

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KANGXI COMMUNICATION TECHNOLOGIES
(SHANGHAI) CO., LTD.,
Petitioner,

v.

SKYWORKS SOLUTIONS, INC.,
Patent Owner.

IPR2024-01456 (Patent 9,450,579 B2)
IPR2024-01457 (Patent 9,148,194 B2)

Record of Oral Hearing
Held: March 6, 2026

Before JON M. JURGOVAN, AMBER L. HAGY, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

IPR2024-01456, Patent 9,450,579 B2
IPR2024-01457, Patent 9,148,194 B2

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The above-entitled matter came on for hearing on March 6, 2026,
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P R O C E E D I N G S

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JUDGE BELISLE: Good morning and welcome to the Patent Trial and Appeal Board. This is the consolidated oral hearing in IPR2024-01456, involving U.S. Patent Number 9,450,579 B2 and IPR2024-01457, involving U.S. Patent Number 9,148,194 B2. The Court Reporter will prepare the official transcript for this consolidating hearing. It will be a single transcript.

Petitioner is Kangxi Communication Technologies (Shanghai) Co., Ltd. And for our Court Reporter's purposes, if there's any questions on how that's all spelled, we can take care of that at the end.

Patent Owner is Skyworks Solutions, Inc.

I am Judge Belisle and I am joined by Judge Hagy and Judge Jurgovan. As you can tell, Judges Hagy and Jurgovan are appearing remotely by video from their locations. We'll deal with appearances now. Counsel for Petitioner?

MR. TYSON: Good morning, Your Honors. Chris Tyson for the Petitioner from Duane Morris. With me is Patrick McPherson from Duane Morris. I'm lead counsel for the IPRs and Mr. McPherson is appointed back-up counsel for the IPRs. Good morning.

JUDGE BELISLE: Thank you. Patent Owner?

MR. PERRY: And for Patent Owner, Danny Perry with WilmerHale for Skyworks Solutions. With me is lead counsel, Haixia Lin, also with WilmerHale. I am participating in this oral argument under the LEAP program and so, Ms. Lin may also join in some of the oral argument.

1 JUDGE BELISLE: And that is fine. Thank you. We'll begin with
2 some general guidance. For those that have been here before, it'll sound like
3 a broken record. We have the entire record available to us, including the
4 party's demonstratives. When referring to demonstratives, papers, or
5 exhibits, please do so clearly and explicitly by the slide or page number.
6 Please pause a few seconds after identifying that page that you want us to go
7 to so we have time to find it. The records are voluminous and it just takes a
8 few seconds to get it up on our screens. Please do not interrupt the other
9 party while that party is presenting its arguments. If you have an objection,
10 just raise it during your argument.

11 Pursuant to our hearing order, each party has 60 minutes to present
12 its argument. In addition, one of Patent Owner's Counsel is participating in
13 this hearing as a LEAP practitioner, and so we've granted Patent Owner an
14 additional 15 minutes of argument time for a total of 75 minutes. Each party
15 may reserve time solely to rebut the opposing party's arguments. You may
16 not use rebuttal to address an issue for the first time during the hearing.
17 Petitioner will proceed first because it bears the burden of proving
18 unpatentability. Petitioner, how much time, if any, do you wish to reserve
19 for rebuttal?

20 MR. TYSON: Your Honor, 10 minutes.

21 JUDGE BELISLE: And you may begin. You can just let me
22 know when you're ready and I'll start the clock. All set?

23 MR. TYSON: Your Honors that are remote, can you see the
24 demonstratives, as well? Okay, thank you. I'm ready, Your Honor. May it
25 please the Board. Good morning. The purpose of this hearing is one, to
26 direct the Board to exemplary evidence of record that supports some

1 dispositive facts in the petition, but first and foremost, it is to answer any
2 questions that you may have. So, I have a set of slides and demonstratives
3 that I'll go through, but if you have any questions, please interrupt me, make
4 me move around. I'm happy to do that.

5 On Slide 2, as Your Honors are aware of, Petitioner is challenging
6 11 claims of the '194 patent and nine of the 18 claims of the '579 patent,
7 based on the same two grounds, and the same two pieces of prior art.
8 Looking at Slide 3, Slide 3 is just a tool. It shows that there are four claims
9 from the '194 patent and three claims from the '579 patent, with disputed
10 limitations, and the two disputed limitations, the parties essentially treat
11 them as the same, despite one being in a method and the other being in the
12 system or an apparatus claim. For the remaining claims of the '194 patent
13 and '579 patent, the Patent Owner does not dispute the patentability of those
14 claims over either ground.

15 Moving to Slide 4, in the slides -- both in the citations and in the
16 presentation -- most of them refer to the '579 patent specification or the '579
17 patent papers that were filed. There's a large overlap, so unless I say
18 otherwise, assume that that's referring to the '579 patent.

19 We'll start here with the patents. Figure 9 is an embodiment that's
20 on Slide 5, the '194 patent, Claim 2, and the '579 patent, Claim 7, read onto
21 that figure. The annotated Figure 9 in this slide comes from the Patent
22 Owner's response. And one of the reasons that Petitioner included -- I think
23 Judge Belisle, you said a voluminous record, but a really detailed state of the
24 art section was because it's a road map tool for the Board to understand how
25 a POSITA would interpret the patents first and foremost, because many of
26 the details are not expressly mentioned in the patents, but they're disclosed

1 in the patents because a person of ordinary skill in the art would interpret
2 them to be disclosed.

3 So, when we're talking about Figure 9, we see this as a single pole,
4 dual throw switch, which the patent and, as is well-known in the art,
5 abbreviates that as SPDT. The single pole is the antenna, which we
6 highlighted in green at the top, in the center of Figure 9; the transmit throw
7 is to the right side of the figure; and the received throw -- received side
8 throw is on the left side of Figure 9. Each throw includes what's called a
9 series arm, so if you start at, let's say the transmit or receive node, the series
10 arm is the electrical path between that transmitter receive node on the right
11 or left, and the path all the way to the antenna, so that's called the series arm.

12 Each throw also includes a shunt arm, and a shunt arm starts on
13 either side at the series path, and then as the electrical path, it moves toward
14 electrical ground. The single antenna here must be able to both transmit and
15 receive RF signals, but not at the same time. Accordingly, the RF switch is
16 operated so that at any given moment in time, the antenna is either in a
17 listening mode, whereby the receive side would be activated, or in a transmit
18 mode whereby the transmit side would be activated and the receive side
19 would be off, for the series path concerns.

20 One point is that all of the components in the illustrated and
21 described positions, including as described in the patent in Figure 9, are
22 well-known and widely used components in our switches, and each
23 component in this figure is being used for its intended and well-known
24 purpose. So, if we start -- it's positioned in the two series paths -- if we're
25 talking about capacitors C1 and C2 -- due to their fundamental
26 characteristics as a capacitor, capacitors C1 and C2 block DC biasing

1 signals.

2 So, those DC biasing signals are used to turn on and turn off the
3 switches that are annotated in blue here, those switch circuits, and they block
4 those DC biasing signals from passing towards the antenna or passing
5 towards the other series zone -- the receive side series zone. Which if they
6 didn't block that DC signal, it would -- could potentially turn a switch that
7 you wanted off, turn it on, because they have different biasing voltages.

8 Additionally, those same two capacitors, as positioned in those
9 series paths -- again, due to their fundamental characteristics as a capacitor
10 -- regardless of what else is happening on the switch, regardless of whether
11 the switches are biased, on or off, which ones are -- capacitors C1 and C2
12 present a very low impedance to high frequency signals, so that signals
13 transmit out of the transmit node from, let's say, an upstream power
14 amplifier and transmit up would be transmitted out of the antenna, or that a
15 signal received at the antenna would be passed to the receive node with very
16 low impedance provided by the capacitor to the receive node in, let's say, a
17 downstream node of this amplifier. That's not depicted here.

18 And then, again, because capacitors C1 and C2, due to their
19 fundamental characteristics as capacitors, present a very high impedance to
20 any low frequency signals that are traveling into the series path. For
21 example, traveling into the path from the antenna and moving towards the
22 series zones.

23 The same goes for the shunt arms. As positioned in the shunt
24 arms, capacitors C3 and C4, which you see at the top of both shunt arms,
25 they block DC biasing signals. Those DC biasing signals would be used to
26 turn the series path switch circuits on, or the shunt path switch circuits on or

1 off. And again, the DC -- the function -- the purpose -- the DC blocking
2 purpose of those capacitors is to prevent, for example, the DC from the shunt
3 arm leaking into the series path, and because those are alternately turned on
4 and off. When the series path switch circuit is turned on, its shunt path
5 circuit is turned off.

6 Additionally, just as positioned and due to their fundamental
7 characteristics as capacitors, regardless of what else is happening in the
8 circuit, capacitors C3 and C4 present a very low impedance to high
9 frequency signals, so that in this case, with the shunt arms, the purpose is
10 that you pass those high frequency signals from the transmit or receive node
11 into the shunt, into the electrical path, if the switch was off, so that there's no
12 leakage. It helps with isolation, it's called. And at the same time, due to
13 their fundamental characteristics as a capacitor, they present very high
14 impedance to any low frequency signals that are traveling towards the series
15 path and from the shunt path.

16 Let's talk a little bit about capacitors. The other thing -- capacitors
17 are passive components. The only thing that they can do is pass a signal or
18 (INDISCERNIBLE). They don't require power to operate, unlike the switch
19 circuits, and that their intended operation of use is blocking DC signals,
20 presenting low impedance to high frequency signals, and high impedance to
21 low frequency signals. That doesn't change regardless of whether the active
22 components in the switch, like the switch circuits, are turned on or turned
23 off.

24 Distinct from that are the switch circuits, which we annotated in
25 purple. Well, Patent Owner actually annotated in purple and blue here, and
26 that the operating state of those active switch circuits could be changed. So,

1 each switch circuit can be turned on. The circuits closed mean it has a
2 complete electrical path, by applying one biasing voltage to the switch
3 circuit, and then it would be switched off, the circuit is opened by applying a
4 different biasing voltage to the switch circuit.

5 So, Figure 10, which is on the next Slide 6, is an example of the
6 circuit switch operation for the RF switch shown in Figure 9. Figure 10
7 -- also, '579 patent -- Claim 7 reads onto this figure. '194 patent, Claim 2
8 does not. Only in the sense that this Figure 10 does not have a second chunk
9 on the received side. But the capacitors in the switch circuits, shown and
10 described in Figure 10 of the patent, operate the same, as we just described
11 for figure -- and like Figure 9, all of those components are being used for
12 their intended and well-known purpose, which I just discussed with respect
13 to Figure 9. And the patents make that clear, in stating that the Figure 9 and
14 10 component configuration is -- as you see in the bottom quote
15 -- "relatively simpler and easier to implement." So, that's there, and also, by
16 not disclosing any values at all for any of these components.

17 On Slide 7, we're highlighting in green the disputed limitations for
18 dispute 1. In '194, Claim 2 and in '579, Claim 7, Patent Owner does not
19 dispute that all of the unhighlighted elements, limitations, are disclosed by
20 Huang -- both, Huang and Seshimo.

21 Slide 8, we're showing here -- this is Figure 9. This is the
22 Petitioner's annotations. The coloring is very similar. We're grateful to
23 Patent Owner's counsel for that. And what Petitioner's annotations in the
24 petition did was they show the claim terms and how the '194 patent, Claim 2
25 and the '579 patent, Claim 7 read onto this switch -- this Figure 9, single
26 pole, dual throw switch. And as I discussed earlier, all of the components

1 annotated and labeled here by Petitioner are well-known, widely used
2 components in our switches, and each one of those components is being used
3 for its intended and well-known purpose, as I discussed earlier.

4 If we go to Slide 9, this is the picture of Figure 2 in Huang and the
5 components in Huang's Figure 2 SPDT switch -- it's also a single pole, dual
6 throw switch -- if you rotate Huang's figure 90 degrees clockwise, it will be
7 in the same orientation as the Figure 9 SPDT switch, and all the components
8 in Huang operate identically, as the identically arranged components in the
9 patent's Figure 9 switch. Thus, Petitioner color coded and labeled them the
10 same. We know that the switch components in Huang and the patents
11 operate identically because there's no capacitor values mentioned in either of
12 the patents or in Huang.

13 And therefore, these capacitors are all being used for their intended
14 and well-known purpose, which I discussed earlier. And when you have
15 identical components arranged in an electrical circuit in an identical way,
16 those components operate the same way. Slide 10 shows --

17 JUDGE BELISLE: Counsel, this is Judge Belisle. So, on that
18 prior slide, Slide 9, the antenna node -- I mean, is it correct that the antenna
19 is receiving signals and transmitting signals, correct?

