

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

OURARING, INC.,
Patent Owner.

IPR2024-01077 (Patent 10,139,859 B2)
IPR2024-01078 (Patent 10,281,953 B2)

Record of Oral Hearing
Held: October 29, 2025

Before LINDA E. HORNER, NEIL T. POWELL, and
MICHAEL A. VALEK, *Administrative Patent Judges*.

IPR2024-01077 (Patent 10,139,859 B2)
IPR2024-01078 (Patent 10,281,953 B2)

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P R O C E E D I N G S

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1:00 p.m.

JUDGE POWELL: Welcome, we are here today for oral arguments in two proceedings. First is IPR2024-01077, and that involves U.S. Patent Number 10,139,859 B2, and the second is IPR2024-01078, which involves U.S. Patent Number 10,281,953 B2. I am Judge Powell, and I am joined by Judges Horner and Valek. Let's have appearances for the parties. Who do we have for Petitioner?

MR. HABER: Petitioner you have Benjamin Haber on behalf of Samsung. With me is my colleague William Fink, and we have a Samsung representative in the audience, as well.

JUDGE POWELL: Okay. I will note too, we understand that health issues necessitated a withdrawal of your LEAP request, and we'd like to say we hope for a fast, full recovery.

MR. HABER: Thank you, Your Honor.

JUDGE POWELL: So then for Patent Owner, who do we have present today?

MR. PLUTA: Good afternoon. Robert Pluta on behalf of Ouraring. With me are my colleagues Nicholas Ciulla and Jasjit Vidwan.

JUDGE POWELL: Thank you. So now that we have no LEAP request, we will have 60 minutes of argument time for each side. Petitioner will open and may reserve rebuttal time. Patent Owner will respond and may reserve surrebuttal time. I'm going to keep track of time with the timer that has a display behind me, and I'm going to try to let you know when you're running short, but I encourage you to keep track of your own time

1 also, as always. When you present, please let us know which demonstratives
2 and exhibits you're looking at and referring to, so that -- it's helpful for the
3 record generally.

4 Also, as everybody saw in the email exchanges prior to the hearing,
5 we have confidential exhibits and papers in the record, and we want to,
6 Patent Owner wants to be able to talk about those today, Petitioner may also,
7 I assume. So, with any segment of the hearing, if you could please reserve
8 discussion of any confidential documents toward the end of that section, and
9 let me know when you're going to launch into that part of your presentation
10 and then we can pause the public line and clear the hearing room of anybody
11 who's not on the protective order. With that, I think that's most of the
12 housekeeping issues. Let me ask Patent Owner if there are any questions or
13 concerns from your side before we start?

14 MR. PLUTA: No, Your Honor.

15 JUDGE POWELL: Okay, anything from Petitioner?

16 MR. HABER: No, Your Honor.

17 JUDGE POWELL: Okay. My question for you is, how much time
18 would you like to reserve?

19 MR. HABER: I'd like to reserve about 20 minutes.

20 JUDGE POWELL: 20 minutes? Okay. You have the floor.

21 MR. HABER: Thank you. All right. May it please the board.
22 Benjamin Haber for Petitioner, Samsung. I'm going to be talking about the
23 '859 and '953 Patents today. I have on Slide 2 a overview of the presentation
24 that I'll be giving today. There are a number of issues that we're going to
25 talk about, and they are in large part substantially similar to some of the
26 issues that we talked about last month. There are, I think, five substantive

1 issues, and a motivations and secondary considerations argument, as well.
2 For a large part, there are minor differences between the claim language, and
3 there are some additional grounds at issue in these proceedings that weren't
4 at issue last time, which I'll generally try to focus on.

5 I think I can skip over some of the introductory material, and that
6 brings us to Slide 5. Slide 5 is a family tree of the patents that are asserted in
7 these proceedings. The '953 and '859 Patents are child patents of the '034
8 Patent. The '034 Patent was discussed last time. And similar to the prior
9 patents, the '859 and '953 discuss packaging, small components within a ring
10 form factor. These patents, like the last set, are not really about
11 miniaturization of components.

