impedance network while the inductive signal

1 interface is configured to receive power." That admission was repeated
2 again at page 20 of Paper 20.

3 The petition may be denied, and it should be denied, without
4 determining what "impedance network" means. That is, no matter what
5 "impedance network" means, if the alleged prior device or combination of
6 devices, that is, the *Chatterjee* and the *Corbridge*, does not have the
7 capability to change the impedance during the receiving mode, limitation
8 1(e) is not met under WiPQTUS's construction.

9 JUDGE EASTHOM: You said it's on page 20?

10 MR. CARPENTER: Page 10 of Paper 20.

11 JUDGE EASTHOM: Page 10, and it's -- can you say that sentence
12 again, please? I'm still looking for it.

13 MR. CARPENTER: It says, "However, neither *Chatterjee* nor
14 *Corbridge* expressly disclosed changing impedance of the impedance
15 network while the inductive signal interface is configured to receive power."
16 And they repeated that on page 20 of 20, and they had made --

17 JUDGE AMUNDSON: This is Judge Amundson.

18 MR. CARPENTER: Yes.

19 JUDGE AMUNDSON: At least my notes indicate that Paper 20 is the
20 revised motion to amend and that would be a Patent Owner's paper. Are you
21 referring to a different paper than the Petitioner, Samsung?

22 MR. CARPENTER: It's the response in opposition to the motion to
23 amend filed by Samsung.

24 JUDGE EASTHOM: Do you have a paper number?

25 MR. CARPENTER: I believed it was Paper 20, but --

1 JUDGE EASTHOM: Oh, maybe it's Paper 14. There's an opposition
2 -- is it the first opposition or -- I don't know.

3 JUDGE AMUNDSON: I think it is Paper 20, actually.

4 JUDGE EASTHOM: Oh.

5 MR. CARPENTER: I'd pull it up --

6 JUDGE AMUNDSON: Oh, opposition, my mistake. I'm sorry. That
7 was my mistake.

8 MR. CARPENTER: Had me sweating some bullets there.

9 JUDGE AMUNDSON: Sorry, sorry.

10 JUDGE EASTHOM: So it's about halfway down the page? I was
11 looking for "however" still. Sorry.

12 MR. CARPENTER: Okay, no worries. An important point. Well,
13 the word, "however," looks like I missed -- "however" is not in there. That
14 was my editorial. It begins, "Neither *Chatterjee*." It's the first full paragraph
15 at the top of page 20.

16 JUDGE EASTHOM: Okay. Thank you.

17 MR. CARPENTER: Okay. So with that admission, the petition may
18 be denied without determining what "impedance network" means. We'll
19 discuss that in a minute, but that's the truth. We don't have to get into what
20 "impedance network" means if limitation 1(e) means what we say it is,
21 which is it requires a change in topology during the receiving power mode.
22 The Board in its Institution Decision, page 30, 31, seemed to interpret 1(e) --

23 JUDGE CASS: Counsel, this is Judge Cass. Can I just ask a
24 question. You're talking about -- you're arguing now about the original
25 claims, not the motion to amend?

1 MR. CARPENTER: Correct. I'm going to address the petition and
2 then I'll touch on issues relating to the motion to amend toward the end. But
3 that's an astute point, though. This issue matters to both. This issue of what
4 does 1(e) mean or what does 21(e) mean is relevant to both. In 21(e), we
5 explicitly wrote in this requirement that it be while in the receiving power
6 mode. And the Board, in its preliminary guidance had said, well, that's not
7 supported by the written description.

8 So I'm about to get into the support. But obviously, things I argue in
9 support of our construction of claim 1, limitation 1(e) also applies to 21(e).
10 In other words, the written description for 21(e) is the same stuff I'm going
11 to talk about with respect to claim 1(e), and I'm going to get into that right
12 here.

13 So my goal here is to demonstrate to the Board that WiPQTUS's
14 construction is correct. We believe that the Board overlooked some crucial
15 aspects of the disclosure and the specifications of the '312 provisional and
16 the '929 patent.

17 JUDGE EASTHOM: Did you raise this admission in your subsequent
18 briefing?

19 MR. CARPENTER: In the surreply, we hit this rather hard.

20 JUDGE EASTHOM: Thank you. Okay, I missed that. Appreciate
21 that. Paper 25 -- no, 20 for (inaudible).

22 MR. CARPENTER: So my goal here is to convince the Board that it
23 overlooked a few things in its preliminary Institution Decision. Excuse me.
24 And I would ask the Board reconsider its position in light of the following.
25 Limitation 1(e) means what WiPQTUS says it means as best demonstrated
26 by, number one, the structure of the claim itself.

1 So I'd ask that the slide 3 be pulled up. And I assume that the Board
2 can see what my colleague, Mr. Craddock, is pulling up on his video.

3 JUDGE CASS: We cannot.

4 MR. CARPENTER: We cannot. Okay.

5 JUDGE CASS: But if you can just tell us the slide number, please, so
6 we're looking at the correct slide.

7 MR. CARPENTER: okay, we'll just -- okay. So, looking at the
8 Patent Owner slide 3, we've highlighted the main components. The Board
9 touched on one of these: the coil or capacitor that actually receives or sends
10 power is separate from the first circuitry and the second circuitry. We have
11 first circuitry, impedance network, switch network. So what I suggest to the
12 Board is that the structure of the claim itself supports WiPQTUS's position
13 on 1(e). By that I mean that that if you look at the recitation in green that
14 says "first circuitry configured to receive said power," that suggests that the
15 first circuitry is configured to receive. And so, therefore, it's logical that in
16 the next step, the first circuitry, which is limitation 1(e) highlighted in
17 yellow, based on input from control logic circuit, is configured to change
18 impedance of said impedance network and topology of said switch network.

19 And then if you go to the very next limitation that's highlighted in
20 yellow, we refer to it as 1(f) in the briefing, said first circuitry based on input
21 from said control logic circuit configured to change topology of said switch
22 network and impedance of the impedance network to transmit. So I would
23 suggest to you that if the Board was correct in its initial opinion in the
24 Institution Decision that 1(e) merely referred -- the Board seemed to suggest
25 that it merely referred to toggling between a rectifier and an inverter and

1 vice versa. If the Board was right, then that would render limitation 1(f)
2 superfluous.

3 Following the *Phillips* instructions, let's look at the structure of the
4 claim limitation itself before we move on to the spec. I would suggest to
5 you that the words where it says "configured to change" -- that "configured
6 to change" applies equally to the impedance network and "topology of said
7 switch network," and the purpose for making these changes is recited right
8 there in limitation 1(e): to obtain a modified form of said received power. I
9 would suggest to the Board that because the limitation recites a modified
10 form of received power, that it is still in the rectifier mode, that is the
11 receiving power mode. Rectifiers are used to receive power, inverters are
12 used to send power. So 1(e) has to mean something different than 1(f).