20 MR. TYSON: Correct. Yes, sir.

21 JUDGE BELISLE: So, isn't it also correct that signals would
22 necessarily have to be going through those capacitors?

23 MR. TYSON: Yes, your Honor. When -- if the switch -- so, if it
24 was doing nothing and it was just sitting there, yes, signals would be going
25 through that switch, going through the antenna, because the patents assume
26 and Huang assumes, based on it being for wireless LAN radio, Seshimo

1 assumes, based on it being for this type of cellular phone, that you're going
2 to have other signals coming out there, and the antenna is dumb. It's not
3 picking up one signal, so that's understood by all RF designers, and so the
4 antenna will be constantly picking up signals. So, most of those in the sense
5 would be not signals that you want to receive. Does that answer your
6 question?

7 JUDGE BELISLE: Yes.

8 MR. TYSON: With Slide 10, again, this is Seshimo's Figure 3.
9 Again, the components in Seshimo's Figure 3 switch also operate identically
10 as those identically arranged components in the patent's Figure 9 switch,
11 including, again, there's no capacitor values mentioned in the patents or in
12 Seshimo. So, the capacitors are being used for the intended and well-known
13 purpose. And that's why we color-coded and labeled, you know, the
14 petitions, the identically arranged components for Seshimo Figure 3, with
15 the patent's Figure 9.

16 With that background, I'll just move on to dispute 1, which is the
17 configured to inhibit -- inhibiting limitation. On Slide 12, the center of Slide
18 12, under the heading, the patents do not include implementation details, you
19 have to understand these four bullet points to understand how the patents
20 work. And because the details of these four bullet points are not expressly
21 mentioned in the patent -- I just talked about that -- Petitioner's expert
22 included a state of the art section to explain, how do these patents work and
23 how would a skilled person understand their disclosure. And that's -- and
24 what Petitioner attempted to do with this voluminous evidence -- and I agree
25 it is voluminous -- is not -- we're not saying, here's one -- a paper that talks
26 about this.

1 We're saying, these concepts are very, very, very well-known, and
2 what we try to do is identify textbooks, lots of very authoritative evidence,
3 as well as the Patent Owner's evidence -- the Patent Owner's prior art
4 evidence -- because we don't want to get into an authenticating fight. But
5 the point is, we included a lot of evidence for the point of establishing that
6 these concepts are very well-known. And again, on the last bullet, but
7 because these four bullet points are so well-known, as we show in the state
8 of the art section -- at column 9, line 64 to 103, we showed that quote earlier
9 -- the patents expressly state that these Figure 9 to 10 component
10 configurations are relatively simpler and easier to implement.

11 And a point being the skilled person, the POSITA -- a person of
12 skill in the art -- knowledge regarding these four bullet points would be the
13 same when it reads the patents, when it reads Huang, when it reads Seshimo.
14 And what we do in the next slides, set of slides -- 13 to 21 -- we highlight
15 each of these four bullet points and we're going to identify an example.
16 Maybe two examples. Maybe a couple examples of the unrebutted evidence.
17 The evidence in the state of the art section is unrebutted, but it shows the
18 details of these four bullet points was well-known to a skilled person.

19 So, we start on Slide 13. This is related to the second and third
20 bullet points on Slide 12. This is one example of the factual evidence
21 included in the state of the art section, and it supports the Petitioner's
22 unrebutted expert testimony that out-of-band interference was a well-known
23 problem for RF switches used in the exact same wireless devices of Huang
24 and Seshimo -- wireless LAN radios, cellular phones. And this evidence
25 -- in particular, just a point from Exhibit 1040, it's not some obscure paper.
26 The Patent Owner's own white paper in 2011 cites to this, relies on it,

1 reproduces several of these figures, and the Patent Owner also included the
2 identical examples that are in Figure 4 in its own white paper in -- its own
3 2010 paper, which is Exhibit 1036.

4 So, the state of the art expert testimony that we just showed and all
5 of the plethora of underlying evidence that was supporting it is not only
6 un rebutted, but during cross-examination, as shown on this Slide 14, the
7 Patent Owner's expert confirmed that this testimony and evidence is not
8 disputed.

9 And Your Honor, I'm going to switch -- if you're done, I was just
10 noticing you're looking at, Judge Hagy, so if you wanted a few more
11 minutes, I can hold on the slide. Okay.

12 With Slide 15, this is, again, related to the second and third bullet
13 points on Slide 12. This Slide 15 identifies examples of the factual evidence
14 included in the un rebutted state of the art section that supports Petitioner's
15 un rebutted expert testimony that low frequency blocker signals were a well-
16 known part of this out-of-band interference problem. And Slide 16
17 identifies a couple of examples of this and again, these -- I'm sorry, Slide 15
18 -- these are the exemplary low frequency blocker signal values and the
19 fundamental frequency values that are shown in this Slide 15 are for the
20 same exact types of radios used in wireless LAN radios and in Seshimo,
21 cellular phones. And so, that was our -- the point of a lot of our state of the
22 art was to give the Board comfort -- give Your Honors comfort -- that this is
23 a very well-known problem with a very well-known solution, and that
24 capacitors are just doing -- the capacitors in each of these documents -- the
25 patents -- Huang and Seshimo are each doing -- they're being used to
26 perform their intended and well-known widely used purpose.

1 Slide 16 -- so this is related to the first bullet point on Slide 12.
2 And as I described earlier in my discussion of the capacitors in Figure 9,
3 Huang -- in the patents, Huang and Seshimo, all of them, as detailed in the
4 unrebutted evidence in the state of the art section in Slide 16 is identifying
5 well-known fundamental characteristics of all capacitors.

6 If we go to Slide 17, this evidence is not only unrebutted. It's
7 undisputed. If we look at just the last line here, last, I guess, Q&A on the
8 bottom of this slide is -- this is Patent Owner's expert's cross-examination
9 testimony, and at the bottom of that slide, at any given moment of time in
10 each of these circuits, the same voltage would be applied across a given
11 capacitor in an electrical path, whether or not it has a biasing voltage of off
12 on one side and a biasing voltage of on, on one side. At that given point in
13 time, as the expert during cross-examination stated, because that same
14 voltage applied across the capacitor, then would you agree that a skilled
15 person would understand that it would permit less current at both frequency
16 signals, AC signals, and the high frequency signals. Yes.

17 If we go to Slide 8 -- is this 18 -- 18. Again, this is related to the
18 first bullet point on Slide 12. Slide 18 identifies examples of the factual
19 evidence, including in the state of the art section, supporting Petitioner's
20 unrebutted expert testimony that capacitors were a well-known solution to
21 interference from unwanted low frequency signals. On the right, this is
22 Figure 1.55. This is a logarithmic frequency response graph on Slide 18.
23 It's a standard graph applicable to all capacitors, which are configured in that
24 1.53 configuration, which is in a series electrical circuit with an RF signal
25 source in an RF output node. So, in Figure 9, Huang, Seshimo, the transmit
26 node in the antenna with a capacitor in series, and the resistor being a

1 standard impedance value that's used as 50 nodes, or it's the antenna and the
2 receive node with the capacitor in series.

3 And what this also shows is that there's something commonly
4 known as a 3DB break point, and that is considered the point by skilled
5 persons that, to the right of that graph, is what they call the pass region, to
6 the left of that graph, is what they call a block region, so it is just a known
7 point. And what Patent Owner is arguing essentially is that the frequency
8 response curves in Huang and Seshimo would somehow be a straight line
9 going all the way from the right, all the way until it hits that Y axis at 1.0,
10 and then go straight down to zero because their position is that somehow,
11 with Huang's and Seshimo's capacitors, you pick them so big that they
12 would have to be placed off chip and they would pass all AC frequency
13 signals uninhibited and only block DC signals. And that's just not what's
14 disclosed in any of the documents, and that's given the extensive state of the
15 argument.

16 So, on Slide 19, again, this is an example from the factual
17 evidence. This is an additional example included in our state of the art
18 section. It supports our expert's un rebutted testimony that capacitors were a
19 well-known solution to interference, well-known solution to intermodulation
20 distortion, that's created in non-linear switches from both frequency blocker
21 signals. On Slide 20 --

22 JUDGE BELISLE: Counsel, this is Judge Belisle. On that point
23 you just made about, you know, these capacitors and just what they do, is
24 that really in dispute as to what it does?

25 MR. TYSON: I don't think it's -- I don't believe it's in dispute. I
26 believe that the dispute is that although there's no capacitor values disclosed

1 in Huang or Seshimo and there are no capacitor values disclosed in the
2 patents, is that -- I believe Patent Owner's position is that a skilled person
3 would only pick the highest possible and largest possible capacitor to install
4 in that inlet circuit. So, I believe we all understand how a capacitor operates,
5 but they are effectively saying that you picked such a big capacitor, that for
6 purposes of every frequency, that that capacitor could possibly see in a
7 multimode environment, that it would just pass those signals.

8 JUDGE BELISLE: Okay. Another question. In Claim 2, this is
9 the claim that speaks in terms of at least one of the first and second
10 capacitors is configured to inhibit a low frequency blocker signal. I don't see
11 anything in the record sort of -- from the parties on sort of the meaning of
12 this, but what is it -- what does it mean to configure a capacitor, which is a
13 standalone item that's already in existence that doesn't have
14 programmability?

15 MR. TYSON: Right. That's a great question. The patents -- the
16 way it's described in the patents, it's really our position, and -- but if you
17 look at Claim 2, Claim 2 already discloses the position, so Claim 2 is
18 reciting pick the value, pick the capacitor value. It's selecting the value.
19 And again, the patents don't disclose any values. Huang and Seshimo don't
20 disclose any values, so the patent is claiming a design choice.

21 The patent is claiming that a skilled person knows how to pick the
22 value, and for the reasons that the state of the art establishes is, we will get
23 into even more evidence with those four bullet points is, whether you're
24 reading Huang, Seshimo, or the patents, you're going to pick a small size
25 capacitor value, picofarad, for a number of reasons, including because those
26 capacitors are used to block DC signals, present a very high impedance to

1 low frequency signals, and a very low impedance to high frequency signals.

2 And that a skilled person will know for each different operation of Huang or

3 wireless LAN radio. The patents don't say it. With Seshimo, a cellular

4 phone that you pick the capacitor that would do that for that application.

5 JUDGE HAGY: Counsel, this is Judge Hagy. I have a question

6 following up on that. What I'm hearing you say is that a circuit like this will

7 essentially do both. It will block the DC signals and it will also selectively

8 pass AC signals, but maybe the effectiveness or -- of the blocking depends

9 on the choice of capacitor. Am I hearing that correctly?

10 MR. TYSON: Yes, Your Honor. With the -- what I'll say is that

11 every capacitor has -- as shown on Slide 18 -- this frequency response curve.

12 But that cut off point would be, you know -- it's relative to the frequency and

13 relative to a capacitor, so what, essentially, the Patent Owner is saying is you

14 could pick a capacitor size that was so big that there really is no cut off

15 frequency. It's just, you know, essentially -- the only thing it does is DC

16 blocking signals, but as I described with all of -- the patents are DC blocking

17 capacitors.

18 I have expert testimony from my cross-examination of the expert,

19 and I can even point you to this. This is cited in our reply brief. Exhibit

20 1050, line -- page 81, line 4 to page 83, line 13. I went over this in detail

21 with -- okay, let's talk with patents. It's typical to use different biasing

22 voltages to turn switches on and off. These capacitors are DC blocking

23 capacitors, yes. They're also inhibiting low frequency signals, and passing

24 high frequency signals with low impedance because that's what capacitors

25 do. That's their intended purpose.

26 And so, it's -- I guess, Your Honor, I'm saying that's what

1 capacitors do, unless essentially -- their argument is unless a person of skill
2 in the art would pick the wrong capacitor, the wrong size capacitor. And
3 there's a number of reasons, including, as we'll get to later and it's really the
4 function of dispute 2, silicon-on-insulator. When you use silicon-on-
5 insulator, that disclosed to a skilled person based on your state of the art
6 evidence is -- everything is on the same die and everything has to fit on the
7 same die, which means it has to be a small size, and that's both sizes -- and
8 that was what we were just getting to here in Slide 20 is these are all
9 examples of the RF switches that are used in the same types of devices as
10 Huang and Seshimo, wireless LAN radios and cellular phones.

11 And just like the patents, there's a trade-off between isolation, non-
12 linearity, and air modulation distortion and insertion loss. All of them
13 -- every single one of these RF designers are dealing with that set of
14 tradeoffs. But here, as you can see, these are -- for those exact same devices,
15 are RF switches that are using capacitors to inhibit low frequency blocker
16 signals in RF switches. How do we know that? Because the frequency
17 -- the fundamental frequencies that they operate and the cut off frequencies
18 of those capacitors that are installed in this configuration, in those series
19 circuits.

20 So, these are a handful of examples, but this is -- these are what
21 you would be using and show that these capacitors -- none of these papers
22 say the word low frequency blocker signal. None of these papers say
23 -- there are probably papers in here that don't even say, you know,
24 modulation distortion. They may talk about linearity or non-linearity. They
25 use that term once, but the point is, all of that is well-known. Why did they
26 pick that size capacitor? So, it could fair the substrate and because it serves

1 its well-known purpose. It passes the fundamental frequency signal at a high
2 impedance and inhibits the low frequency blocker signals.