12 So, on Slide 8, we have kind of a graphic showing the overlap of the
13 issues. There are a number of similar issues that we're going to be talking
14 about for both of these patents. I'll kind of give a very brief overview of the
15 prior art. The Schroder reference that was discussed at length last week is at
16 issue in all of the grounds -- well, a ground against all of the claims in the
17 patent in here. And so, for a large part, where there are similar issues with
18 Schroder I'll try to go quickly through it, unless Your Honors have
19 questions. So, Schroder is a primary reference against all of the claims, and
20 then there are two references that are brought in as additional grounds,
21 Mestas and Yuen, on Slides 11 and 12. Mestas and Yuen were discussed
22 last time, but they were not presented as primary references. And these
23 combinations as back up grounds, they are primary references. And then we
24 also have Asami, which is a new reference that was not at issue in the last
25 proceeding, and Wissmar, which was discussed briefly in the last proceeding
26 as well. They are brought in as secondary combinations.

1 And you can see the list of asserted grounds on Slide 15. And one
2 thing that's important to note, we expect that Patent Owner is going to be
3 making arguments based on a prior ITC decision. None of these grounds
4 were at issue in the ITC. The primary ground, primary reference that was at
5 issue in the ITC is Niwa. We discussed that last time. None of the grounds
6 here rely on Niwa, and none of these particular grounds were at issue before
7 the ITC.

8 JUDGE HORNER: But the ITC made findings that were relevant to
9 this, correct? I mean, they made findings about Schroder, about the
10 objective indicia evidence that was at issue there, and also the Henderson
11 reference, which looks similar to Mestas, I don't know how similar it is.

12 MR. HABER: So the ITC did make some findings about Schroder,
13 and they made some findings about how Schroder would be combined with
14 Niwa. And so those combination findings are not relevant here. There are
15 some findings about Schroder that may have some relevancy, in fact support
16 our view, which Schroder is. As far as secondary considerations and other
17 issues, I'll get into that towards the end of the presentation. But the key
18 takeaway is that the claims at issue here are substantially different than the
19 claims at issue in the '178, and so the findings as to secondary indicia
20 necessarily apply to the claims of the '178 Patent, not these different patents
21 with different claims.

22 All right. So, I will begin the presentation with the discussion of the
23 kind of structural features of these claims. And again, like last time, it's
24 really these structural limitations that have, I think, are wrapped up in all of
25 the arguments and really resolve a substantial number of the disputes here.
26 And so on Slide 18, we see the claims of the '859 Patent and the '953 Patent,

1 and on the left-hand side you can see the claims of the '859 Patent, they
2 require a waterproof cavity, and the waterproof cavity is between an interior
3 bounding member and an exterior bounding member. The '953 Patents don't
4 require a cavity, but they similarly require an interior enclosure portion and
5 an exterior enclosure portion that together define a housing. And as I'll talk
6 about when we apply the art to the claims, the main substantive difference
7 between these structural requirements is that in the '859 Patent there's a
8 cavity between these two members, and in the '953 Patent there are inner and
9 outer members of a housing, and the requirements are that various
10 components be positioned approximate to other components. So, there's a
11 nearness requirement, and that's slightly different than the '859 Patent.

12 I don't think we need to spend too much time on Schroder, unless
13 Your Honors have questions, but Schroder teaches the two ring halves, as
14 we discussed last time. And kind of Schroder applies the same way to either
15 one of the claims, the '859 or the '953, because it has two separate inner and
16 outer portions. There's a recess, a cavity, within those portions, and all of
17 the components are positioned on that recess and approximate to it. So,
18 Schroder has these construction variants which we discussed at length in
19 Figures 6 through 10, and they are being applied the same way to these
20 claims as they were applied last time. And so you can see the variant in
21 Figure 7 with an inner portion, inner bounding member 16 and an outer
22 bounding member 18 forming a finger ring. And, you know, it's the same
23 packaging as in the challenged claims.

24 Now, Patent Owner's attacks on Schroder are the same as they were
25 last time. They focus on Schroder's Figure 3, which is a different
26 embodiment as described in Slide 24, than what we are relying on. We are

1 relying on Schroder's Figure 4 embodiment and the various construction
2 variants that go along with it. So, in the Petitioner we identify Schroder's
3 inner and out portions. You can see that on Slide 25. And this is the point
4 that I was raising earlier, that the ITC did make some findings about
5 Schroder, and our view is that those ITC findings are not really relevant
6 here, because they are a different combination being applied in a different
7 way, looking at different evidence and arguments. But, it's interesting to
8 note that Schroder, that the ITC agreed that Schroder discloses separate
9 housing components. And that is really the point of Schroder, and I don't
10 think the ITC or really anyone could dispute that.