13 I suggest, and I think the structure of the claim requires, that it means
14 that these changes that are recited are happening while the device is -- after
15 it's been configured in the limitation before it, 1(d), has been configured to
16 receive, it's now making changes while in the receive mode. That's what's
17 required.

18 So then we'll move on to --

19 JUDGE EASTHOM: But we don't usually read limitations from a
20 system claim like this, that they require any order. Right? So I understand
21 what you're saying about the superfluity of, you know, the subsequent 1(f),
22 but I don't see how 1(d) helps you much.

23 MR. CARPENTER: Well, these -- you're right. I mean, if this was a
24 method claim, it's not always the case that the order matters, but sometimes
25 it does. It depends on the context.

1 JUDGE EASTHOM: Okay. Well, let me ask you this, because I was
2 looking through your figures and, for example, if you look at figures 10G,
3 10F -- bear with me a second. For example, just simple example here.

4 MR. CARPENTER: And, Your Honor, you're looking at '339,
5 Exhibit 1001?

6 JUDGE EASTHOM: Yes, yes. Thank you. Actually, I was just
7 thinking about -- there was a really simple -- okay. I guess figure 10A, I'm
8 sorry. Go to figure 10A.

9 MR. CARPENTER: Right. Yes. And let me go to 10A.

10 JUDGE EASTHOM: So if we go to figure 10A, it looks like this
11 figure, it has this switch network 102. And that can operate either as an
12 inverter or a rectifier, right?

13 MR. CARPENTER: That is correct, Your Honor. That's just an H-
14 bridge.

15 JUDGE EASTHOM: Right. It's just an H-bridge. And the way this
16 operates is you throw S1 and you get it to operate one -- the power flows one
17 way, you get it -- you throw S2 and open S1, the power flows the other way.
18 So one's a -- the latter is a rectifier, the former is an inverter. But there's
19 really no description about changing anything within this inverter other than
20 a couple sentences. Like your friend pointed out, it could be synchronous,
21 non-synchronous, or perhaps you can somehow make it into a half bridge.

22 MR. CARPENTER: Yes, Your Honor.

23 JUDGE EASTHOM: But there's no detail about that anywhere. I
24 mean, you have those three or four sentences. And I'm asking you if your
25 claim reads on figure 10A then.

26 MR. CARPENTER: Well, two points to that.

1 JUDGE EASTHOM: Okay.

2 MR. CARPENTER: Number one, Your Honor, figures 10A through
3 whatever, H, I think it is, and all the new matter relating thereto and claim 3,
4 they cannot be used, properly be used to interpret claim 1 of the '339 patent.
5 And that is because the Board noted this in a footnote in its preliminary
6 Institution Decision, and that is that every claim has its own priority date.
7 Priority date is determined claim by claim. The Federal Circuit's also told us
8 in *Phillips* that the claim is supposed to be interpreted according to its
9 earliest effective priority date. So this whole smokescreen about obsession
10 about the '312, this happens in every case. You look at the very earliest one
11 and, okay, there's stuff added. Then you look at the next one. Okay, big
12 deal. For what we're doing here, claim construction, I say it's irrelevant. If -
13 - whatever's not in the '312, it is in the '310, which is the '929 -- application
14 for the '929.

15 Then this '339 was a CIP. And they added all these figures 10. They
16 added claim 3. A lot of the language in claim 1 appears in the original claim
17 in the '929. That's another point we've made in our briefing.

18 But -- and the case I rely on in the briefing is *TurboCare*. So I'm
19 getting a little ahead of myself because I want to walk you through a few
20 more references in the patent. But *TurboCare* is the case, and it shows that a
21 dependent claim can be invalid for lack of written description while the
22 independent claim can be valid. It shows where that -- anyway, that's the
23 proposition. We've briefed it and stand on that.

24 JUDGE EASTHOM: But if you filed a CIP and you put these figures
25 in there and you kept the same claim, you can look at that either way. I'll

1 have to reread your case you cited. But what you're telling me now is claim
2 1 doesn't read on figure 10A. Is that what you're saying?

3 MR. CARPENTER: Well, I believe it does under our construction of
4 --

5 JUDGE EASTHOM: Well, how would it do that?

6 MR. CARPENTER: Well, no. I'm sorry, Your Honor. I thought -- I
7 was flipping ahead to claim 3. Claim 3, I think, is consistent with our
8 construction of impedance network. Whether it reads on claim 10 or not is
9 irrelevant for construing claim 1.

10 JUDGE EASTHOM: Figure 10.

11 MR. CARPENTER: Figure 10 is irrelevant.

12 JUDGE EASTHOM: Well, you have to be able to support it if your
13 claim either encompasses figure 10A or it doesn't. And what you're telling
14 me now is it doesn't.

15 MR. CARPENTER: I think 10A and all these figures are incomplete
16 because, as Mr. Direen -- Dr. Direen explained in his deposition, which I'd
17 encourage the Board to look at because I believe a colleague on the other
18 side has mischaracterized it a bit, these figures are incomplete. It doesn't
19 show connections to the control logic. There's several things not shown.
20 What's being discussed in these figures is a -- after a state has -- it's already
21 been placed in a particular state.

22 So if I may, if I could just start going back to your point about what
23 support do I have, I'd like to point out a few more things if that's --

24 JUDGE EASTHOM: Yes.

25 MR. CARPENTER: Okay. So we've gone through the structure of
26 the claim itself. I'd like to turn to figure 2B. And figure 2B I show on this

1 slide 6. I show the '312 provisional figure 2B and I also show the '929 figure
2 2B. They're slightly different, but not in a material way. The important
3 point is, first, let's look at the title of it: Dual Mode Wireless Charging
4 Receiver in Charging Mode.

5 So if you look, and we're going to look at the part of the spec that
6 explains figure 2B in a minute, but it's in charging mode. And what the spec
7 says is this is a flowchart showing the operation of this chip, but in the
8 charging mode.

9 So if we're looking at the first box, the device is configured as a
10 rectifier. It's configured as a rectifier from default. And here it's already in
11 charging mode in the rectifier mode. So then in that middle box, it's stated
12 slightly different -- differently, but it receives power. And more
13 importantly, what's shown there in that box is it powers up and adjusts the
14 impedance network. So I suggest to you that the Board was -- might have
15 overlooked this and that our interpretation of 1(e) is correct. Because if it
16 only meant flipping between rectifier and the inverter, then that doesn't mesh
17 with what's shown here where it's already been changed to a rectifier. And
18 the second step is it's adjusting the impedance.