3 And Slide 21 isn't just another set of examples. These are, again,
4 for the same types of radios used in Huang and Seshimo. These are related
5 to the first, third, and fourth bullet points on Slide 12, but they show that low
6 capacitor values, picofarad capacitors are small in size, and typically used in
7 these switches. And I think in the Patent Owner slides, you'll see at the end
8 of their slides, they'll show a couple of our citations to their own data sheets,
9 and those are small size capacitors that are external, and the reason they're
10 external is because those are on pHEMT switches, not SOI. Those aren't
11 -- and one of the reasons you use SOI is so you can put everything on the
12 same switch, but you know, even with those pHEMTs, which is why did
13 they put a 47 picofarad capacitor in that position. To block low frequency
14 signals and have a very low insertion loss to high frequency signals. So, I
15 think you'll see that.

16 So, I think the point being here on Slide 22 -- this is the point
17 -- there's not -- this is not a missing limitation in Huang and Seshimo. The
18 reason that our expert included the state of the art section is not just to show
19 how a skilled person would interpret Huang and Seshimo, all right? But
20 also, to show how the same person would interpret the patents. This is
21 because none of those details, none of those bullets on Slide 12 are
22 mentioned in the patents. So, this is a roadmap tool for the Board to
23 understand how a skilled person would read the disclosures of the patents,
24 Huang and Seshimo. And Slide 22 --

25 JUDGE HAGY: Follow-up question on that. So, you said there is
26 no missing limitation in either of the prior art. I'm just curious, why not

1 bring an anticipation challenge as opposed to an obviousness challenge?

2 MR. TYSON: And Your Honor, because the -- it's -- in this type
3 of case, we're saying this is a voluminous amount of state of the art
4 testimony that you need to understand because some of -- these details are so
5 well-known, that the references are disclosed, and the statute allows us to
6 provide an anticipation or an obviousness challenge. And also, because this
7 type of evidence, as the Federal Circuit has said, is preferably included as
8 part of a *Graham* analysis, as part of evaluating whether there are any
9 differences between a prior art reference and the claims, or the patent and
10 claims. And these are all aspects of that.

11 So, I don't know if that answers your question, but that's essentially
12 why. And what you'll see, I think even on Patent Owner's expert -- their
13 Slide Deck 27, when they're relying on their expert's testimony. They're
14 applying the wrong standard. They're doing a key word search. They're
15 saying, oh, that doesn't -- intermodulation distortion is not used, low
16 frequency blocker signal is not used. That's not the same.

17 So, this is a summary slide. The patents don't mention any
18 capacitor values, any blocker signal frequency values, any origins, any
19 fundamental frequency values. They use the word "simpler" and "easier"
20 when describing implementing their capacitor configurations to inhibit
21 because those details were so well-known. And because the patents don't
22 mention any capacitor values -- we talked about this -- '194, Claim 2 and 8,
23 and '579, Claim 7, they're claiming a design choice. They're relying on the
24 knowledge of a skilled person, that same state of the art evidence, to
25 interpret their disclosure, including what selection of a value you pick. So,
26 that's why there's also no (INDISCERNIBLE) in Huang and Seshimo. And

1 we show that with the examples for the exact same radios on Slides 20 and
2 21.

3 And with that, Slide 24 just shows that this selection was a well-
4 known design choice. This is not only unrebutted, but it's undisputed by the
5 Patent Owner's expert. With Huang -- moving to Slide 25, you'll see the
6 Patent Owner's argument, which is factually wrong, is that you'll see slides
7 saying good linearity or sufficient linearity. And essentially, their argument
8 is -- just like it's doing on this slide here -- that Huang switch operates
9 linearly, and therefore, no intermodulation distortion would be generated in
10 Huang's switch because there's no mixing, because Huang's RF switch
11 operates perfectly linearly. And that's just not true.

12 And included here are excerpts. This is a classic example. Huang
13 is disclosing a classic example of a tradeoff. You have its biasing technique
14 may improve for increased linearity, it may achieve good linearity, sufficient
15 linearity, but Huang is still acknowledging that it is far less than perfect
16 linearity. And if you don't have perfect linearity, then problematic
17 intermodulation distortion will be generated. And note, one of the types of
18 intermodulation distortion that Huang identifies is something called spurious
19 harmonic signals, and that's expressly stated in Huang and on Slide 26 or 27.

20 When I cross-examined Patent Owner's expert, we talked about
21 that in the second quote there. It's saying that Huang's discussion of
22 problematic spurious harmonic signals -- that's from Huang -- those are the
23 same types of signals that the patents described as examples of
24 intermodulation distortion resulting from mixing in a non-linear switch, so
25 that's where they come from. They don't come from a perfectly linear
26 switch. You wouldn't get a spurious harmonic signal from that. So, the

1 point is, Huang is -- even though it doesn't use the word "intermodulation
2 distortion" or even though it doesn't use the word "low frequency blocker
3 signals." Those concepts are so well-known and its capacitors would be
4 used for their well-known and intended purpose in Huang for the same
5 reason that we discussed.

6 JUDGE JURGOVAN: Counsel, can I ask a question or follow-up
7 on that? Could you also use these capacitors in the throw on -- just solely
8 for the purpose of blocking a DC bias voltage?

9 MR. TYSON: Well, I mean, you would have -- the capacitor is a
10 dumb thing, so whatever you set it to be, whatever its value is and wherever
11 you put it, it's going to do what it's going to do. So, the only way that you
12 could essentially do that is, like I said, you pick the largest size capacitor
13 possible that would effectively have a frequency response that even though
14 it's positioned in a high pass filtered circuit, it would have zero attenuation
15 across the board until you hit that Y axis at the zero line. So, is it --

16 JUDGE JURGOVAN: Right.

17 MR. TYSON: Is it possible? Yes. But would a skilled person
18 with a non-linear switch -- and for all the reasons that we talked about in the
19 state of the art, it would be motivated to pick using SOI, a small sized
20 capacitor, that was being used for its well-known and intended purpose,
21 which is --

22 JUDGE JURGOVAN: Okay.

23 MR. TYSON: Yes.

24 JUDGE JURGOVAN: Is there anything in Huang or Seshimo that
25 talks about blocking AC signals with the capacitors?

26 MR. TYSON: That's what capacitors do, Your Honor, and that's

1 what a person of ordinary skill in the art would understand. And --

2 JUDGE JURGOVAN: That's not answering the question. Is there
3 anything in Huang or Seshimo that talks about blocking?

4 MR. TYSON: Yes, Your Honor. Blocking capacitor in Huang
5 talks about blocking. The blocking capacitor definition, when I cross-
6 examined the expert, he acknowledged that the -- this is the next slide -- that
7 every capacitor has this operation. So, you disclose a capacitor, it is
8 disclosing that it has a very high impedance to low frequency signals and a
9 very low impedance to high frequency signals. And when Huang is even
10 talking about insertion loss, it's talking about a low impedance at a high
11 frequency signal, and that low impedance, if you're using it on an SOI
12 platform is going to be a small size, as we've shown with all the examples on
13 Slides 21 and 22 of a capacitor that also inhibits low frequency blocker
14 signals, which were so well-known in this multimode industry.

15 So, the patents don't disclose most of these details. They use the
16 word "low frequency blocker signal". They don't say what it is, they don't
17 give any examples, they don't give any capacitor values. They don't give
18 any of this. And so, the skilled person would make the same selection in the
19 patents, as it would in Huang, as it would in Seshimo, and that is disclosed
20 in each of those references, even though those words don't precisely appear.
21 And Huang specifically talks about that, these spurious harmonic emissions.
22 This is all talking about intermodulation distortion in a non-linear RF switch.
23 And what a skilled person would understand is everything that we laid out in
24 the state of the art about how capacitors operate.

25 Those details don't need to be disclosed in the patents, they don't
26 need to be disclosed in Huang, they don't need to be disclosed in Seshimo. I

1 mean, I'm sorry -- those details are not mentioned in the patents, they're not
2 mentioned in Huang, they're not mentioned in Seshimo, but they're all
3 disclosed. All those details are disclosed. I don't know if that answered
4 your question, Your Honor. I might be frozen, actually. I think Judge
5 Jurgovan is frozen. Can --

6 JUDGE BELISLE: Judge Jurgovan, can you hear us?

7 MR. TYSON: Can we pause my time?

8 JUDGE BELISLE: Yep. We'll pause the time until we can get an
9 unfrozen version of Judge Jurgovan.

10 MR. TYSON: Maybe he hated my answer so much that he --

11 JUDGE BELISLE: Yeah, he just --

12 JUDGE HAGY: They have power loss issues in Dallas in the
13 hearing room.

14 JUDGE BELISLE: Okay. Well, we'll go off the record.

15 COURT REPORTER: Okay. We're off the record.

16 (Whereupon, the above-entitled matter went off the record at 10:50
17 a.m. and resumed at 10:50 a.m.)

18 COURT REPORTER: Back on the record.

19 JUDGE BELISLE: Judge Hagy, are you with us now?

20 JUDGE JURGOVAN: Judge Hagy, you're muted.

21 JUDGE HAGY: Yes, I'm muted, but I am here.

22 JUDGE BELISLE: Okay. Well, you had gone off the screen.

23 JUDGE HAGY: Did you need me to speak? Sorry, okay.

24 JUDGE BELISLE: No, you had just gone off the screen, so we
25 didn't know if you were actually --

26 JUDGE HAGY: Okay.

1 JUDGE BELISLE: -- disconnected. All right.

2 JUDGE HAGY: I am here.

3 JUDGE BELISLE: We're back on the record.

4 MR. TYSON: So, Your Honor, maybe -- I think your question
5 was does Huang or Seshimo disclose or use the word "blocking capacitor" or
6 "blocking --

7 JUDGE JURGOVAN: AC signals.

8 MR. TYSON: Blocking AC signals. And so, what I'll say is that
9 they disclose a capacitor, Huang discloses a blocking capacitor. A blocking
10 capacitor, as I discussed with their expert during cross-examination. Every
11 capacitor blocks DC and every capacitor will permit the flow of alternating
12 current to a degree, depending on its capacitance and frequency, which
13 means they inhibit lower frequency signals and pass high frequency signals,
14 and --

15 JUDGE JURGOVAN: Yeah, I understand --

16 MR. TYSON: -- Huang is very specific -- sorry.

17 JUDGE JURGOVAN: But what I'm asking is like is there
18 anything about stopping AC signals from getting through the capacitor,
19 which would necessarily find that some value of the capacitance would be
20 selected?

21 MR. TYSON: Well, there has to be a value of a capacitance that is
22 selected. It has to be small enough to fit on an SOI chip. And it also -- in
23 Huang and Seshimo's operating universe of wireless LAN radios and cellular
24 phones where you have a lot of other frequencies coming in from that
25 antenna, you're sizing that capacitor to do these things.

26 JUDGE JURGOVAN: I --

1 MR. TYSON: So, Spurious -- for example, spurious harmonic
2 emissions, that's an RF signal. There's never an --

3 JUDGE JURGOVAN: My question --

4 MR. TYSON: -- RF signal --

5 JUDGE JURGOVAN: -- is that it -- there is no teaching in either
6 reference of blocking AC noise or signals.

7 MR. TYSON: I --

8 JUDGE JURGOVAN: That the general knowledge that the person
9 of ordinary skill in the art teaches that.

10 MR. TYSON: And I --

11 JUDGE JURGOVAN: Is that a statement of your position?

12 MR. TYSON: I think it's slightly nuanced, is that it is taught to a
13 skilled person, even though the words aren't there.

14 JUDGE JURGOVAN: Because of the general knowledge of the
15 person of ordinary skill in the art?

16 MR. TYSON: Yes, because the skilled person reads the patents in
17 Huang and Seshimo the same way.

18 JUDGE JURGOVAN: Okay.

19 MR. TYSON: In the same fashion. So, the Patent Owner
20 essentially relies on six pieces of evidence. One is the dictionary definition
21 on the top here. During cross-examination, he was forced to acknowledge
22 that a -- every capacitor has this blocking DC, presenting low impedance to
23 a high frequency signal, and presenting high impedance to a high frequency
24 signal. That's what the definition of capacitor from the same dictionary was.
25 The expert, during cross-examination, I asked him just about Exhibit 1011,
26 but these are the five other pieces of evidence that he relies on, and his point

1 was, he was trying to find a capacitor that also said DC block or DC
2 blocking capacitor, biasing capacitor, or DC component removal capacitor.