11 JUDGE HORNER: Can we go back to Slide 25?

12 MR. HABER: Sure.

13 JUDGE HORNER: On the left-hand side, you've labeled Figure 4 and
14 shaded in green what you labeled interior bounding member. Is that
15 accurate?

16 MR. HABER: So, the Figure 4 embodiment, I think, is a particular
17 cross section depicting one of the construction variants. Patent Owner, in
18 the prior case, has made an argument related to bagels, that Figure 4 is not as
19 we describe it. It's interesting to note that they don't maintain that argument
20 in this proceeding. I think for the construction variant of Figure 7 combined
21 with Figure 4, that is accurate. What is shown in Figure 4 doesn't have a
22 label on it that says 16, but when you actually look at the construction
23 variant that's described, for example in Figure 5 prime, if you were to take
24 the cross section of that, that would look like Figure 4.

1 JUDGE HORNER: So, what we're looking at in Slide 25, Figure 4,
2 that's -- it's not labeled Figure 4 prime, but you're saying it's supposed to
3 represent Figure 7 as shown in the view of Figure 4?

4 MR. HABER: Yes. Perhaps it should say Figure 4 prime, because
5 you're right, Your Honor, that Figure 4 doesn't identify what's identified
6 there in green as item 16. I think that there is a, you know, very particular
7 teaching that what's shown is Figure 5 prime, and if you take a cross section
8 of that it likely should have been labeled as Figure 4 prime. But that's what's
9 shown on Slide 25. Now, putting aside Schroder unless Your Honors have
10 additional questions about that.

11 JUDGE HORNER: I have one more question about Schroder,
12 specifically the ITC's interpretation of Schroder and the paragraph regarding
13 the battery as being limited to the Figure 3 embodiment. If we were to
14 disagree with that, or, why isn't that a fair reading of Schroder? Because the
15 description of the battery comes within the context of the Figure 3
16 embodiment in the patent, and before Schroder begins to speak to the
17 variants, the construction variants of Figures 4 through 10, so why isn't the
18 ITC's reading of Schroder a fair reading?

19 MR. HABER: So, that is true, the battery description is kind of bound
20 up in the part of the patent where it's describing Figure 3. Schroder includes
21 a number of teachings, a number of construction variants, Figures 4 through
22 10, and then after the discussion of those construction variants, Schroder
23 goes on a number of different additional kind of variants in Schroder,
24 describing different electronic components. They talk about SIM cards, they
25 talk about GPS, they talk about a number of electronic components that can
26 be maintained within its device. All of those components would use a

1 battery. None of that is limited to Figure 3, I think it's just happenstance that
2 Schroder just decided to describe its battery in that front part and then
3 continue on to describe the rest of its electronic components later in the
4 patent. I don't think there's anything that can be drawn from that.

5 So, turning to Yuen and Patent Owner's arguments against Yuen.
6 Patent Owner presents some arguments that are specific to Yuen, they
7 weren't implicated in the prior arguments because the claims were slightly
8 different. Patent Owner tries to distinguish the Yuen reference as not being
9 limited to a finger ring, but the claims of the '859 Patent are not limited to a
10 finger ring. Patent Owner proposes that the wearable ring computing device
11 is a device specifically configured to be worn on a user's finger, but that is
12 not a proper reading of the intrinsic and extrinsic evidence here.

13 When you look at the claims, the '859 Patent claims do not recite a
14 finger. They recite a ring, but other claims of related patents do. The '953
15 Patent recites a finger ring, the '034 Patent recites a finger ring. That term is
16 just not found in the claims themselves. I think you see similar things when
17 you look at the specification, when you look at the file history, when you
18 look at the extrinsic evidence. There is simply nothing in the record that
19 supports an argument that a ring must always be limited to a finger ring, and
20 in fact that term does not appear in the claims. And so not only is the
21 argument kind of not supported by the evidence, it really is taught by Yuen
22 under any view of what a wearable ring device is.

23 When you actually look at Yuen's teachings, Yuen teaches a wearable
24 ring computing device. I am now on Slide 32. We see an excerpt from
25 Yuen. Yuen discloses, for example, a necklace, a chest band, an earring,
26 which is a ring that goes in someone's ear, and a toe ring, which is a ring that

1 goes around someone's toe. And this device can be worn in any number of
2 ways, any number these form factors, and so the argument that Yuen doesn't
3 teach a ring computing device really is not consistent with what Yuen
4 actually describes.