19 JUDGE EASTHOM: Well, I mean, but what does that say about --
20 doesn't that say the opposite then about the topology? Because you don't
21 mention topology in that box.

22 MR. CARPENTER: Well, Your Honor, the claim, as it recites it or
23 mentions both, and the specification always joins them, it's changing. But --
24 and we're going to review that, but you're right. There is one -- well, if I
25 could -- may, if I could just proceed past figure 2B. I think if we can move
26 to the next slide.

1 This is slide 38. This slide shows the '929 patent at column 3, line
2 62, through column 4, line 3. And this portion of the spec describes exactly
3 what's shown in those boxes. Figure 2B mentions receiving sufficient level
4 of power and then it adjusts the impedance of the impedance network. And
5 now it also describes what it means to adjust the topology of the switch
6 network.

7 JUDGE EASTHOM: Sorry, Counsel, I'm a little -- is it slide 38 you
8 said?

9 MR. CARPENTER: Thirty-eight. Yes, it's showing Exhibit 2002,
10 '929, column 3, line 62, through column 4, line 3. And it's identical to the
11 language that was mentioned previously that's in -- the same language,
12 appears in the '339.

13 JUDGE EASTHOM: Thank you. Thank you very much. Okay. So,
14 yeah, I saw this receiving switch power. Okay. So how does it do that?
15 How does it go from non-synchronous to synchronous?

16 MR. CARPENTER: Well, it goes from the default non-synchronous.
17 So going back to your basic H-bridge --

18 JUDGE EASTHOM: Can we look at one while you're telling me
19 this? Give me a picture of one of your H-bridges that you're going to switch
20 from synchronous to fully synchronous.

21 MR. CARPENTER: Well, the figure you were looking at earlier, 10A
22 --

23 JUDGE EASTHOM: Okay.

24 MR. CARPENTER: -- would work for just describing. I prefer figure
25 6, 6A.

26 JUDGE EASTHOM: Okay, 6A?

1 MR. CARPENTER: Yes, because, absolutely, claim 1 reads on 6
2 because that's in the original disclosure of the '929 and the provisional.

3 JUDGE EASTHOM: Okay.

4 MR. CARPENTER: So that was the basic H-bridge in 6A. And the
5 transistors, if you will, shown by that kind of open gate, they're off, but
6 there's rectifiers. So a non-synchronous rectifier, you can build one just
7 using diodes. They're not optimum because you have power loss and the
8 voltage drop across them. But that's a basic H-bridge. And that
9 synchronous is used to distinguish H-bridge that has transistors as opposed
10 to a non-synchronous. But nevertheless -- and we've included all this in Dr.
11 Direen's declarations in our briefing, but these are two examples or two
12 different topologies.

13 JUDGE EASTHOM: So you would leave these switches, S3 through
14 S6, open to operate in non-synchronous. Is that what you're saying?

15 MR. CARPENTER: Yes, Your Honor.

16 JUDGE EASTHOM: And the question is, is there written description
17 support for that? And you're saying there is, based on how an ordinary
18 skilled artist would read your paragraph there in this figure?

19 MR. CARPENTER: This figure combined with the portion of the
20 spec I just mentioned. Plus, if we go down and look at the descriptions of
21 figure 6 in the spec that --

22 JUDGE EASTHOM: Because don't you argue that, I forget,
23 *Coldridge [sic]*, don't you argue that *Coldridge* does not provide written
24 description support for operating in those two modes?

25 MR. CARPENTER: It does not provide any support for changing a
26 topology during the --

1 JUDGE EASTHOM: Oh, during the.

2 MR. CARPENTER: -- during the receiving power part.

3 JUDGE EASTHOM: The important point is during the receiving.

4 MR. CARPENTER: Yes, Your Honor.

5 JUDGE EASTHOM: Okay. Okay.

6 MR. CARPENTER: And that's where we -- in the motion to amend, I
7 might as well address it now, we get into this whole distinction --

8 JUDGE AMUNDSON: This is Judge Amundson.

9 MR. CARPENTER: Yes.

10 JUDGE AMUNDSON: But before you get into that, I just wanted to
11 check on something. A disclosure in the '339 patent, I think it's also in the
12 '929, but if you look -- do you have the '339 patent?

13 MR. CARPENTER: I have '339. Yes, Your Honor.

14 JUDGE AMUNDSON: If you go to column 16, column 16 and it's
15 talking about figure 6B, and in particular, starting in line 53, it states, "In
16 another embodiment, switches S3, S4, S5, and S6 are kept off in charging
17 mode and full wave rectification happens through the substrate body diodes
18 of switches S3, S4, S5, and S6." And so my question is that -- when it's
19 talking about that full wave rectification, is that an example of non-
20 synchronous rectification?

21 MR. CARPENTER: Yes, Your Honor, I believe it does.

22 JUDGE AMUNDSON: All right. Then above that, where it's talking
23 about -- okay. There starting in line 45, it states, "During charging mode,
24 switch S1 is external to the switch network 102 and is also configured in an
25 off state to ensure that power does not flow into the switch network 102
26 from that power input path via the substrate body diodes of switch S1." And

1 then next it says, "Switches S3, S4, S5, and S6 are driven with the timing
2 relationship, as exemplary illustrated in figure 6B, in full synchronous full
3 wave rectification mode." So is that disclosure directed to an example of the
4 synchronous rectifier?

5 MR. CARPENTER: Yes, Your Honor, as I read lines 50 through 51,
6 that's what it says. And I think our expert also explained figure 6 in some
7 detail, discussing those timing diagrams you're referring to.

8 JUDGE AMUNDSON: And so you can change from synchronous
9 rectification to non-synchronous rectification just by changing various
10 switch positions?

11 MR. CARPENTER: That is true, Your Honor. Yes, and that's our
12 position is that it -- like changing a topology is different than switches within
13 a given topology acting like switches do in an asynchronous rectifier, which
14 is just sit there and cycle according to whatever frequency of the waveform
15 coming in. So you might touch on some of the same switches, you might
16 not, but it takes -- it's -- a change of topology doesn't mean the switch is
17 changing like switches do and are used in a synchronous rectifier. And that's
18 the whole issue that I believe has come up with respect to the motion to
19 amend is if topology and change in topology means what WiPQTUS says it
20 means, then the combination of *Chatterjee*, *Corbridge*, and *Cook* do not
21 render it invalid, so.