3 In each of these cases, what it actually shows is that these are on
4 chip capacitors, sized to block low -- to inhibit low frequency signals,
5 present a high impedance to low frequency blocker signals for the exact
6 same radios that Huang and Seshimo are using, so he has -- and the point
7 being, the Patent Owner has no factual support. Zero. Its expert's
8 testimony, once you take away these six pieces of evidence, has zero
9 evidence backing it up. So, the only evidence is this evidence, which
10 actually supports our position, and the evidence we put forward in our state
11 of the art and in our arguments of the petition. So, with that, I was going to
12 move to dispute two very briefly and just talk about --

13 JUDGE BELISLE: Well, Counsel, let me just -- due to our IT
14 issues already thus far, let me just let you know that you can have five extra
15 minutes to --

16 MR. TYSON: Okay.

17 JUDGE BELISLE: -- deal with your case.

18 MR. TYSON: All right. Thank you, Your Honor. With dispute 2,
19 this is Slide 32. What I'm showing here is just in (INDISCERNIBLE).
20 Again, these are the disputed aspects of these '194, Claims 5 and 9, and
21 they're the same in '579, Claim 1 and 15. And Patent Owner does not
22 dispute that Huang and Seshimo disclose everything else that is claimed
23 here, all the other limitations.

24 So, on Slide 34, the patent doesn't only mention any details on any
25 capacitor values or any of those four bullet points I talked about, but they
26 don't mention any details on how you would implement a capacitor off die,

1 on die, and it describes them as essentially alternatives to each other. And it
2 doesn't mention any benefits or trade-offs for them, so it's acknowledging all
3 of these details as we show in our state of the art section.

4 Again, these are well-known details to a skilled person. So, the
5 patents are relying on the same general knowledge, for a person to
6 understand the disclosure of the patents. And to interpret their disclosure,
7 including the well-known benefits and the well-known process for placing
8 the capacitor on die versus off die. Like the patents, again, Huang and
9 Seshimo do not mention any capacitor values, and the same skilled person is
10 going to interpret their disclosure and the patent's disclosure with the same
11 knowledge as we put in the un rebutted evidence in the state of the art.

12 So, again, just like we said, they're going to select a capacitor value
13 for a small size, picofarad capacitor value, in order for the capacitor to serve
14 its well-known intended purpose, and the Huang here is specifically -- both
15 Huang and Seshimo. Huang specifically talks about silicon-on-insulator
16 FET switches, and utilizing them in a wireless LAN radio. Seshimo also
17 discusses silicon-on-insulator switches, but identifies that one of the
18 benefits, which we also detail with even more evidence of using CMOS,
19 which is where you have a silicon substrate and one form of CMOS is
20 silicon-on-insulator, where you have an insulator layer that provides a little
21 bit more insulation so that -- because a silicon substrate is conductive so it
22 can pass signals very easily to and from.

23 But in all those cases, what -- the benefit that Seshimo describes is
24 you not only put the switches on everything that you see in Figure 3 of
25 Seshimo and Figure 2 in Huang -- you don't output all of those components
26 on the same substrate using SOI, but it's also very easy to put other

1 components like its inverter circuit at the bottom there, that IN-1, all of that
2 circuitry could also go in the same substrate with the RF switch.

3 And what we showed on Slide 37 is if you're using SOI, which
4 Huang and Seshimo do, what you get is a monolithic result, meaning if you
5 choose to use SOI, the well-known benefit of doing so is that it's lower cost,
6 reduced die electric losses, but also monolithic, same die chip integration of
7 not only the switch components and the control components, but also, other
8 front-end module components. So, if I don't use pHEMT, I use SOI. Now, I
9 can put on control circuitry. I can put it on in the next few slides. And
10 again, Exhibit 1009 on Slide 37, that's a cellular phone. Exhibit 1018 is
11 talking about microwave systems, which a wireless LAN radio and a cellular
12 phone would, again, be microwave -- both microwave systems.

13 And here's two other examples, and what we're showing here is
14 SOI is a skilled person understands that to mean. That's how you achieve a
15 monolithic result. And in the slide -- on Slide 38 here, what you see, Exhibit
16 1028 and 1021, these are both wireless LAN radios. And Exhibit 1028 on
17 the left of Slide 38, it's showing that -- I'll put not only everything on the
18 switch, but also, that downstream low noise amplifier, all of that is put on
19 the same substrate because I'm using SOI, and in Exhibit 21, this is, again
20 -- this is for a wireless LAN radio, and again, it shows -- not only is it the
21 single pole for throw switch with all of its components, it's also the LNA, it's
22 attenuators, it's analogue circuitry, all of that because I'm using SOIs and
23 putting it on the same switch.

24 And this example here in Slide 39, this actually comes from a
25 reference that discusses pHEMT, and even in pHEMT, the knowledge was it
26 would -- there were benefits to doing it and it could be easily manufactured.

1 With SOI, it is just significantly easier. Significantly less costly than it
2 would be with pHEMT. And that's why all of those components are put on
3 the same substrate. So, and these are just quotes from that reference on
4 Slide 39.

5 And on Slide 40, again, these are not only unrebutted, but they're
6 undisputed. There's well-known benefits and tradeoffs to forming RF switch
7 components on chip. Huang and Seshimo are disclosing using SOI and a
8 skilled person would understand that achieves a monolithic result. And I
9 guess one point would be, there's no dispute that SOI discloses forming all
10 of these other components on a silicone substrate, even though Huang
11 doesn't say die, even though Huang doesn't say substrate.

12 Seshimo says substrate, Seshimo says integration, so it has all
13 those things, but that's -- again, those are well-known concepts. But the
14 point is, SOI not only includes the switch circuits, but it necessarily includes
15 that it is disclosed -- Huang disclosing that is disclosing forming the
16 capacitors on the same substrate, and forming in Seshimo does the same, and
17 also, other components. Huang is talking about -- I mean, Seshimo is
18 talking about also the inverter circuits and other logic circuits. So, with that,
19 I think I'll -- unless there's other questions, I'll just reserve my -- the rest of
20 my time.

21 JUDGE BELISLE: I have a couple questions.

22 MR. TYSON: Yes, Your Honor.

23 JUDGE BELISLE: This is Judge Belisle. In the district court case
24 involving this patent and involving Kangxi, are there any challenges under
25 112 to the application -- to the patent?

26 MR. TYSON: So, this patent went through a Markman hearing

IPR2024-01456, Patent 9,450,579 B2

IPR2024-01457, Patent 9,148,194 B2

1 with challenges, but this patent has been dropped from that investigation, so
2 that investigation went forward. It actually went to trial, but these patents
3 were dropped right before fact discovery, and so none of that was resolved.
4 And the point of the indefiniteness challenges were related to low frequency
5 and inhibiting, and what we said is in the IPRs, you can point to a bullet. I
6 can point to a cut off frequency and say that that is a low frequency signal.
7 Anything to the left of that would be inhibited, but the patents don't tell you
8 what is inhibited, what is low frequency, what is any of those things, and I
9 think for purposes here, I think as we'd agree, the skilled person understands
10 how to read the -- reading the claims in view of the state of the art, and that's
11 where we are. So, that's the answer to your question.

12 JUDGE BELISLE: So, to clarify, did Kangxi challenge the patent
13 under 112 for lack of written description or lack of --

14 MR. TYSON: No.

15 JUDGE BELISLE: -- enablement?

16 MR. TYSON: No.

17 JUDGE BELISLE: No?

18 MR. TYSON: It did not.

19 JUDGE BELISLE: And what is the status of the ITC case?

20 MR. TYSON: It is post -- so, the order has already been issued by
21 the Judge. Again, these patents are not involved in that hearing and the -- it
22 is on -- the post-trial briefing has been completed and I believe it's in the
23 period before the actual commission rules on whether or not to affirm the
24 Judge's findings.

25 JUDGE BELISLE: The patents at issue in the ITC case, are they
26 related to this --

1 MR. TYSON: No.

2 JUDGE BELISLE: -- the patent at issue here?

3 MR. TYSON: No, no. Other than Skyworks owns them, but --

4 JUDGE BELISLE: Oh.

5 MR. TYSON: -- they're not related in any other way.

6 JUDGE BELISLE: Okay, thank you.

7 MR. TYSON: Yes, Your Honor. So, I guess one point -- sorry,

8 Your Honor. One point is that there is no invalidity challenge at all, even

9 the other patents that's at the ITC, so nothing.

10 JUDGE BELISLE: Okay, thank you. Patent Owner? Okay. All
11 set?

12 MR. PERRY: All set.

13 JUDGE BELISLE: How much time would you like to reserve for
14 rebuttal?

15 MR. PERRY: I would like to reserve 15 minutes, Your Honor, for
16 rebuttal.

17 JUDGE BELISLE: Okay, you may begin.

18 MR. PERRY: May it please the Board. Before I begin and get
19 into the details, I'd like to address your latest question, Judge Belisle, and
20 that is that the district court case is actually stayed pending the ITC
21 investigation. And in the ITC investigation, as Counsel said, these patents
22 were ultimately dismissed from that investigation, and so they're not part of
23 any of the initial determinations from the ALJ.

24 JUDGE BELISLE: Why were they dismissed from the
25 investigation?

26 MR. PERRY: They were voluntarily dismissed from the

1 investigation by Complainant, Skyworks. So, before I dive into the disputes
2 here, I think it'd be helpful to give some context to the patents themselves.
3 Patent Owner, Skyworks, is an innovator in the RF devices space. Skyworks
4 makes components called front-end modules that interface between the
5 antennas and baseband processors within these wireless devices and
6 condition the signals before they're provided to those devices.

7 Now, part of those modules include something called an RF
8 switch. The market for wireless devices is very competitive, and Skyworks
9 is constantly innovating to be able to compete and provide new technologies
10 to the market. And in many cases, Skyworks is one of the first companies to
11 release new products in this space. The two patents at issue in these IPRs
12 -- the '579 and '194 patents -- protect Skyworks' innovative RF switches and
13 (INDISCERNIBLE) modules.

14 Now, RF switches are not new. Skyworks is not claiming to have
15 invented the first RF switch. That doesn't mean, though -- as Petitioner
16 suggests -- that there was no innovation here. As Skyworks recognized,
17 when these RF switches are used in wireless devices, they're exposed to
18 signals at frequencies other than the fundamental frequency of the switch,
19 other than the desired frequency that the switch is supposed to see. Now,
20 when these switches are exposed to these signals, it can create distortion.
21 The patents refer to that as intermodulation distortion. Not all signals lead to
22 intermodulation distortion. It's only certain signals that interfere sufficiently
23 with the fundamental frequency of the switch, that can degrade the switch
24 performance. We call those signals blocker signals.

25 Now, as I said before, when these blocker signals mix with the
26 fundamental frequency signals of the switch, they can lead to something

1 called intermodulation distortion, and that is a problem when switches are
2 non-linear. And as Petitioner said, all the switches are not linear, but there
3 are techniques to improve the linearity of the switches, and so this is a
4 problem as the linearity of the switches decreases.

5 Now, the '579 and '194 patents provide a solution to this non-
6 linearity problem. What they recognize is that by inhibiting the low
7 frequency blocker, they're able to prevent that blocker from mixing with the
8 switch -- or with the fundamental frequency in the switch, and that can lead
9 to improvements in intermodulation distortion. And that invention is
10 captured in the claims of the '579 and '194 patents.

11 And so, with that backdrop, I'd like to turn to the merits of the
12 petitions for these two IPRs. I'm not going to rehash all of what Petitioner
13 went over, but there are two grounds in each of the IPRs and they are
14 identical. The first ground is that the claims are obvious over Huang in view
15 of the knowledge of a POSITA. And it seemed like during oral argument
16 today, Petitioner was making the argument that the claims were anticipated
17 by Huang, that the capacitors in Huang were being used -- were well-known
18 components being used for their well-known, intended purpose, and so
19 there's -- it's going to be some sort of inherent argument that the capacitors
20 would inherently perform its inhibiting function, but they did not present
21 that argument in their petition. The whole new argument that they presented
22 was that the claims were obvious in view of the knowledge of a POSITA.
23 And in the petition, they acknowledge that there was a missing claim
24 limitation and they were filling that in with the general knowledge of a
25 POSITA.

26 JUDGE BELISLE: What was that missing claim limitation?

1 MR. PERRY: So, this is the one we've been discussing at length
2 today. The inhibiting low frequency blocker signal, from mixing with the
3 final frequency signal of the switch. And so, they're attempting to use the
4 general knowledge of a POSITA to fill in that missing limitation and they
5 cite, as you saw today, many references that allegedly disclose that missing
6 limitation that a POSITA would be aware of and would have knowledge of,
7 and would use that general knowledge to supply that missing limitation. I'll
8 just -- I'll get to this later, but that is legally improper as the Federal Circuit
9 has held under Section 311(b) of Title 35 for these inter partes reviews, the
10 only basis for that review is printed publications and patents, and the general
11 knowledge of a POSITA is not a printed publication or patent, and so it's
12 improper for Petitioner to use that information to supply a missing claim
13 limitation.

14 JUDGE BELISLE: Counsel, this is Judge Belisle. I mean, would
15 you agree that in an obviousness inquiry, that it is permissible to use the skill
16 of the artisan in analyzing the art?

17 MR. PERRY: It is permissible to use the skill of the artisan to
18 analyze the art, but it is impermissible to use the skill of an artisan to supply
19 a missing claim limitation.