5 And when you actually look to Yuen's structure, what you see is that
6 Yuen teaches inner and outer bounding members that are coupled together to
7 provide a waterproof cavity. You can see the inner member highlighted in
8 red on Slide 35. At the bottom of the device, it contacts, touches, or faces
9 the user's skin, and it provides the inner surface. And there is an exterior
10 bounding member, green, which faces the environment, and that provides
11 the external surface in Yuen. And between them is a cavity in blue that
12 houses all of the sensors and electronic components. And so Patent Owner's
13 argument that Yuen doesn't have these structural teachings is just not a fair
14 reading of Yuen.

15 JUDGE VALEK: Counsel, I have a question about this figure, and
16 I'm going to use your Slide 32, which I think is the one you're referring to.

17 MR. HABER: Yes, Your Honor.

18 JUDGE VALEK: It seems like the exterior bounding member and
19 interior bounding member that you've marked there in green and red, that
20 they're open on the end. In the plane of the page or of the slide, they seem to
21 be open. So, how is that a waterproof cavity, if it has that opening on the
22 end?

23 MR. HABER: Yeah, so I don't think that that's the correct reading of
24 this figure. I think this is a cross section. I think this is a cross section of a
25 closed compartment, where you can see into the flexible PCB and you can
26 see the cavity, you can see these outer housing members. The actual total

1 device I believe is shown in Yuen's Figure 3, for example. Yuen's Figure 3
2 is the complete packaged device that has, you know, it's sealed on both ends
3 and has the band that goes around a user's wrist. And so, what's shown in
4 Figure 4 is a cross section to see the internal components.

5 JUDGE VALEK: Yes, but the portions of Figure 4 and then Figure 3
6 that you've highlighted in the petition, the red and the green portions, don't
7 actually seal it, correct? You have to rely on additional structures?

8 MR. HABER: I don't think that is correct, Your Honor. I think those
9 portions are sealed. It is a watertight cavity. Yuen describes itself as a
10 watertight cavity. There is a band that goes around the user's wrist, and you
11 know, where in Figure 4 the electronic device interfaces with the band, the
12 device is sealed so that all of the components are packaged together.

13 JUDGE VALEK: Where in Figure 3 does it show that? It seems like
14 the band is next to the two portions that you identified in red and green?

15 MR. HABER: Right, Your Honor. And Figure 3 shows the band and
16 the internal components connected together. It doesn't show the sealing
17 there. I think one skilled in the art would have understood that all of those
18 components would be sealed together.

19 JUDGE VALEK: Well, I understand that that's your argument. Is
20 there a figure that shows it actually sealed? So, the sensor protrusion and the
21 electronic portion of Yuen, is there any figure that shows it being sealed on
22 the end by what you have identified as the internal and external bounding
23 members?

24 MR. HABER: So, if you look at the figures, the internal and external
25 bounding components seal the internal and external sides. I think it is
26 correct that there is, for example in Figure 11, Figure 12, it doesn't show that

1 interface between the electronic components and the wrist band. It doesn't
2 show that --

3 JUDGE VALEK: Is there a figure, though? That you can point me
4 to?

5 MR. HABER: What I would point you to are Figures 3, 11, and 12,
6 that show kind of the end point of the electronic components with the band.
7 But you are correct, Your Honor, that it doesn't actually depict that those
8 things are sealed. Yuen describes itself as having a sealed cavity, but it
9 doesn't, in one of those figures, show it.

10 JUDGE VALEK: Where is that description? The written description
11 that you're referring to in Yuen?

12 MR. HABER: So, let's see. On Slide 37 I have a quote from the
13 petition that Yuen teaches using watertight glues to secure and attach the
14 device to the body and providing a watertight seal for the package. The
15 citation there is Exhibit 1006, column 14, lines 66.

16 JUDGE VALEK: Okay.

17 MR. HABER: And just reading from Yuen here, let's see.

18 JUDGE VALEK: Counsel, this seems to discuss -- and I'm reading
19 the passage you just referred me to, this seems to be referring to a watertight
20 seal for the sensor package. That's in column 15, it looks like line 4, and
21 then it refers to what you see in Figures 3 through 7, which is, as I
22 understand it, the bottom protrusion of Yuen's device, but not the whole of
23 what you've identified as the cavity.