22 JUDGE EASTHOM: So just to be clear, counsel, I understand what
23 you're saying about the topology. I appreciate that. But I asked your friend
24 this earlier, so you're not arguing with respect to the first set of claims, the
25 original claims that got issued. You're not arguing that the prior art doesn't

1 have the topology aspect. You're saying it doesn't have the topology aspect
2 if we construe them to require this during charging?

3 MR. CARPENTER: That is correct, Your Honor. In our response to
4 the petition, because we think it is so clear, we relied on the change the
5 impedance network and to show that *Chatterjee* does not have -- show that
6 capability.

7 JUDGE EASTHOM: Okay.

8 MR. CARPENTER: It is true after we've -- the case has developed
9 that it also does not show -- *Chatterjee* and *Corbridge* do not show the
10 change in the topology. And we argue that in connection with the motion to
11 amend. But you're correct that in our response to the petition, our surreply
12 to the petition, we just relied on this one limitation to distinguish *Chatterjee*
13 and *Corbridge*.

14 JUDGE EASTHOM: I appreciate that. Okay.

15 JUDGE AMUNDSON: This is Judge Amundson.

16 JUDGE CASS: Mr. Carpenter?

17 JUDGE AMUNDSON: Go ahead. Go ahead, Judge Cass.

18 JUDGE CASS: Okay. Thank you. Yes. I just wanted to ask, since
19 the patent says that the dual mode wireless power receiver adjusts the
20 topology of the switch network, for example, from the default
21 nonsynchronous rectifier to fully synchronous rectifier, wouldn't that mean
22 that activating the switches in the synchronous rectifiers is a change in
23 topology? Isn't the patents recognizing that?

24 MR. CARPENTER: I just want to be very clear. It is the case that in
25 a fully synchronous rectifier, the same the four switches are all being toggled
26 in pairs, but that's after that topology has already been chosen. There's a

1 control logic because that's the other important point of limitation 1(e) is it's
2 based on input from control logic. And that is why in our construction of
3 impedance network, it requires an active element because passive elements
4 can't respond to an input from control logic. So while you might use some
5 of the same switches, there has to be a control logic that can change some
6 active element or switch that takes it from one type of rectifier to another in
7 the case of limitation 1(e).

8 JUDGE CASS: If you have a control logic that is switching the gates
9 on and on in a synchronous rectifier, or on and off, you know, that would be
10 a change of topology. Is that right?

11 MR. CARPENTER: No, Your Honor, I do not believe that's right.

12 JUDGE CASS: Why is that not right?

13 MR. CARPENTER: And an example of that is in the *Chatterjee* --
14 no, *Corbridge* reference that's discussed in connection with motion to amend
15 and Dr. Direen's explanation of that, is that that's an example of where you
16 have Op Amps and two -- connected to two transistors at least, one each of
17 each pair. And it just simply -- the Op Amp sends the voltage across each
18 leg, but there is no control logic to change from one topology to another.
19 That is a topology. And during the charging mode, there's no mention in
20 there, *Corbridge*, of changing that back to just simply say a half-
21 synchronous or a non-synchronous rectifier just using two of the diodes, for
22 example. Nothing's disclosed there of changing between those topologies
23 and the receiving power mode.

24 So I believe I've answered your question.

25 JUDGE CASS: Well, why don't you go ahead?

26 MR. CARPENTER: Okay.

1 JUDGE EASTHOM: But wait, can I ask you about that? Because in
2 *Chatterjee*, the way I understand it, it all happens during while it's charging
3 because you either have the -- as your friend explained and the way I read it,
4 the transistor, once it has enough input power to turn the transistor on, then
5 that takes over, that drops the voltage. Before that happens, it's all flowing
6 through the diodes in a non-synchronous mode.

7 MR. CARPENTER: And Your Honor, that is a big point of dispute
8 and disagreement.

9 JUDGE EASTHOM: Okay.

10 MR. CARPENTER: Dr. Direen has explained extensively in his last
11 declaration why Dr. Phinney is wrong, and I'll just dive into it here. The
12 reason they are -- it's easy to demonstrate they're wrong. The reason you
13 don't want current flowing through rectifiers is because there's a power loss.

14 JUDGE EASTHOM: Right.

15 MR. CARPENTER: So that *Chatterjee* reference and the Op Amp
16 that they say is superfluous, it is not superfluous. It's actually somewhat
17 ingenious in the way they do it. That Op Amp is sitting there fully powered
18 up, fully capable of taking -- turning the transistor on and off. And the two
19 Op Amps are sitting there looking at the wave coming in, monitoring the
20 plus and minus, if you will, monitoring the waveform, and as soon as the
21 wave, whether it's square or sinusoidal, crosses zero, that Op Amp
22 immediately kicks on.

23 And it is true, the diode is like instantaneously forward bias, but
24 there's no time for that current to go through it because that Op Amp turns
25 that transistor on immediately when the wave goes across zero. That's why
26 it's so much more efficient than a, for example, non-synchronous rectifier

1 because you don't want that current flowing through because if it worked the
2 way they said, you'd lose some small area under that waveform power, you
3 know, power. Waveform over time, you're losing a small sliver if you had
4 to wait for a -- if you had to wait for some threshold to be reached.

5 So we say there's never any current going through the diodes, that
6 part of that transistor connected to the Op Amp. There's never current flows
7 through that diode.

8 JUDGE EASTHOM: But, I mean, the reference itself says it operates
9 in synchronous and non-synchronous mode. Is that an oversimplification?
10 You're saying that's not when it's in operation. Is that what --

11 MR. CARPENTER: No, it -- what it's -- what it says is, I believe,
12 Your Honor, is --

13 JUDGE EASTHOM: Is it paragraph 86 or something?

14 MR. CARPENTER: Yeah, I'm not sure. I have *Corbridge*
15 immediately in front of me. Let me -- got it in my notes, though.

16 JUDGE EASTHOM: Anyway, I thought you said that it -- I thought
17 you earlier said that it does operate in synchronous or non-synchronous, but
18 just not while it's in charging mode. Now you're saying --

19 MR. CARPENTER: Your Honor, I'm saying that in the charging
20 mode, which is what matters for limitation 1(e), is that the reference I was
21 thinking of in *Corbridge* is Exhibit 1004, paragraph 85. This offhand
22 remark, "A half-synchronous bridge may alternatively be used." That's the
23 only reference to anything half-synchronous or a rectifier. And there's no
24 mention whatsoever in *Corbridge* of changing between the synchronous
25 bridge that is exhaustively discussed and switching to a half-synchronous.
26 So, Your Honor, no, I -

1 JUDGE AMUNDSON: This is Judge Amundson.

2 MR. CARPENTER: Yes. Yes, Your Honor.

3 JUDGE AMUNDSON: If I could -- okay. If I could just follow up
4 on that. Okay. So focusing on *Corbridge*, paragraph 85. All right. Let's
5 put the last sentence about the half-synchronous bridge may alternately be
6 used. Let's put that off to the side. But what about the disclosure a few lines
7 up where it says "using a synchronous bridge or rectifier performed by
8 diodes?"