20 JUDGE BELISLE: Okay. And as I understand Petitioner's case
21 -- and we're going to also get to this in a moment -- well, perhaps, let me
22 jump to my real question. Claim 1 of the '194 patent.

23 MR. PERRY: Yes.

24 JUDGE BELISLE: Does Patent Owner dispute that that's taught
25 by the art?

26 MR. PERRY: Patent Owner took no position on whether or not

1 the prior art discloses the limitations of Claim 1 and leaves that to the
2 discretion of the Board to determine whether or not Petitioner has satisfied
3 their burden to show that Claim 1 of the '194 patent is obvious over the prior
4 art.

5 JUDGE BELISLE: So, Patent Owner has no argument that's
6 against what Petitioner has argued; is that correct?

7 MR. PERRY: That's correct.

8 JUDGE BELISLE: They have no Patent Owner argument?

9 MR. PERRY: Patent Owner took no position one way or the other
10 for Claim 1 of that patent.

11 JUDGE BELISLE: Okay. So, for purposes of my next question,
12 let's assume that the art shows the structure of what's recited in Claim 1 of
13 the '194 patent. So, it has the capacitors, it has the shunt arms, it has all of
14 the structure. What is the invention in Claim 2?

15 MR. PERRY: Yes. So, the invention in Claim 2 is using the
16 capacitor to inhibit any low frequency blocker signal from mixing up the
17 fundamental frequency signal, and that is not taught by the prior art, and I'm
18 happy to go over that now and that's going to be the main basis of the
19 presentation today.

20 JUDGE BELISLE: Sure. So, let's focus on that --

21 MR. PERRY: Yeah.

22 JUDGE BELISLE: -- at the moment. If the art has the exact
23 structure and it's -- what I see in the briefing and what I just heard a second
24 ago is that Patent Owner is using that structure for a different purpose. So,
25 now explain to me why that makes it patentable.

26 MR. PERRY: Yes, Your Honor. And the issue is that the prior art

1 does not disclose any motivation to configure the capacitors disclosed in the
2 prior art to inhibit a low frequency blocker signal. And so, Huang -- the
3 capacitors in that reference are used for blocking DC bias signals and I'll
4 explain the genesis and the motivation for why Huang included those
5 capacitors. And so, there is no teaching or suggestion that those capacitors
6 in Huang could be used for any other purpose, including the inventive
7 concept claimed in Claim 2 of the '194 patent.

8 JUDGE BELISLE: And so, on that point, why? Why is it that
9 there's -- the skilled artisan could not read Huang and understand that those
10 will block the signals?

11 MR. PERRY: Yeah. So, with that, let me go into the genesis of
12 Huang and why those capacitors were added because I think that's going to
13 be the best way to answer your question. And so, okay. So, Huang has a
14 very similar configuration to the circuits described in the '579 and '194
15 patents. The focus of Huang, and this is undisputed -- both experts for
16 Petitioner and Patent Owner agree -- what Huang is directed to is improving
17 the linearity of the RF switch. And the way that Huang goes about
18 improving the linearity of the switch is by biasing the transistors within the
19 switch at different bias voltages. And so, what was going on in the prior art
20 at the time, and this is in Huang, it was looking at a reference called
21 Nakatsuka -- this is Figure 1B of Huang -- which had a very similar circuit
22 configuration. You'll see that it's missing the DC blocking capacitors in
23 Huang, and what it discloses is biasing those transistors and those switches
24 to be fully on or fully off. And so, it is biasing them on at the full voltage
25 and off at the full voltage. What Huang realized is that you could bias the
26 transistors in the off state at a higher voltage, at a different voltage, and that

1 exhibited low insertion loss and good linearity.

2 And so, as shown here, Huang is not doing the full on, full off
3 biasing of Nakatsuka. And so, let me go back a slide. Because these
4 transistors now or these switches are no longer biased full on or full off,
5 they're actually at different DC bias voltages, Huang realized that you
6 needed to isolate those DC bias voltages; otherwise, they would interfere
7 with each other. And so, the capacitors in Huang were included, as shown
8 here, to block those DC bias voltages from essentially bleeding over from
9 the on state switches to the off state switches and vice versa.

10 And so, as shown in these signal paths, what Huang does is it
11 includes these capacitors to block the -- or to isolate the bias signals for each
12 of the on and the off transistors. These bias signals are DC bias signals, so
13 they have no frequency, and the capacitors are used for that purpose, and
14 that's how Huang describes using the capacitors. There's no other disclosure
15 in Huang for why these capacitors were included in this configuration, other
16 than to isolate the single path, as well as to provide low insertion loss.

17 And so, a person of ordinary skill in the art reading Huang would
18 realize that the function of these capacitors is to isolate these DC bias
19 voltages. And the further goal of these capacitors would be to provide low
20 insertion loss, and what that means is low resistance at the frequency that the
21 switches operate at. And so, reading that, a person of ordinary skill in the art
22 would be motivated to select the capacitors in Huang to one, provide the best
23 isolation between these paths, and to provide the lowest amount of insertion
24 loss, so the lowest amount of resistance or impedance at the frequency of
25 interest. And so, that would be sizing the capacitors to be as large as
26 possible to provide that low insertion loss. And so, that's the motivation of

1 why the capacitors were included in Huang was to isolate these DC bias
2 signals, and that's all Huang discloses.

3 That contrasts greatly to the '579. I'm going to go back to the
4 patents now briefly and the '194 patent. And so, actually, real quick, on
5 Huang, as well. So, by biasing the on and off switches at different voltage
6 levels, Huang achieves a more linear switch, and so as I'll get to, as Patent
7 Owner's expert testified and was unrebutted, the more linear switches, the
8 less of a problem intermodulation distortion is because the mixing of those
9 signals is smaller, so the more non-linear it is, the bigger those products are
10 and the bigger the issue of intermodulation distortion.

11 So, Huang solves the intermodulation distortion problem by
12 making a more linear switch, by biasing the transistors at different voltage
13 levels. And so, Huang can tolerate higher amplitude blocker signals because
14 its switches are more linear, and so there's no reason a POSITA reading
15 Huang would be motivated to size the capacitors to also block or inhibit low
16 frequency blocker signals.

17 Now, that contrasts to the '194 and '579 patents, which I'm
18 showing here. The '194 and '579 patents, you know, recognize the
19 intermodulation distortion problem, they recognize this shown in the top
20 paragraph here, that that can be a measure of non-linearity in an RF
21 switching device, and that it's a result of wireless communication systems
22 operating in multimode and multiband environments.

23 JUDGE JURGOVAN: Counsel, can you call out your slide
24 numbers that you've reached so we can follow along better? Thank you.

25 MR. PERRY: Yes. Thank you, Judge Jurgovan, and I will do that,
26 especially with us jumping around here. So, this is on Slide 5, which shows

1 an excerpt from the '579 and '194 patents, and as explained on Slide 5, what
2 the '579 and '194 patents recognize is the problem of intermodulation
3 distortion and non-linear art switches, and they sought to improve that
4 performance in wireless communication systems operated in multimode and
5 multiband environments. So, environments where these low frequency
6 blocker signals could be a problem.

7 So, turning to Slide 6 now, how the '579 and '194 patents solve that
8 problem was by including these capacitors and this configuration rather than
9 configured to inhibit a low frequency blocker signal. And this is an excerpt
10 from the '579 patent, column 9, lines 39 through 53, and here, the patents
11 explain that with these capacitors, a low frequency jam or signal can be
12 blocked or reduced for mixing with any on or off paths, and this can lead to
13 an improvement in IMD performance, especially for low frequency blocker
14 signals. And so, these capacitors are not improving IMD performance
15 across the board, like a more linear switch would. Instead, these patents are
16 specifically directed to improving the IMD performance for these low
17 frequency blocker signals.

18 JUDGE BELISLE: Counsel, this is Judge Belisle. I'm going to
19 ask the same question I asked Petitioner. Claim 2 recites in part, one of the
20 first and second capacitors is configured to inhibit a low frequency blocker
21 signal. What does it mean for a capacitor to be configured to do something?

22 MR. PERRY: Yeah. So, I think we would agree with Petitioner
23 here and say that when a capacitor is configured to do something, those
24 values are selected to perform that function. And so here, it's not referring to
25 the position of the capacitor, but rather the values of the capacitor that would
26 inhibit a low frequency blocker signal.

1 JUDGE BELISLE: So, reading the challenged patent, how does
2 the skilled artisan know how to configure the capacitor in the challenged
3 patent to do what Claim 2 requires?

4 MR. PERRY: Yeah. So, as Patent Owner's expert, Dr. Wentzloff
5 explained, a person of ordinary skill in the art reading the '579 and '194
6 patents would understand what a low frequency blocker signal is for a
7 particular application and could select the value of a capacitor to inhibit that
8 particular low frequency blocker signal, so this was within the knowledge of
9 a person of ordinary skill in the art to be able to select a capacitor to inhibit
10 that low frequency blocker signal.

11 JUDGE BELISLE: So, a skilled artisan knows how to select a
12 capacitor to inhibit a low frequency blocker signal?

13 MR. PERRY: A skilled artisan would be -- would know and
14 would be -- importantly, be motivated to select the capacitor to perform that
15 function, and I think that's what's missing in Huang is there is no motivation
16 to select a capacitor to perform that particular function.

17 JUDGE BELISLE: And why would they have a reason to do it in
18 the challenged patent?

19 MR. PERRY: So, in the challenged patent, the patent specifically
20 discloses that these capacitors can be used to inhibit a low frequency blocker
21 signal. So, here, the patent discloses, include these capacitors in this
22 configuration to inhibit the low frequency blocker signal, so that way, it'll
23 no longer mix with the fundamental frequency in the switch.

24 JUDGE BELISLE: But the inventors of the challenged patent,
25 they didn't discover blocking low frequency signals, did they?

26 MR. PERRY: No, they did not discover blocking low frequency

1 signals, but they did discover using the capacitors in this particular
2 configuration and then selecting the value of the capacitors in that
3 configuration to perform that function.

4 JUDGE BELISLE: But the skilled artisans already knew that a
5 capacitor could do that, correct?

6 MR. PERRY: A skilled artisan knew that generally capacitors can
7 block low frequency signals, but not in this particular configuration. So, you
8 know, Claim 2 depends from Claim 1 and the prior art references do have a
9 similar circuit structure, but they do not disclose selecting the capacitors
10 within that similar structure to perform this function, and so what the '579
11 and '194 patents teach is using the capacitors in that way and that was not
12 disclosed in the prior art of record.

13 Okay. And so, I'm going to -- this is the, as Counsel said, the other
14 sort of claims that are in dispute and the limitations that's missing from the
15 prior art is forming the capacitors on the semiconductor substrate. This is on
16 Slide 8. I will also briefly touch on those limitations at the end of this
17 presentation.

18 Okay. So, we already discussed Huang and the fact that the goal
19 of Huang was to improve switch linearity by -- and achieve insertion loss
20 and high isolation, as shown in Slide 10 here. And as I discussed earlier,
21 Huang achieves that better linearity, low insertion MOS, high isolation, by
22 biasing the transistors in the on and off state at different bias voltages instead
23 of using a full on and full off approach, which is used by the prior art.
24 Huang found that --

25 JUDGE BELISLE: Counsel, just remember to do the slide
26 numbers --

1 MR. PERRY: Yeah.

2 JUDGE BELISLE: -- for the record and for the other Judges.

3 MR. PERRY: Thank you, Your Honor. On Slide 11, Huang states
4 here in paragraph 42 -- this is actually slightly above the blue highlighting
5 -- the non-linear effects and the high-power switch were also found to
6 increase with increasing off state VGSD of the off state FET group switches.
7 So, what Huang found was that the switch actually became more non-linear
8 as the off state voltage was increased, and so to achieve low levels of
9 harmonic emissions and sufficient linearity, Huang found that a lower off
10 state voltage was better, and so biased those transistors at a 1.5 volt bias
11 voltage.

12 Conversely, as shown here on Slide 12, Huang found that for the
13 on state bias voltage, it performed -- the switch performed best when that
14 voltage was between two and two and a half volts, and that also achieved
15 low insertion loss and good linearity. And so, Huang teaches biasing these
16 switches at different voltages, which was its improvement over the prior art
17 and led to improved RF switch linearity.

18 And so, as I said before here on Slide 15, the reason why Huang
19 includes those capacitors is because the transistors are no longer biased in
20 the full on or full off, and so to isolate those DC bias voltages, Huang
21 includes transistors 211, 212, 213, 214, 215, and 217 to isolate those DC
22 bias voltages. And it refers to those capacitors as blocking capacitors, and as
23 Patent Owner's expert explained, a person of ordinary skill in the art would
24 understand that a blocking capacitor is a DC blocking capacitor.

25 JUDGE BELISLE: Counsel, this is Judge Belisle, again. So, if we
26 look at your Slide 15, Huang's Figure 2, what tells us that those capacitors

1 do not inhibit low frequency blocker signals?