24 MR. HABER: So I'm not sure that that is a fair reading here. You're
25 protecting the biometric monitoring device via a liquid tight seal, and so the
26 biometric monitoring device includes the sensor, certainly, but it also

1 includes all of the electronic components that Yuen packages together to
2 make its device. And, you know, there are a number of other components in
3 there, batteries and other things, that need to be protected as well. And so I
4 think that the most reasonable read of what it's saying here is that there is a
5 watertight seal that protects all of the components positioned in Yuen's
6 cavity.

7 JUDGE VALEK: Okay, I understand your position. You can
8 continue.

9 MR. HABER: Thank you, Your Honor. And there are additional
10 teachings in Mestas as well that discuss kind of waterproofing all of the
11 electronic components, and obviously one of skill in the art when putting
12 these things together, they would recognize that there are sensitive electronic
13 components in there, and they would need to be sealed and protected from
14 the environment and water ingress, for example.

15 Now, for the '953, we have, in addition to the Schroder ground, we
16 have a slightly different combination for Mestas-Asami. The '953 Patent
17 does actually require a finger ring, and so the Mestas-Asami combination is
18 brought in for that specific teaching. And what Mestas teaches is a wearable
19 form factor device. Mestas does not describe itself as being applicable to a
20 ring, but Asami is a ring-worn device, and putting these two references
21 together, one of skill in the art would have been motivated to reach a finger-
22 worn wearable device. And those teachings come from both Mestas and
23 Asami themselves. And what Mestas does teach is that you have a wearable
24 device and you want that wearable device to have a tight fit to a user's
25 appendage so that its sensors can be in contact with the user's skin. And
26 what Mestas teaches is that you can frictional features that will prevent

1 slippage around the user's wrist or other body part. And so you want to have
2 a form fitting device that couples tightly and doesn't slip off the user's
3 appendage.

4 And Mestas also teaches that the device can be varied in
5 circumferential size. You can make it smaller or larger, depending on the
6 applicability. And so when you couple these things together with the
7 teaching from Asami to put this in a ring, you have a specific motivation for
8 why and how you would do this. You would make a small form factor
9 device, sized appropriately for a small appendage, and not to slip off that
10 appendage. And on Slide 41, you can see Mestas's various housing portions.
11 There is an exterior portion of the housing -- this is element 24. There is an
12 interior portion of the housing, Mestas refers to that as an interior portion
13 defining an inner diameter of the device, that's 58. And all of that is coupled
14 within a housing. And as I mentioned earlier, the '953 claims don't actually
15 require a particular cavity. They require positioning certain components
16 approximate to each other, and there are a number of cavities in Mestas's
17 Figure 6, but that is not what the claims actually require.

18 All right. So I'm going to move on to the curved battery topic. If you
19 recall last time, there were a number of claims at issue in the prior case that
20 didn't actually require a curved battery. Some of them did, and so some of
21 this material we discussed last time. These claims, the '859 and the '953
22 specifically do require a curved battery. And I think I'll just go past to
23 Schroder. Schroder discloses a battery, Schroder discloses curved housing.
24 Schroder doesn't say to curve the battery, but one of skill in the art would
25 have understood that you'd want to put a curved battery between curved
26 housing.

1 When you get to Mestas, to the extent one of skill in the art needed
2 additional teachings of a curved battery, Mestas expressly teaches a curved
3 battery. You can see that at Mestas's item 143, they have a curvilinear or
4 curved configuration. And there's an important teaching from Mestas that I
5 think is applicable here. At the bottom on Slide 48, the batteries 112 have a
6 thickness that generally corresponds to a depth of the recess. And so what
7 Mestas is teaching you is that when you have these curved shapes, they may
8 have curved recesses in them, and the way that you get a curved battery into
9 a curved recess, is you appropriately size it for the depth of the recess. And
10 that is what one of skill in the art would do when combining Mestas with
11 Schroder.

12 I did just want to pause briefly on the ITC's argument about the
13 battery art. Again, this was a combination with Niwa, which was a different
14 reference. It didn't have Schroder, it didn't have these additional curved
15 teachings. It was different battery art, and it was really relying on bodily
16 incorporations, as Patent Owner again is asking Your Honors to do, and that
17 is not the way that one skilled in the art would view these references. They
18 would appropriately size the battery for the curved recess at issue.