9 MR. CARPENTER: Okay.

10 JUDGE AMUNDSON: And this is going to be a long question here.
11 And so when I read Dr. Direen's deposition testimony, and I think he was
12 talking about a figure in the '339 patent, but he explained that, initially, when
13 you turn the device on, it's got no power, and it receives power via the body
14 diodes and the body diodes function as a non-synchronous rectifier. And
15 then, after you get a sufficient level of power, you've got enough power to
16 operate the control logic to turn the transistors on and off in synchronism
17 with the incoming AC signal. Okay. That's how I understood part of Dr.
18 Direen's deposition.

19 So I don't understand why that same principle doesn't apply to
20 *Corbridge*, figure 7, where it talks about using a synchronous bridge or
21 rectifier performed by diodes.

22 MR. CARPENTER: Okay.

23 JUDGE AMUNDSON: Can you explain that?

24 MR. CARPENTER: Yes, Your Honor. And putting aside Dr.
25 Direen's testimony, I certainly am not going to contradict Dr. Direen, but I

1 think he might have been talking about the circuits of figure 6. I could be
2 wrong.

3 But nevertheless, in that sentence you're referring to where there's an
4 "or," synchronous bridge or a rectifier, if you look at the spec in its entirety,
5 it's always described as synchronous bridge. Our position is that rectifier is
6 simply a synonym for bridge. And in fact, this is the only reference to
7 rectifier. Every place else it's talking about half-synchronous, full -- right.
8 The next sentence it says half-synchronous bridge, but throughout the rest of
9 the spec, it's talking about this synchronous bridge. And so in that sentence
10 we say "or" is just a synonym. Rectifier there is used as a synonym.

11 JUDGE EASTHOM: Maybe I can simplify this. Just following up on
12 Judge Amundson's question. This is a system claim. Again, it only has to
13 be configured to do it. So regardless of what it says, if it looks just like your
14 circuit, why can't it do exactly what your circuit does?

15 MR. CARPENTER: Well, first off, Your Honor, the hypothetical is if
16 it does, and I contend it does not.

17 JUDGE EASTHOM: Well, we have a full bridge with a transistor
18 switch in series parallel with the diodes. We have the same H-bridge.
19 Right?

20 MR. CARPENTER: Your Honor is referring to figures 10?

21 JUDGE EASTHOM: I'm referring to just about half of your
22 embodiments where we talked about the H-bridge. Right?

23 MR. CARPENTER: Figure 6, for example.

24 JUDGE EASTHOM: Okay. That's a good example. Why is that
25 significantly materially different than figure 7B?

1 MR. CARPENTER: Well, 7B is an entirely different circuit. And the
2 --

3 JUDGE EASTHOM: But it has an H-bridge, right? It has the same
4 H-bridge, basically. Right?

5 MR. CARPENTER: No, I don't believe that's true, Your Honor. The
6 Op Amps significantly change the operation of the *Corbridge* circuit.

7 JUDGE EASTHOM: Other than the Op Amps, the two H-bridges are
8 significantly materially the same.

9 MR. CARPENTER: An H-bridge is an H-bridge. If it has transistors,
10 then I would say it's capable of being a synchronous H-bridge.

11 JUDGE EASTHOM: Right.

12 MR. CARPENTER: Half or full.

13 JUDGE EASTHOM: And that's kind of what I'm saying. The claim
14 calls for it to be configured to do these things.

15 MR. CARPENTER: It's configured to -- it's -- we say the claim 1(e) -
16 - limitation 1(e) requires it to be able to change while in the receiving power
17 mode from one type to another type.

18 JUDGE EASTHOM: Okay. I'm not going to kick a dead horse here,
19 but it seems like you're familiar with the *Schreiber* case, right? The case
20 with the funnel. And they never disclose that—it was a claim drawn to
21 popcorn—dispensing popcorn through the funnel.

22 MR. CARPENTER: I'm sorry, Your Honor.

23 JUDGE EASTHOM: And the court said a funnel, a car funnel will do
24 the same thing because it has the same structure. And this looks like it has
25 the same structure as your H-bridge to me.

1 MR. CARPENTER: Well, fundamentally, all H-bridges are the same,
2 fundamentally. And it's -- what's different about ours is we have the control
3 logic first -- in the second circuitry that can send a signal into the first
4 circuitry and cause the bridge to change its behavior from one type of
5 rectifier to another.

6 JUDGE EASTHOM: Okay. Okay. I understand that. I appreciate
7 that.

8 MR. CARPENTER: Thank you. I'm about to run out of time, so if I
9 may, let me peruse my notes. We've touched on a lot of it.

10 So the only other part of the spec I was going to refer to that supports
11 our interpretation was merely the paragraph describing figure 2B, but I don't
12 need to review that. We've kind of touched on it, but those five things we
13 say are our best support. Not to the detriment of all the other support we've
14 cited, but the best support for our interpretation 1(e) is the structure of the
15 claim itself, the structure of 1(e), figure 2B, and that example we reviewed at
16 the '929, 360, 2 through 4, line 3, and then the description of 2B.

17 So then I would like to move on to perhaps our next point. I'll just
18 briefly touch on the construction of impedance network. But again, we don't
19 have to get to impedance network if the Board rules we're right on 1(e) given
20 their admission. But nevertheless, we'll look at the construction of
21 impedance network.

22 For the first time standing here, my colleague finally provided, it
23 seems, some construction. But their position all along has been no
24 construction is required. All they've done is take snipes at ours. And they
25 had a duty, we say, to do it in the petition. They didn't. And then even in
26 their response, they never countered with this alternative construction. But

1 our expert and we agree that, you know, the ambiguity they raised during
2 Dr. Direen's deposition was valid. It's like we never intended to exclude an
3 active component or a switch because a person skilled in the art is not going
4 to pick an inoperable embodiment. We assume they knew what they were
5 doing and they'd choose a switch.

6 But nevertheless, our current construction is what's shown in the
7 surreply brief, page 25, collection of two or more components, one of which
8 must be passive and one of which must be either active component or
9 switch. And Dr. Direen was very consistent in his testimony on that.

10 So I think we're about to run out of time. But if we went to the slide
11 showing the relevant paragraph, which is 1001 -- well, it appears the same in
12 '312.