2 MR. PERRY: And here, Your Honor, I think we need to be very
3 careful and clarify. These capacitors would inhibit some low frequency
4 signals. We're not saying that these capacitors only block DC and that is all
5 they do, but there is no evidence in Huang of one, a blocker signal, and as
6 I'll get to, and Patent Owner's expert testified, a blocker signal is a specific
7 signal that would degrade switch performance, so it has to be at a sufficient
8 amplitude and frequency that it would actually interfere or mix with the
9 fundamental frequency. And so, not all low frequency signals are blocking
10 signals.

11 And so here, there's no evidence that one, there is a low frequency
12 blocking signal and two, that those capacitors would actually inhibit that low
13 frequency blocking signal. And in fact, based on the disclosure in Huang of
14 if a person of ordinary skill in the art were motivated to minimize insertion
15 loss, and it doesn't quite use the word minimize, it says low insertion loss.
16 So, if a person of ordinary skill in the art were motivated for low insertion
17 loss, it would size these capacitors as large as possible in order to have that
18 as low of an insertion loss as possible.

19 Okay. And so, there is -- on Slide 16 now, we're showing
20 testimony from both experts, Dr. Wentzloff for Patent Owner and Dr. Larson
21 for Petitioner. There is no dispute here that Huang -- the inventive aspect is
22 how to select the DC bias voltages of these transistors in the RF switch. As
23 Dr. Wentzloff testified, Huang teaches improving the linearity of the switch
24 and insertion loss, and includes capacitors -- DC blocking capacitors -- to
25 apply different DC voltages to the switches. And Dr. Larson, Petitioner's
26 expert, said that the Huang reference is about optimizing the VGSD and

1 that's the DC bias of the gate and source/drain regions and that optimizes
2 switch performance. So, Huang is about building a better and more linear
3 switch by biasing these transistors at different voltages.

4 So, Petitioner in the petition and in the reply essentially concedes
5 that what Huang discloses is the positioning of the capacitors, and so they
6 say that the capacitors are in the same configuration as the claims of the '579
7 and '194 patents, but they did not present an argument that Huang anticipates
8 or discloses all the limitations of the claims. And so here, you know, Dr.
9 Larson confirmed at his deposition, I did not present any opinion on
10 anticipation in my declaration, I only did it from an obviousness perspective.
11 And so, as I said before, what the petition tries to do is fill in the gaps of
12 Huang using both, the disclosure in the '579 and '194 patents and the general
13 knowledge of a POSITA.

14 And so, the petition focuses on Huang's disclosure about the
15 importance of selecting the arrangement of groups FETs, and then these
16 judiciously chosen capacitors. And here they say, okay, the reason -- or the
17 capacitors are judiciously chosen for a variety of things, including low
18 insertion loss along the signal path, high isolation from the off paths reduce
19 spurious harmonic emissions and improve linearity for the switch.

20 And I'll say I'm on Slide 19 now. Huang actually -- when it's
21 talking about these judiciously chosen capacitors, it's not talking about using
22 them for all the purposes that the petition says here in this paragraph.
23 Instead, what Huang states is that the judiciously chosen resistors and
24 capacitors are used to ensure low insertion loss along the signal path and
25 high isolation from the off paths, so those are the only two purposes that
26 Huang discloses for a use of its DC blocking capacitors. One is low

1 insertion loss, which means that it should have a low impedance or reactance
2 at the frequency of interest, and high isolation, so it should isolate the off
3 paths.

4 These other examples of reduced spurious harmonic emissions and
5 improved linearity for the switch that the petition cites here are not regarding
6 the actual selection of the capacitor size, and are talking about -- actually,
7 the bias voltage of the transistors in order to improve the linearity of the
8 switch. So, Huang does not disclose that its capacitors can be used to reduce
9 spurious harmonic conditions or improve the linearity of the switch, and
10 does not teach that its capacitor should be selected for that purpose.

11 Now, Dr. Larson here just repeats the petition, so he doesn't
12 provide his own analysis of why the capacitor should be chosen for a
13 particular reason or how Huang discloses choosing the capacitors. And so,
14 his opinion on this matter should be given little weight because it merely
15 mimics what's said in the petition.

16 JUDGE BELISLE: Counsel, this is Judge Belisle. We seem to be
17 talking about the purpose of the circuit. Huang has a circuit, challenged
18 patent has a circuit. At least visually, it has all the same components.
19 Huang's circuit, we're hearing, is for the purpose of blocking thing A. In the
20 challenged patent, it's used in the circuit for blocking thing B. Why does it
21 matter from the standpoint of this case and obviousness that you're using the
22 same circuit for a different purpose?

23 MR. PERRY: Yeah. And this is rooted in the configure to
24 language in the patent claims, and so the capacitor is not just a capacitor in a
25 particular configuration. It is a capacitor in this configuration that is also
26 configured to perform this function. And so, the prior art discloses that the

1 capacitor in this configuration is used for purpose A only and does not
2 contemplate using the capacitor for purpose B. And so, it does not teach or
3 disclose that. And so, this is using that capacitor for a different purpose in
4 this configuration, and so that is what makes the claims patentable over the
5 prior art. Does that answer your question, Your Honor?

6 JUDGE BELISLE: Yes.

7 MR. PERRY: Okay. All right. So then as I previewed at the
8 beginning, Petitioners -- the way they framed their obviousness argument is
9 legally improper. As shown here on Slide 22 for this limitation directed
10 towards the configured to inhibit a low frequency blocker signal, Petitioner
11 relied on essentially a POSITA's understanding and a string cite to dozens of
12 references that allegedly confirm that POSITA's understanding. The petition
13 does not purport to make any explicit obviousness combinations of these
14 references, and so the petition could use one of these references and explain
15 why a POSITA would have been motivated to use the capacitors disclosed in
16 any one of these -- or use these references to modify the capacitors of
17 Huang. It did not present that analysis. And relying on just the general
18 knowledge of a POSITA is legally improper.

19 As I said before, under Section 311(b), inter partes review,
20 petitions have to be based on prior art consisting of patents or printed
21 publications. One of the more recent director memorandums explicitly said
22 that as a practical matter, basically, evidence consisting of general
23 knowledge may not be used to supply a missing claim limitation.

24 Now, Petitioner did say that this memorandum only applies to
25 petitions filed after September 1st. I think it was 2025 and theirs was filed
26 before, so the memorandum does not apply, but the memorandum was based

1 on underlying Federal Circuit case law, and I'm happy to give Your Honors
2 that case law, which Petitioners do not address in either the petition or their
3 reply. And that case law has held that the general knowledge of a person of
4 ordinary skill in the art cannot supply a missing claim limitation using -- or
5 sorry -- strike that. That case law holds that a Petitioner may not use the
6 general knowledge of a person of ordinary skill in the art to supply a missing
7 claim limitation, and so that's what they've done here and that is not the
8 framework for a proper obviousness analysis.

9 And so, what Petitioner seems to resort to in their reply and today,
10 is that the selection of the capacitor is a simple design choice and the
11 capacitor in Huang could be chosen based on, I think it was their intended
12 well-known purpose to perform the function of inhibiting a low frequency
13 blocker signal.

14 And that brings me back to the differences in the inventions
15 between the '579 and the '194 patent and what's disclosed in Huang. The
16 '579 and '194 patents actually recognize that there are different ways to
17 improve switch performance, as shown in Slide 23 here. One of those ways
18 highlighted in the second paragraph on the bottom left is to improve linearity
19 of switching devices operating, and wireless communication devices that
20 enable simultaneous transmission of data and voice communication.

21 And so, the patents actually disclose that there are different
22 approaches to improving device performance. One is what was claimed,
23 which is using these capacitors to inhibit a low frequency blocking signal
24 and the other would be to improve the linearity of the RF switch.

25 Huang takes the other approach. So, instead of trying to stop these
26 blocker signals from getting to the switch, which is what the '194 and '579

1 patents claim, Huang improves the linearity of the switch and that's shown
2 here on the right-hand side of Slide 23. Basically, what Huang was looking
3 at was selecting particular on and off state voltages to bias these transistors
4 in order to improve device linearity. And by improving the device linearity,
5 it could reduce the spurious harmonic emissions.

6 Now, turning to Slide 24, both the PTAB and the Federal Circuit
7 have made clear that you can't just label something a simple design choice
8 and use that to -- as a substitute for a proper motivation to combine analysis.
9 And so, here where the '194 and '579 patents are using the capacitors for a
10 different purpose, there is no motivation for a person of ordinary skill in the
11 art reading Huang, to design the Huang capacitors for the purpose described
12 in Skyworks' patents.

13 And so, there's a couple cases shown on this slide here. The first is
14 a case from the Federal Circuit. It's *Polaris Industries v. Arctic Cat*. And in
15 that case, the Federal Circuit looked at -- about a particular placement of an
16 element, and saying that where you place that element is a design choice. It
17 does not like the placement obvious.

18 JUDGE BELISLE: Counsel, so right on that point -- but in this
19 case, the location of all the circuit elements is in the exact same place.

20 MR. PERRY: Correct, Your Honor. So, in this case, it's not the
21 placement of the component. It's the configuration of the component, so
22 how is the size of the component selected to perform a particular function.

23 JUDGE BELISLE: Right. And on that point, Counsel, though, the
24 challenged patent does not tell the skilled artisan, at least explicitly, how to
25 pick that magic number for the capacitor.

26 MR. PERRY: That is correct, Your Honor. What the patent

1 describes is to identify the blocker signal, so identify the signals that
2 interfere in the switch and then select the capacitor based on that blocker
3 signal.

4 JUDGE BELISLE: And a skilled artisan would know -- would've
5 known how to do that at the time of the challenged patent?

6 MR. PERRY: A skilled artisan would have known how to select a
7 capacitor to inhibit a low frequency blocker signal, yes.

8 JUDGE BELISLE: Thanks.

9 JUDGE HAGY: Counsel -- yeah, this is Judge Hagy. So, on that
10 memorandum, even if it were to apply, the memorandum -- the person
11 having the skill in the art -- and yeah, I think I'm cutting in and out.

12 JUDGE BELISLE: Yeah. Judge Hagy, can you start that over,
13 please?

14 JUDGE HAGY: Yes. It says general knowledge may still be used
15 in an IPR to support a motivation to combine or to demonstrate the
16 knowledge of a person having skill in the art. So, isn't that telling us that
17 -- yeah, I hope you all are able to hear me. I'm going in and out every three
18 or four minutes. I'm generally following, but --

19 JUDGE BELISLE: Yeah, we hear you.

20 JUDGE HAGY: Okay. So, isn't that telling us that -- it cites
21 *Unification Technologies versus Micron* -- isn't that telling us that we can
22 look to the general knowledge of persons of ordinary skill to supply a
23 motivation to choose these capacitor values?

24 MR. PERRY: So, what --

25 JUDGE HAGY: So --

26 MR. PERRY: Yep. Thank you, Judge Hagy. I think I understand

1 your question. So, what the memorandum says is that the general
2 knowledge of a person of ordinary skill in the art may be used to help inform
3 why a person of ordinary skill in the art would be motivated to combine
4 references, but it may not be used to supply a missing limitation. And here,
5 there is -- the general knowledge is not being used as a reason to combine
6 two references. It's not being used to explain why Petitioner would combine
7 any one of these dozen references with Huang.

8 Instead, what the general knowledge is being used to do is to
9 supply this missing element from Huang, which is configuring the capacitor
10 to inhibit a low frequency blocker signal, and that clearly crosses the line
11 and is not proper under the correct obviousness framework.

12 JUDGE HAGY: So, Patent Owner's position is that it was the first
13 to discover that this circuit -- this arrangement of components -- could be
14 used to accomplish this purpose, but Patent Owner doesn't have to tell what
15 the capacitor values are because a person of skill in the art would know
16 those values.

17 MR. PERRY: Yeah. So, Patent Owner -- the claims claim this
18 particular configuration of circuit components with the capacitors configured
19 and selected to perform a specific function and a person of ordinary skill in
20 the art would know how to select those capacitors to perform that function.

21 All right. So, and let me turn now to Slide 25. And this is
22 testimony from Patent Owner's expert, Dr. Wentzloff regarding Huang, and
23 I'll just note that Petitioner did not submit any reply declaration of Dr.
24 Larson rebutting any of Dr. Wentzloff's testimony here. And what he
25 explains is that the goal of Huang is to design a more linear switch, and so
26 when that switch is more linear, that means for given blocker signal and a

1 fundamental signal, the IMD or intermodulation distortion would be lower.
2 And so, this more linear switch in Huang tells a person of ordinary skill in
3 the art that you can tolerate higher blocker signals because there are smaller
4 intermodulation distortion products generated from the blocker signal.

5 And so, a blocker signal mixing with a fundamental frequency
6 signal in a more linear switch like Huang, is not as much of a problem. I
7 think I heard Petitioner today say that Patent Owner's position was that the
8 switch in Huang is perfectly linear and so there's no intermodulation
9 distortion. I just want to clarify, that's not Patent Owner's position. Huang's
10 switch is simply more linear, and so intermodulation distortion is -- and
11 particular low frequency blocker signals are less of a problem in Huang, and
12 so, there is no motivation for a person of ordinary skill in the art to use the
13 capacitors in Huang to inhibit a low frequency blocker signal.