19 JUDGE HORNER: You said it's different battery art. What is the
20 difference between Mestas, and I think it's Henderson, in the ITC? Their
21 Figure 1's look similar, but I haven't done a comparison. Have you looked at
22 that, whether they are different or the same?

23 MR. HABER: So the figures look similar. I haven't done a detailed
24 comparison, but what I can tell you is that this particular teaching in Mestas
25 I think is very important. I don't know if this teaching was before the ITC, I
26 don't know what the record was. But what Mestas actually teaches you

1 when you have these curved batteries, is that you want to size them
2 appropriately for a curved recess. And so, that evidence wasn't before the
3 ITC, because it didn't have Schroder with the curved recess. I'm not certain
4 whether or not this evidence was before the ITC. It certainly wasn't
5 referenced in any of the decision, and so I think it's quite uncertain on that.

6 JUDGE VALEK: But Counsel, Mestas is a curved recess within a
7 much -- let me take that back. Mestas is a much larger curved recess than
8 what you see in Schoder, if you're pointing to that inlay, just because of the
9 size of anatomy, correct?

10 MR. HABER: Correct. Mestas is a larger recess, but it is curved and
11 it houses a battery.

12 JUDGE VALEK: And there's no specific suggestion in Mestas that
13 you could use a curved battery specifically in a smaller recess such as on a
14 finger ring, correct?

15 MR. HABER: Well, Mestas doesn't teach a finger ring, but I think
16 there is a suggestion that you could use a smaller shape. Mestas talks about
17 reducing its circumferential shape, and Mestas also tells you what to do if
18 you have a recess, if you want to appropriately size the battery to the depth
19 of the recess. And so, I think there is that teaching in Mestas, but you're
20 right, Your Honor, it doesn't say do it on a finger, but that is from Asami and
21 general knowledge in the art.

22 All right. I see that I'm running short on time, so I think I'll just
23 breeze through a couple of these. The flexible PCB issues I don't know that
24 we need to spend a lot of time on. The teaching is from Schroder, Schoder
25 teaches a flexible PCB. It teaches what everyone seems to agree is a flexible

1 PCB, that's on Slide 63. And both Yuen and Mestas also teach a flexible
2 PCB. This is express teachings of the references themselves.

3 JUDGE HORNER: I have one question about a flexible PCB. I think
4 the last time we met we were talking about where the conductive traces are
5 in the disclosure in Schroder, and I think you had pointed me, correct me if
6 I'm wrong, to the conductive paste that's used to print the inside coil as being
7 conductive trace. And my understanding of a PCB is it has to have
8 conductive traces to connect the components that are on the insulative layer,
9 and that can be either printed or etched in a copper or other conductive layer.
10 Aside from the conductive paste disclosure in Schroder, is there any other
11 disclosure that you found in Schroder of any conductive material, either
12 printed or etched onto that inlay?

13 MR. HABER: Yes, Your Honor. So, Schroder talks about one, the
14 antenna coil being printed onto the inlay. Schroder also says advantageously
15 a depression is manufactured in the carrier foil, for example by milling,
16 lasering, etching before the chip module, et cetera, for the antenna coil. So,
17 those teachings of etching and printing on the antenna coil are all in
18 Schroder and that same portion of the specification that I've discussed.
19 Schroder doesn't specifically say, you know, you need to connect these
20 components with wires, but I think one of skill in the art would have
21 understood that when you have all of these components on an inlay, they
22 need to be connected, and Schroder teaches it can be done by printing,
23 etching, lasering, et cetera.

24 JUDGE HORNER: Okay.

25 JUDGE VALEK: Counsel, before you move on, just a foundational
26 question on this point. I'm looking at your Slide 63, which I believe is the

1 one you referred us to, and you've color coded an explanation, it looks like a
2 quote from Patent Owner's surreply that Dr. Mercier provided, and you've
3 color coded etched or printed conductive traces in yellow, multiple layers in
4 green, and mounted components in a peach color, I'll call it.

5 MR. HABER: Yes.

6 JUDGE VALEK: Does Petitioner agree that all three of those things
7 that you've color coded there are actually required for a PCB? I mean, I'm
8 trying to figure out, is there any dispute that that's what's required for a
9 PCB?