13 JUDGE EASTHOM: You still have 10 minutes rebuttal. I don't
14 know if you -- on top of this time here.

15 MR. CARPENTER: Oh, on top of that time.

16 JUDGE EASTHOM: Sorry. I'm sorry if you misunderstood.

17 MR. CARPENTER: Okay, thank you.

18 JUDGE EASTHOM: Just want to make clear.

19 MR. CARPENTER: Appreciate it. Okay. I'll slow it down a little.
20 Okay. Let's pull up the slide 15. I'll refer you to slide 15.

21 JUDGE EASTHOM: And this is very helpful from both of you, so.

22 MR. CARPENTER: Yeah.

23 JUDGE EASTHOM: Take your time.

24 MR. CARPENTER: This is showing -- this slide 15 is showing
25 column 6, line 64, through column 7, line 7, in the '929; exact same
26 paragraph as in the '339; exact same paragraph in the '312.

1 So I circled, on my slide, I circled this semicolon. It's this semicolon
2 that makes this sentence less than perfectly clear. We interpret it to mean
3 that one or more only refers to the passive elements coming before that
4 semicolon. And I'd note that there's a comma between the active
5 components and the examples given and electronic switches. So that's what
6 we build on and why we say, you know, yes, this second -- this construction
7 stated in our reply brief reflects that because it's two or more electrical
8 components, one of which spinning off of one or more must be passive, and
9 one of which must be either active -- an active component or a switch. So
10 that's the support right there for our construction of impedance network.

11 Combined with the claim language, it says in response to control
12 logic. Any expert would know that you have to have an active component or
13 switch that can respond, that's capable of responding to an input from
14 control logic.

15 And then my colleague --

16 JUDGE EASTHOM: But a diode doesn't have control logic. Well.

17 MR. CARPENTER: Yeah, correct. That's why without more --
18 without an active component in there, if you set up an H-bridge made only
19 of diodes, it's going to stay that way.

20 JUDGE EASTHOM: Yeah, but you list that after as an active
21 electronic component. I was just trying to figure out what your logic was,
22 but.

23 MR. CARPENTER: Well, it's in conjunction with the transistor. I
24 think what that's referring to is the body diode in a transistor. Transistors are
25 frequently -- can be used as diodes.

26 JUDGE EASTHOM: Okay.

1 MR. CARPENTER: So then setting aside this construction, I submit
2 to you that this whole made-up controversy of one or more, A or B, is
3 irrelevant because claim 3 read as Samsung reads it, is entirely consistent
4 with our construction of impedance network. That is, claim 3 read either/or
5 or put an and in there as we initially advocated. It doesn't matter. Claim 3
6 can be read coherently with the Patent Owner's construction because it's just
7 simply a further restriction on the elements that can have values because the
8 word "value" is what appears there in claim 3. And we did make this
9 argument in our briefing.

10 So again, another issue that really doesn't have to be cited. It's
11 coherent. But what's most important is to construe claim 1 using the '929 or
12 '312. We don't -- can't use the new matter. It's in the figures 10 and related
13 spec.

14 JUDGE AMUNDSON: This is Judge Amundson. On that point
15 about using the new matter in the '339 patent, I'm looking at -- this is page
16 25 in the response. Do you have that?

17 MR. CARPENTER: Is that Paper 10?

18 JUDGE AMUNDSON: Paper 10, correct?

19 MR. CARPENTER: Yes, Your Honor.

20 JUDGE AMUNDSON: All right. In the first full paragraph you have
21 a quotation from the *iLife Technologies* case that reads, "Disclosures
22 constituting new matter should not be used to construe claim terms
23 appearing in the parent application even if the claim terms are common."
24 And so the way I understand that case is what they're saying there is we can't
25 use new matter in the '339 patent to construe claim terms in the '929 patent.
26 That's the way I read that proposition. Do I have that wrong?

1 MR. CARPENTER: May I ask you to repeat that, please?

2 JUDGE EASTHOM: He's basically saying you can't reinvent the
3 wheel. You can't re-define the term. Right?

4 MR. CARPENTER: Okay.

5 JUDGE AMUNDSON: Of the earlier patent. Of the earlier patent.
6 But you --

7 MR. CARPENTER: Right.

8 JUDGE AMUNDSON: It doesn't seem to me that the *iLife Tech* case
9 says you can't use new matter to construe claims in the patent with the new
10 matter. That's what I'm trying to --

11 MR. CARPENTER: Yes. And I -- that *iLife* case is cited after I
12 discussed that *TurboCare* case. In the *TurboCare* case, they -- during
13 prosecution of a single application they added some new matter and they
14 also amended the dependent claim, and the issue went up on appeal whether
15 there was support, 112 support, for the dependent claim. And the court
16 upheld -- Federal Circuit upheld summary judgment that, no, there wasn't
17 support, but remanded the independent claim for further proceedings
18 because it's quite possible the claim 1 didn't -- the independent claim didn't
19 need the new matter, but they were relying on new matter for the support of
20 claim, the dependent claim.

21 Just like here, I say the dependent claim 3, read as Samsung reads it,
22 is directed at the new matter. So it's quite possible it doesn't have written
23 support, but that doesn't affect claim 1 because claim 1 is very well
24 supported by the '929 and the '312.

25 JUDGE AMUNDSON: All right. This is Judge Amundson again. I
26 understand your point, but my understanding of the *TurboCare* case is that it

1 did not involve a continuation in part application and instead involved an
2 amendment to the specification and a concomitant amendment to a claim,
3 dependent claim 2, I think. So it doesn't -- to me it doesn't really seem to
4 support your point. Can you comment on that?

5 MR. CARPENTER: Yes, Your Honor. Thank you for allowing me
6 to clarify.

7 I do note that and agree with the distinction that, like I said, that
8 involved an amendment new matter added during prosecution of an
9 application. But my point is it doesn't matter whether the new matter was
10 added during prosecution or filed in a continuation or a CIP in this case. A
11 CIP is what the '339 is and there's a lot of new matter. So I do believe
12 *TurboCare* supports the proposition.

13 It's also a natural. It's not just *TurboCare* and *iLife*. It's also so the
14 rule that this Court noted, which is, or the Board noted, that every claim
15 priority is determined claim by claim and also requires written description.
16 You have claim by claim.