14 Similarly, so in relationship to, okay, if this is on Slide 26, Dr.
15 Wentzloff testified that if a switch is more linear and can tolerate higher
16 amplitude blocker signals, in what way would a person of ordinary skill in
17 the art be motivated to select the capacitors in Huang. And Dr. Wentzloff
18 said, well, since Huang teaches that its device is more linear and that it
19 wants to improve insertion loss, a person of ordinary skill in the art would be
20 motivated to use the largest possible value of that DC blocking capacitor
21 with ideally the highest quality factor, as well. And so, using a capacitor
22 that is both, large and with a high quality factor, would satisfy the purpose of
23 those capacitors in Huang, and so that's why a person of ordinary skill in the
24 art would relate it to.

25 JUDGE BELISLE: Counsel, this is Judge Belisle. I want to turn
26 to the prosecution history for a moment.

1 MR. PERRY: Yes, Your Honor.

2 JUDGE BELISLE: And is that something you have ready at hand
3 for --

4 MR. PERRY: I do. Yes, Your Honor.

5 JUDGE BELISLE: Okay. On page 38 of the Patent Owner
6 response, Patent Owner makes the statement, the examiner found the claims
7 patentable over the cited prior art. Well, I'd like to just look at the
8 prosecution history for a moment here. If you can turn to page 57 of Exhibit
9 1002, which is the prosecution history, and let me know when you get to
10 page 57.

11 MR. PERRY: And this is for the '194 or --

12 JUDGE BELISLE: Oh, sorry.

13 MR. PERRY: -- '579 patent?

14 JUDGE BELISLE: Yes, '194 patent. Yes.

15 MR. PERRY: Thank you.

16 JUDGE BELISLE: So, '194 patent, Exhibit 1002, page 57.

17 MR. PERRY: Sorry, just one moment here. All right. Exhibit
18 1002, page 57. Okay.

19 JUDGE BELISLE: Do you have it?

20 MR. PERRY: Yes.

21 JUDGE BELISLE: So, on page 57 of Exhibit 1002 for the '194
22 patent, it shows an amended claim -- amended Claim 1 -- and Claim 1 was
23 amended substantially to include the first switch circuit, a second switch
24 circuit, a first capacitor, a second capacitor, and that's just paraphrasing of
25 the limitations. And then Claim 2 was amended to include what we see now
26 in the '194 patent, Claim 2, the feature of configuring the capacitors to

1 inhibit the low frequency blocker.

2 MR. PERRY: Um-hum.

3 JUDGE BELISLE: Claim 3 added the first shunt arm and Claim 4
4 added the second shunt arm.

5 UNIDENTIFIED SPEAKER: This is (INDISCERNIBLE). I
6 apologize for the interruption. I think Judge Jurgovan might have
7 disconnected.

8 JUDGE BELISLE: All right. I'm going to pause our show for the
9 moment.

10 MR. PERRY: Okay.

11 JUDGE HAGY: I just wanted to -- I'm still here. There we go.

12 JUDGE BELISLE: We do not usually have these difficulties.

13 UNIDENTIFIED SPEAKER: Maybe we're having technical
14 issues. I wondered about that, too.

15 JUDGE BELISLE: Oh.

16 MR. PERRY: We had it and then it --

17 UNIDENTIFIED SPEAKER: It crashed.

18 MR. PERRY: -- went away.

19 UNIDENTIFIED SPEAKER: Yeah.

20 JUDGE BELISLE: Okay. Let's go off the record for a minute.

21 COURT REPORTER: We're off the record.

22 (Whereupon, the above-entitled matter went off the record at 1:50
23 p.m. and resumed at 1:51 p.m.)

24 COURT REPORTER: Back on the record.

25 JUDGE BELISLE: Okay. Now that we're back on the record, let
26 me just put into the record why we keep going off and on from the record.

1 We have had a few IT issues with the connections between our Dallas office
2 and other remote participants, so they've resulted in a few short-term off and
3 ons in this case, but we're back on the record. And to recap the prior
4 question that I had, we were looking at Exhibit 1002 from the '194 patent
5 case, page 57, and it's an amendment by the Applicant in which Claim 1 was
6 amended to list several of the features that are actually in the challenged
7 Claim 1 now, including a first switch, second switch, first capacitor, and
8 second capacitor. And in Claim 2, it mirrors the Claim 2 of the challenged
9 patent, '194 patent. It introduces that the capacitors are configured to inhibit
10 the low frequency blocker signal. Claim 3 added a first shunt arm to Claim
11 1, and Claim 4 adds a second shunt arm to Claim 3. And again, those are
12 paraphrasings of the amendments.

13 Now, if you can turn to page 45 of that exhibit. Page 45 is part of
14 a final office action where the examiner indicated allowable subject matter,
15 and the examiner said that Claims 4 through 6 of those claims we just
16 discussed, they were objected to, but would be allowable if rewritten. And
17 notably, Claim 4. Now, if we turn back to page 57 and 58, Claim 4 that was
18 deemed allowable by the examiner, that is now what is Claim 1 in '194
19 patent where Claim 4 combined with Claim 3, combined with Claim 1,
20 introduced all the features that it recited in Claim 1 of the '194 patent, i.e. all
21 the structure.

22 What the examiner did not say, in saying that Claims 4 through 6
23 would be allowable, the examiner did not say that Claim 2 would've been
24 allowable, and so it leaves me to question whether the examiner here -- well,
25 not to question. Why does this not show that the examiner did not deem the
26 configuration of that capacitor to have persuasive patentable value during

1 prosecution? Because after this, the case was ultimately allowed. I believe
2 there's no more pending applications, and so we have a prosecution history
3 where the examiner had not indicated allowability of that configuration
4 feature of the capacitors, and now, that's the only thing we seem to be
5 fighting about is that is what lended patentability to claims in this case. So,
6 it really wasn't a question. It was more of a statement, but I'd like your
7 response to my observation of what is going on in the prosecution.

8 MR. PERRY: Yes, Your Honor. I'm happy to give you a response
9 there. I'd just like to first note that the clock is not currently --

10 JUDGE BELISLE: Oh.

11 MR. PERRY: -- running, so --

12 JUDGE BELISLE: Well, you benefited.

13 MR. PERRY: Thank you very much, Your Honor. Yeah, so I
14 think there's two points I'd like to make on the prosecution history. The first
15 is that it's not just configured to inhibit a low frequency blocker signal from
16 mixing with the fundamental frequency. That's what makes the claim non-
17 obvious. It's that the capacitors are in the configuration in Claim 1 and then
18 they are further configured to do that. And so, the original claims fail to
19 recite all of these additional limitations about the structure of the circuit, and
20 so that was amended to include additional structure, as well as configuring
21 the capacitors in this way.

22 And so, I'd also like to point out, too, when the Patent Owner
23 amended these claims -- and this is on Slide 41 of Patent Owner's
24 demonstratives -- it made clear that it was making no disavowal of the claim
25 scope for patentability of those claim limitations. And so, it amended the
26 claims to get them allowed and it really was this combination of both, the

1 circuit configuration, which was not disclosed in the prior art of record
2 during prosecution, as well as the capacitors being configured in this, Your
3 Honor.

4 JUDGE BELISLE: Are there any -- there are no more pending
5 applications related to the '194 patent, are there?

6 MR. PERRY: I believe there are no other pending applications for
7 this.

8 JUDGE BELISLE: And merely making the statement that nothing
9 I say constitutes prosecution history estoppel -- I mean, if that counted, then
10 everybody would just stick it in their amendments and then there'd never be
11 prosecution history estoppel. So, I don't see much value in that statement,
12 particularly with no pending applications in which you could further amend
13 the claims. Am I missing something there?

14 MR. PERRY: No, Your Honor. Just that the fact that the Patent
15 Owner did not concede that the prior art reference did, in fact, disclose that
16 the capacitors were configured to inhibit a low frequency blocker signal, and
17 so, did not agree with the examiner that that particular limitation was in the
18 prior art reference, but instead, amended the claims to include additional
19 limitations to expedite their review and to get them allowed.

20 JUDGE BELISLE: Okay, thank you.

21 MS. LIN: I wanted to -- I don't know -- I wanted to jump in. Did
22 you want me to go over there or is it --

23 JUDGE BELISLE: You may, yes. That way it can be picked up
24 on the transcript.

25 MS. LIN: I just wanted to go back to the question that Judge Hagy
26 had before about relying on the general knowledge of the art. I think that

1 question came in the context of discussion they were having about, you
2 know, the sizing of the capacitors and whether or not, in view of Huang,
3 would you depart from Huang's teaching of how you should judiciously
4 choose those capacitor sizes, and then when Judge Hagy asked the question
5 about whether or not it was permissible to rely on general knowledge for that
6 specific issue. I just want to make sure it's clear, that there's sort of two
7 questions here. I think that discussion was if you assume that you allow
8 general knowledge of the art to supply missing limitations, then what is
9 -- why are these claims still patentable? There is a separate issue of what are
10 they actually relying on for general knowledge of the art, and it's not just the
11 sizing of the capacitors and how you can configure them. It is that entire
12 limitation. I don't think either party -- I don't think -- I think the parties have
13 agreed that there is no blocking signals in Huang or Seshimo, so that entire
14 existence of blocking signals comes from the general knowledge of the art
15 under the petition's position. Just wanted to clarify because I think that
16 might've gotten a little mixed up.

17 JUDGE BELISLE: Thank you.

18 MR. PERRY: Okay. Now, turning to Slide 29, and I heard
19 Petitioner say a couple of times today that -- and frame the capacitors in the
20 context of the '579 and '194 patents as being DC blocking capacitors -- there
21 is no dispute here that all capacitors block DC, and the capacitors in the '579
22 and '194 patent in addition to inhibiting a low frequency blocker signal
23 would also inhibit -- or would also block a DC signal. The question is, and
24 the proper inquiry here, is whether a person of ordinary skill in the art would
25 be motivated to modify the capacitors in Huang to inhibit a low frequency
26 blocker signal. And so, just because all capacitors block DC signals, the

1 converse is not necessarily true that all capacitors inhibit a low frequency
2 blocker signal.

3 And I already touched on the bottom part of Slide 29 here -- the
4 fact that non-linearities exist. Patent Owner does not dispute that Huang's
5 switch is also non-linear, but what Huang purports to in that is a more linear
6 switch, and so the intermodulation distortion problem -- and it solves the
7 intermodulation distortion problem with that more linear switch, and so it no
8 longer has a need to inhibit a low frequency blocker signal.

9 Okay. So, with that, with the remaining time, I'd like to turn
10 briefly to the other limitation that is not taught or disclosed in either the
11 Huang or Seshimo references, and that is forming the capacitors on the same
12 substrate as the switches. As Petitioner said today, there is no disclosure in
13 Huang regarding where to place the capacitors -- whether it's on the same
14 substrate or a different substrate. And instead, uses the general knowledge
15 of a person of ordinary skill in the art, once again, to try to fill in that
16 missing limitation to explain why a person of ordinary skill in the art
17 would've been motivated to form the capacitors on the same semiconductor
18 substrate as the other claimed elements.

19 And so, I'd just like to touch here on Slide 34. This is how the
20 petition frames the disclosure in Huang of the location of the components,
21 and so as the petition states, Huang discloses that its invention relates to high
22 power semiconductor switches. It discloses transistor switches and that they
23 can be silicon-on-insulator FET switches. And it points to Claim 5 of Huang
24 where it states that the transistor switches are silicon-on-insulator FET
25 switches. Claim 5 is silent on the location and placement of the capacitors in
26 Huang. It does not disclose that they are on the same silicon-on-insulator

1 substrate, and so it fails to disclose that limitation of those claims.

2 JUDGE BELISLE: So, Counsel, this is Judge Belisle. Just to be
3 clear, there are only two places you can put the capacitor, right? Either on
4 the substrate or off the substrate?

5 MR. PERRY: That is generally correct. Yes. Yes, Your Honor.

6 JUDGE BELISLE: So, the skilled artisan faced with sort of this
7 question of is it obvious to do this, the question in their mind is going to be,
8 is it A or is it B, and the skilled artisan would know how to do either one at
9 the time; is that correct?

10 MR. PERRY: A skilled artisan at the time would know how to
11 place capacitors either on or off of the substrate, yes. But framing this as a
12 simple design choice -- and I'd like to go back -- let me see if I can -- to
13 Slide 24, the *Hesai Tech* case. That's very similar, where there are kind of
14 two choices there for the transformer coil. You can either put it outside or
15 inside, and the prior art references there suggested that there are good
16 reasons for doing it inside, and so while there were only still two choices
17 -- outside or inside -- the prior art reference did not disclose or suggest the
18 claimed way of doing it. And so here, if you go back to Huang and what
19 Huang is teaching, so it's silent on where the capacitors could be placed, but
20 it does talk about the purpose of the capacitors and how to select those
21 capacitors.