17 So then you have *Phillips* saying every claim should be construed
18 according to its effective -- earliest effective filing date. So that's either the
19 '312 or '310 for this limitation 1(e) we're discussing because I note, claim 1
20 of the '929 patent has basically the same limitation. If you look at the '929,
21 column 15, line 65, this is in our response, but it says, "Said first circuitry
22 based on input from said control logic configured to change impedance of
23 said impedance network and topology of said switch network to obtain a
24 modified form of said received power implies said modified form of said
25 received power to said load device." So same limitation. Therefore, to
26 understand what it means, we should only use the '929 or '312.

1 JUDGE EASTHOM: Okay. I'm going to ask you are you -- you're
2 into your rebuttal, but I guess you knew that. You'll have eight minutes or --

3 MR. CARPENTER: I'll use up the next three and reserve five so, may
4 I pass?

5 JUDGE EASTHOM: Go ahead. Sure. Oh, no. Just think about this.
6 But I don't understand how you have written description support for
7 switches. You know, your specs electronic switches. That leads me to
8 believe that now you're covering manual switches. So you can answer that
9 when you come back if you want, or think about it.

10 MR. CARPENTER: I've thought about it.

11 JUDGE EASTHOM: Okay.

12 MR. CARPENTER: I submit to you that because there's a comma
13 there, I'm not so sure that they actually intended to separate it out. But what
14 comes to mind there is, you know, there's many types of switches, and you
15 can develop a solid state switch that resembles a relay that doesn't use and
16 can't be said to be a transistor itself. And obviously, transistors are often
17 called switches.

18 JUDGE EASTHOM: But your claims, now that you've amended
19 them, they cover manual switches.

20 MR. CARPENTER: Your Honor, I guess I'm not understanding that.
21 Are you talking about claim 21?

22 JUDGE EASTHOM: Yes, claim 21(b). It says, "one of which must
23 either be an active component or a switch." So now instead of a transistor,
24 you can use a manual switch.

25 MR. CARPENTER: Well, it has to be responsive to said control
26 logic, though, or an input from control.

1 JUDGE EASTHOM: I'll think about that. Thank you.

2 MR. CARPENTER: Okay, thanks. Looks like I'm about out of time,
3 so --

4 JUDGE EASTHOM: That's why I didn't want to --

5 MR. CARPENTER: -- rest on the paper.

6 JUDGE EASTHOM: Let's say you have seven minutes left.

7 MR. CARPENTER: Thank you, Your Honor.

8 JUDGE EASTHOM: Whenever you're ready, Mr. Ward.

9 MR. WARD: Thank you.

10 JUDGE EASTHOM: Let me reset this clock.

11 MR. WARD: Thank you, Judge Easthom. Your Honors, we heard
12 from Patent Owner that there's an alleged admission by the Petitioner that
13 decides this entire case. But that admission is not present because it is
14 founded upon something that is not commensurate with the scope of the
15 claims, Your Honor.

16 Patent Owner argues that we admit that the cited prior art in the
17 petition doesn't teach changing impedance while configured to receive
18 power. But the claim doesn't require changing impedance while configured
19 to receive power. We looked at that in my opening remarks, Your Honor,
20 and from what I hear from the Patent Owner, they cite to claim 1(d), which
21 says said first circuitry configured to receive said power from a wireless
22 power transmitter is somehow dictating the state of the wireless power
23 receiver. But if that is the case, why isn't there another recitation in claim 1
24 about the first circuitry being configured to transmit power, which is, of
25 course, also recited in claim 1? It's in claim 1(f).

1 The impedance network, as Your Honors correctly found in the
2 Institution Decision, and I'm looking at Petitioner's slide 6, Your Honors
3 determined that limitation 1(e) does not require the ability to change the
4 impedance of the impedance network during the receiving power mode,
5 charging mode. That is the correct determination. There's no reason to
6 disturb that determination. Therefore, Patent Owner's allegations about an
7 admission by the Petitioner here are not of merit.

8 Judge Cass, you asked a question of the Patent Owner about why
9 cycling is not a change of topology. And as best I understood Mr.
10 Carpenter's answer, he argues that the reference *Corbridge* fails to disclose
11 control logic to indicate the change of one topology to another. But it's
12 interesting, Your Honors, because if you take a look at the cited figures from
13 the '339 patent, let's take a look at the '339 patent, figure 6 that was cited by
14 Patent Owner during his opening statements there. And Judge Easthom, I
15 think you correctly identified that this is very similar to what's disclosed in
16 the *Corbridge* reference. Figure 6B, there's no control logic shown in that
17 figure either. So essentially what they're saying is that, you know, this
18 teaching that they don't provide is somehow lacking in the prior reference.
19 The *Corbridge* reference does expressly teach the idea of transitioning
20 between non-synchronous rectification and synchronous rectification.

21 And our expert, Dr. Phinney talks about this. And Judge Amundson,
22 you had commented about Dr. Direen's disclosure of this, the ability to have
23 synchronous rectification occurring in a high power state and non-
24 synchronous rectification occurring for a low power state. We think that is
25 an accurate characterization by Dr. Direen, but we also would suggest
26 review of Dr. Phinney's testimony on this, which is at paragraph 85 of his

1 supplemental declaration. That's Exhibit 1021. And what Dr. Phinney does
2 is he talks about how this was well known to those of skill in the art. He
3 provides a few additional teaching references, data sheets from products that
4 were available at or before the time of the invention that talks about these
5 benefits of having non-synchronous rectification in a low power mode and
6 synchronous rectification in a high power mode. That's exactly what
7 *Corbridge* teaches. It talks about elimination of the voltage drop associated
8 with the diode and, therefore, the benefits associated with having the ability
9 to switch between low power non-synchronous rectification and
10 synchronous rectification when a certain power level is achieved.

11 There was mention of the *TurboCare* case and Judge Amundson, I
12 agree with you based upon my reading of that case, I don't think it's
13 applicable here. I certainly don't think that it supports the Patent Owner's
14 position. My reading of that case is that the Court found that a claim -- the
15 claim cannot have an alternative filing date because it wasn't in a CIP
16 application. I understand that to be different than what the Patent Owner is
17 alleging here. They're telling us that what's in the CIP application shouldn't
18 be used to construe their claims.

19 And so we land back at this point that we covered earlier as to what
20 extent do they have support in their priority document, which is the
21 provisional application. And I took a quick look and I want to just identify
22 this for Your Honors. The reg for motions to amend, I'm looking at rule --
23 the Board's Rule 121, and the description of the burdens associated in a
24 motion to amend. It's section D that talks about the burden of persuasion.
25 And D(1) gives Patent Owner's burden. It says, "A Patent Owner bears the
26 burden of persuasion to show by preponderance of the evidence that the

1 motion to amend complies with the requirements of paragraphs 1 and 3 of
2 316(d) as well as paragraphs (a)(2) and (3) and (b)(1) and (2) of this
3 section."

4 So if you look back up at what's what is set forth in Rule 121(b) it's
5 content, and it says, "A motion to amend claims must include a claim listing,
6 which claim listing may be contained in the appendix to the motion, show
7 the changes clearly, and the motion must set forth, number one, support in
8 the original disclosure of the patent for each proposed substitute claim; and
9 number two, support in an earlier filed disclosure for each claim for which
10 the benefit of the filing date of the earlier filed disclosure is sought." And
11 that is the '312 provisional application, Your Honors. That is the document
12 upon which Patent Owner is relying for priority and they have a burden to
13 show Your Honors that these proposed amendments, this very narrow
14 construction of the change of topology of the switch network, is somehow
15 supported by their disclosure in the provisional application.

16 Patent Owner's slide --

17 JUDGE AMUNDSON: This is Judge Amundson.

18 MR. WARD: Yes.

19 JUDGE AMUNDSON: I'm struggling with that a little bit and this is
20 my issue. So with regard to Rule 121(b)(1) and (b)(2), (b)(1) regarding
21 support in the patent and (b)(2) regarding support in the -- in an earlier filed
22 disclosure. So if Patent Owner does not satisfy (b)(2), but does satisfy
23 (b)(1), it seems to me that the remedy for that is not that the motion is
24 denied. It's just that the prior art is even earlier or its earlier prior art. It
25 doesn't really change things, but maybe I'm misanalyzing that.

1 MR. WARD: Well, I think you're possibly right there, Judge
2 Amundson, that -- and this goes back to what I talked about earlier. If that is
3 correct, if they don't -- if they aren't entitled to their provisional date, then
4 we have an entire year of additional prior art that could be at issue here and
5 could further illustrate the obviousness of the claims. But the analysis
6 definitely changes. And the analysis that's put in front of Your Honors at
7 this point is whether or not the claims are obvious in view of prior art filed
8 prior to August 13th of 2012. That's the date of the provisional application.
9 So if they don't have support for that date, we've got a brand new analysis.
10 And that analysis has to take into account any intervening prior art.

11 JUDGE AMUNDSON: All right, thank you.

12 MR. WARD: So I just wanted to conclude with a summary, a quick
13 summary, for Your Honors of the difference between our ground 1 and
14 ground 2 and the opposition to the revised motion to amend. As I mentioned
15 previously, ground 2 assumes that Patent Owner's construction is correct and
16 that you have to, while receiving power, change the type of rectifier, i.e.,
17 from non-synchronous to synchronous. But our ground 1 doesn't assume
18 that incorrect claim construction. It assumes the claim construction that
19 Your Honors applied in the preliminary guidance, which we think is
20 accurate. And under that claim construction, the ground that we proposed is
21 *Chatterjee* in view of *Corbridge* and *Cook*. And we specifically cite to the
22 *Cook* reference for its teachings, and I'm at slide 27 of Petitioner's
23 demonstratives.

24 We cite to *Cook* for its teachings with respect to a capacitor bank
25 that's in series or parallel with an arrangement of RF switches that may be
26 opened or closed to adjust the effective capacitance. And we argue that it

1 would have been obvious to a person with skill in the art to incorporate these
2 teachings from *Cook* about modifying the impedance, of modifying the
3 capacitor bank while receiving power would have been obvious to
4 incorporate that into *Chatterjee*. So that is the difference between
5 Petitioner's opposition to the revised motion to amend ground 1 and the
6 opposition to the revised motion to amend ground 2.

7 And with that, I'll conclude my arguments unless Your Honors have
8 any other questions.

9 JUDGE EASTHOM: I don't see any other questions. Thank you, Mr.
10 Ward.

11 MR. WARD: Thank you.

12 MR. CARPENTER: Your Honors, I'll --

13 JUDGE EASTHOM: Let me pause. Give me one second, please,
14 Counsel.

15 MR. CARPENTER: Yes.

16 JUDGE EASTHOM: Okay. Mr. Carpenter.

17 MR. CARPENTER: Yes, Your Honor. It's just I'll be brief. I think I
18 have a few minutes.

19 First off, my distinguished counsel, opposing counsel's remarks on
20 *TurboCare* are a little late in coming. I'll note that they did not rebut
21 *TurboCare* in their responsive briefing and this is the first I've heard of any
22 distinction they've raised. But nevertheless, I stand on *TurboCare* and *iLife*
23 and *Phillips* and the Board's comment that, yeah, every claim has its own
24 priority date.

25 The whole '312 thing, I believe you're absolutely right, Judge
26 Amundson. I have -- cannot -- that is not the law, as they urge. In almost

1 every case I've ever litigated, you argue over different priority dates and the
2 Patent Owner is entitled to argue in the alternative. So in our very first --
3 some of our earlier briefing, we relied on '312. By the time we got down to
4 the revised motion to amend and even in the surreply in connection with the
5 petition, we had pled in the alternative, the '312 or the '310, that is the '929
6 patent. So I will just say, just so we're not left with the impression that the
7 Patent Owner did not cite support for claim 21 in the '310, we didn't rely
8 solely on the '312. We relied on the '310. So page 6 of Paper 17, we recite
9 this paragraph we were discussing earlier about the two types of rectifiers.

10 And then flipping over to the chart, I'll also note that we cited that
11 same paragraph in our chart for 21.11, as it's designated on page 16 of Paper
12 17. Of course, if the Board were to grant claim 21, I think the whole petition
13 should be denied, but assuming we come out with claim 21, yes, sure, we'll
14 have to live with what we argued is its supporting priority date of the
15 support, which if it turns on this paragraph in the '929 that we admit is
16 missing in the '312, so be it. But that's not an issue here.

17 And so to conclude, we've -- you know, as skilled counsel will do, I
18 think we've reduced this dispute down to some very basic claim construction
19 issues. I think if limitation 1(e) means what we say it does, you can deny the
20 petition. I don't care about the motion to amend. Nevertheless, even the
21 motion to amend similarly turns on whether this Board believes there's
22 support for that phrase "while in the receiving power mode." If it does, we
23 say that distinguishes the references.

24 And so we'll stand on that and we look -- if nothing else, I look
25 forward to the Board's decision.

26 JUDGE EASTHOM: Any questions from my colleagues?

1 JUDGE CASS: None from me.

2 JUDGE EASTHOM: Well, great. I just want to say on behalf of the
3 Panel here, we appreciate both sides very well prepared, and we appreciate
4 that. You help us sort this out. Have a great rest of the week and weekend.
5 And we're adjourned.

6 (Whereupon, the proceedings at 3:00 p.m. were concluded.)

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