22 And what Dr. Wentzloff testified about -- turning here to Slide 35.
23 So, he explained -- and as I explained earlier, in Huang, to essentially
24 maximize the isolation of the DC bias signals and to provide the lowest
25 insertion loss, a person of ordinary skill in the art would've been motivated
26 to select capacitors in Huang that were large and had high quality factors.

1 That's what Dr. Wentzloff testified and that was not rebutted by Petitioner or
2 Dr. Larson. And so, then the question is, okay, if a person of ordinary skill
3 in the art were motivated to use large capacitors with high quality factor or
4 Q factor, where would a person of ordinary skill in the art be motivated to
5 place those capacitors.

6 And so here on Slide 35, what Dr. Wentzloff testified was that a
7 person of ordinary skill in the art, especially in the 2012 timeframe,
8 would've been motivated to put that capacitor off die, off the chip, because it
9 could get the highest capacitor density, so it could have the largest capacitor
10 to provide the highest amount of isolation, as well as the highest quality
11 factor.

12 JUDGE JURGOVAN: Counsel, what advantage accrues from
13 putting the capacitor on chip?

14 MR. PERRY: Yeah. So, putting the capacitor on chip can lead to
15 fewer connections, so you no longer have to have a connection to an off chip
16 capacitor, and so that would be one way an on chip capacitor is better.
17 Another is those connections can introduce parasitic inductance or
18 capacitance. And so, by including capacitors on chip, you can reduce that
19 parasitic inductance or capacitance.

20 JUDGE JURGOVAN: Do the patents teach that?

21 MR. PERRY: No. The patents teach that the capacitors can be
22 placed on or off chip, but do not explain the benefits of either approach.

23 JUDGE JURGOVAN: Thank you.

24 JUDGE BELISLE: Counsel, also for your timing, again, given the
25 glitches that we've had, I'm more than happy to add another five minutes, if
26 you need it.

1 MR. PERRY: I appreciate that, Your Honor. I'm actually done
2 with Huang, and since we did not focus on Seshimo because it's largely the
3 same arguments as Huang, I think I will reserve the rest of my time for
4 rebuttal.

5 JUDGE BELISLE: Okay, thank you. Petitioner? I'll put up the 10
6 minutes, but again, given our distractions today, if you need more time, just
7 let me know.

8 MR. TYSON: Yes, Your Honor. I will keep it to 10 minutes, and
9 if -- but if there's questions that go over, then I'm happy to field them. I
10 think the first point I want to make, and I want to make sure it's very clear,
11 we disagree that there is a missing limitation. There is nothing in Huang or
12 Seshimo. There's nothing to combine. There's nothing to modify. There's
13 nothing to depart from. We are using -- Slide 22 -- the reason we included
14 the state of the art section is to explain what the patents disclose to a skilled
15 person, and what the prior art discloses to a skilled person. And we are
16 using the knowledge of a skilled person to explain that.

17 If I just read -- I mean, Judge Hagy, you identified that this case is
18 in the Director's memo. I think this case is very squarely on point with us in
19 this case, and we have, you know, a statement here, but on Slide 22, the
20 Board properly relied on expert testimony, factually supported by additional
21 prior art, to demonstrate how a skilled POSITA would have understood the
22 disclosure of a single prior art reference, and in finding that the single
23 reference, as understood by a POSITA, rendered the challenged claims
24 obvious by teaching every claim limitation.

25 And I think in Unification text, it wasn't -- what we tried to do here
26 is give you a -- I don't know -- lack of a better word, plethora of a large

1 amount of evidence to show you that these -- that each of these points that
2 are not mentioned in the patents, including capacitor values, not mentioned
3 in the prior art references, including capacitor values, were so well-known to
4 a person of ordinary skill in the art, that they need not be disclosed -- I mean,
5 need not be -- I'm sorry -- need not be expressly mentioned in order to be
6 disclosed. And I think that's -- there's -- besides the Syntek case here, there's
7 a ton of cases that are related to that, but I want to make that clear. And are
8 there any questions on what Petitioner's position is?

9 The second point -- I want to go back to -- this is Judge Belisle's
10 question. The Patent Owner can't have it both ways. If the only patentable
11 feature is selecting the appropriate capacitor value, but the patent doesn't
12 need to disclose the value because it was so well-known to a skilled person,
13 it doesn't need to disclose any examples of low frequency blockers, any
14 examples of fundamental frequency values. Anything that we cited here on
15 Slide 12, it doesn't need to disclose those things. You can't have it both
16 ways.

17 And a skilled person -- the same skilled person is going to read
18 Huang and Seshimo and understand that that's disclosed, and where I think
19 we come out is, as we showed in our evidence, the normal values of
20 capacitors in the positions in Huang and the positions in the patent, and the
21 positions in Seshimo -- and not only the positions, but also, the normal
22 values for those radios. And especially, silicon-on-insulator form RF
23 switches, but also pHEMT switches. The normal values were picofarad
24 values for those concerned. We show that on Slides -- I want to say 22 and
25 23 or -- yeah, 20 and 21. Numerous examples of this.

26 And what that means is that those capacitors will block DC signals,

1 like DC biasing signals, because every single capacitor does that. They will
2 also present a very high impedance to low frequency signals, including low
3 frequency blocker signals for this wireless LAN radio, for the cellular phone.
4 That's all of these examples. That's what they will do. You can see, we put
5 up the cut off frequency in each of these cases, and they also present a very
6 low impedance to the fundamental frequency signal. That's what capacitors
7 do. It's not only that they can do that, it is that they do, do that. They do that
8 in Huang. They do that in Seshimo. They do that in the patents. That's
9 what's disclosed. I think Judge Belisle asked a specific question. You asked
10 the Patent Owner to show where in the patent it discloses this configure to
11 inhibit a low frequency blocker signal, and the patent only discloses the
12 position. It doesn't disclose a value, and that's -- that is -- that value, as we
13 discussed, that value is not disclosed in any of the patents, the references,
14 but the skilled person would understand that that exists.

15 The other point I want to raise with respect to Huang is -- I want to
16 go to Slide -- I guess Slide 26, but improving linearity is not mutually
17 exclusive with also using capacitors arranged and values selected in their
18 well-known and intended purpose to block DC signals, present high
19 impedance to low frequency signals, and present low impedance to high
20 frequency signals. And we show that a number of times. It's not only with
21 Huang, but what I'll say is even in some of the references that we identify on
22 Slides 20 and 21, a number of them and a number of Skyworks' own
23 references -- so, this -- I'll use this. Can I go to the Elmo real quick?

24 The point I'm making is that there's a number of references and a
25 number of these cases, including by Skyworks, where you have excellent or
26 extremely high linearity on their data sheets, and yet they're still -- this is an

1 example. So, this is Slide 42. This is Exhibit 1031. This is showing -- yep,
2 for pHEMT switch, we required using 47 picofarad capacitors if you're
3 greater than 500 megahertz. This switch in Exhibit 1031, if you look at the
4 front of that data sheet, it says extremely high linearity is something that's
5 achieved there. Again, here for that switch, but it still uses a picofarad
6 capacitor that would block low frequency signals.

7 Same with Exhibit 1033, which is on Slide 43 of their exhibits.
8 They don't show you the excerpt here, but if you look at this same page,
9 Exhibit 1033, page 1, it again shows -- and I can even pull it up. Yeah.
10 Again, 47 picofarads is configured to inhibit low frequency blocker signals
11 for greater than 500 megahertz, and yet the switch that this is on, it says it's
12 -- this is a switch that has extremely high linearity. They're still using
13 picofarad capacitors, and we just provided for the wireless LAN radios and
14 cellular phones, they're still using a lot because it's being used for its well-
15 known and intended purpose, blocking DC signals, presenting low
16 impedance to the fundamental frequency signals, and presenting high
17 impedance to low frequency AC blocking signals.

18 A couple other points -- just a few other points. There was an
19 issue related to Dr. Larson's declaration that was raised by the Patent Owner.
20 The petition -- it's the other way around -- the petition follows Dr. Larson's
21 declaration because the petition cannot incorporate material by reference
22 from the declaration, so that's why there's overlap between the two.

23 On Patent Owner's Slide 24, the point I want to make -- this is
24 where the expert -- their expert makes these statements related to what a
25 person of skill in the art would be motivated to do in Huang. There's no
26 factual support. There's zero factual support for his testimony, and I went

1 over that this morning, but we showed this on Slides 29 to 30 of our
2 presentation where we showed -- this is his only evidence he relies on and
3 we rebutted all of that evidence, so he has zero factual support for that
4 statement. So with that, that's the last point I intended to make. If there's
5 any questions, I can field them. Thank you, Your Honors.

6 JUDGE BELISLE: Thank you. Patent Owner?

7 MR. PERRY: All right. Just a few points, Your Honors. The first
8 is I heard Counsel say that they are not relying on the general knowledge of
9 a person of ordinary skill in the art to supply a missing claim limitation.
10 And so, what that means is that they are not attempting to modify Huang or
11 Seshimo to supply those missing limitations, and so they should be held to
12 that. Huang, as we already discussed, does not discuss a low frequency
13 blocker signal or how to configure those capacitors to inhibit a low
14 frequency blocker signal. And so, on that basis alone, their petition fails.

15 Similarly, Huang is silent on the placement of the capacitors and
16 whether they can be on the same substrate or off the same substrate -- or off
17 the substrate. And since Huang fails to disclose that and they are not
18 arguing any modifications of Huang, they failed to meet their burden of
19 proof there.

20 Now, Counsel went through some Skyworks data sheets and
21 discussed the capacitor values for those capacitors, and argued that they
22 were inhibiting a low frequency blocker signal, even though the RF switches
23 were linear. And so the -- his argument was that the -- his argument was that
24 these two design parameters are not mutually exclusive, and I'd like to point
25 out a couple things with these data sheets.

26 The first here, importantly, is you can see that the capacitors that

1 they point to -- C1, C2, C8, C7 -- are all off chip blocking capacitors -- DC
2 blocking capacitors, and so none of these are integrated within the package
3 of that particular RF switch, and so the data sheet discloses actually that you
4 would not place those capacitors on chip with the transistor switches,
5 contrary to what Petitioner argued what would've been obvious to do.

6 The second point that I'll make is that this does not show the
7 internal operation of the RF switches. It just shows the outputs and does not
8 show the capacitors that are configured in the way as claimed in the patent,
9 and that are subject to the inventions of the '194 and '597 patents. Instead,
10 these are blocking capacitors that are placed at the outputs of the switch and
11 are not the claimed internal capacitors.

12 Similarly, if we look at Slide 43 of Patent Owner's demonstratives,
13 you see here -- and we're highlighted this on the slide -- that those DC
14 blocking capacitors are in the same configuration as shown on the prior
15 slide. Importantly, it says that these must be supplied externally, so once
16 again, it's teaching away from using the capacitor on the same substrate as
17 the transistor switches, as required by the challenged claims. And once
18 again, these are capacitors that are not in the same configuration as Huang or
19 the claimed invention of the '579 patent, and so Patent Owner has -- or
20 Petitioner has presented no evidence why a person of ordinary skill in the art
21 would be motivated to use these external capacitor values in Huang to
22 modify or select the capacitors in Huang. All right. And with that, Your
23 Honors, I will cede the remainder of my time.

24 JUDGE BELISLE: Okay. Thank you, Counsel.

25 JUDGE HAGY: I have one question --

26 JUDGE BELISLE: Oh.

1 JUDGE HAGY: -- for Patent Owner. Is Patent Owner making
2 any arguments regarding Claims 13 and 14 of the '579 patent? Because I
3 don't see any.

4 MR. PERRY: Yes. For Claims 13 and 14 of the '579 patent,
5 Patent Owner is deferring there to the discretion of the Board.

6 JUDGE HAGY: Thank you, Counsel.

7 JUDGE BELISLE: Okay. Thank you, Counsel. The case is
8 submitted and we'll take it under advisement. Before going off the record, I
9 just want to recognize the LEAP practitioner, Mr. Perry, for his first time or
10 few times doing an argument -- congratulations -- it's not easy to stand up
11 there. It's a lot easier to sit here. And thank you to your firm for allowing
12 you that opportunity to do that. I know clients are sometimes questionable
13 as to whether or not they want to allow that, and so we thank them for giving
14 you the chance. There is no downside to it. And I guess before we go off
15 the record, I should ask lead counsel, is there anything that you wanted to
16 clarify further?

17 MS. LIN: Oh, no, I jumped in.

18 JUDGE BELISLE: Okay.

19 MS. LIN: Otherwise, I'm great. Thank you.

20 JUDGE BELISLE: All right, thank you. All right. So, now we're
21 off the record.

22 (Whereupon the above-entitled matter went off the record at 12:28
23 p.m.)

IPR2024-01456, Patent 9,450,579 B2
IPR2024-01457, Patent 9,148,194 B2

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