10 MR. HABER: I don't think that that's required for a PCB. I think all
11 of those things certainly would have been understood as forming a PCB if
12 they happened to be found there. I think a printed circuit board is what it
13 says, it's a printed circuit board. And you know, Patent Owner takes a more
14 narrow view that at least these components have to be required, and they're
15 found in the art. I don't think we agree that all of those things are
16 specifically required, I just think that under their view --

17 JUDGE VALEK: If you have a different position, what do you think
18 is required? You just told me that a printed circuit board is a printed circuit
19 board, which admittedly is a little circular. So tell me, what is it that
20 Petitioner says is required for it to be a PCB?

21 MR. HABER: Right, so it has to have components that are
22 electrically connected, and kind of a structural member that houses those
23 components and makes circuits between them, and that is a printed circuit
24 board.

25 JUDGE VALEK: What about the printed part of a printed circuit
26 board? Does that mean anything?

1 MR. HABER: I think the printed part of a printed circuit board is -- a
2 printed circuit board is kind of a term of art, and so these components can be
3 printed, they can be lasered, they can be etched. I think it just means
4 formed. You know, formed circuits that connect all of these components.

5 So, I'm running short on time, so I think there's just two points that I
6 will make and then I'll reserve the remainder of my time for rebuttal. As to
7 motivations, the main dispute on a number of these references is the same as
8 it was before. Generally, Patent Owner argues that there's a size mismatch
9 between these devices, but when you actually look at -- sorry. When you
10 actually look at all of the references, they all relate to small, wearable form
11 factors. Schroder is expressly a finger ring, Mestas talks about making
12 various circumferential sized devices, Yuen mentions an earring, a toe ring,
13 Asami it was more all rings, and so the fact that all of these things would be
14 packaged into a small device I think is not any distinguishment between
15 them.

16 The last point I'll touch on just briefly are the secondary indicia. The
17 issue here is generally the same as last week, as last month, I'm sorry. Oura
18 is not entitled to a presumption of nexus. It's not entitled to a presumption of
19 nexus under the Fox Factory case, wherein there are a number of specifically
20 important essential features that are, they rely on themselves as important,
21 namely the membership app, various material elements that are not recited in
22 these claims are in fact claimed by other products, and the evidence that they
23 have advanced for substantial, for commercial success, copying, long felt
24 need, they all fail as a matter of law and are not borne out by the facts.

25 JUDGE POWELL: Just so you understand, the 8 minutes on the
26 timer is before you get into your rebuttal.

1 MR. HABER: Eve1n better.

2 JUDGE POWELL: I'm sorry about that. When you asked for 20
3 minutes of rebuttal time --

4 MR. HABER: All right, so I have some more time to hit on some of
5 these issues.

6 JUDGE HORNER: Can I interject on the objective indicia point? If I
7 recall correctly, the ITC ruling found that there was a presumption of nexus.

8 MR. HABER: Yes it did. The ruling found that there was a
9 presumption of nexus to the claims of the '178 Patent, and so a couple things
10 there. One, these are different claims. And so, I don't think that the ITC
11 rulings on secondary considerations really transfer over. Secondary
12 considerations and objective indicia are done on a claim by claim, patent by
13 patent basis. These are different patents with different claims.

14 JUDGE HORNER: But the '178 doesn't claim the app or the
15 membership.

16 MR. HABER: Correct. The '178 doesn't claim the app or the
17 membership. It is our view that the '178 decision is wrong, because the
18 board, the ITC mis-applying the Fox Factory case. And the Fox Factory
19 case tells us that in order to have a presumption of nexus, you need to have,
20 not only that the product practices the claims, but that the product is
21 coextensive with the claims. The claims and the product are essentially one
22 and the same, and what Fox Factory tells us is that is not the case when there
23 are substantial unclaimed features. And we know that there are substantial
24 unclaimed features here, because their own expert argued that membership
25 and the app, those are critical components of the alleged success of the
26 product. And they are significant because their expert says they're

1 significant, and they're significant because they are actually claimed in a
2 number of patents that are not at issue here. And so respectfully, the ITC's
3 application of Fox Factory as to the '178 Patent is not a proper application of
4 the presumption of nexus.

5 JUDGE HORNER: Do you have any evidence in the record aside
6 from the testimony you mentioned of Patent Owner's expert to say that those
7 elements are critical?

8 MR. HABER: So, I believe that we do. I don't want to get into the
9 numbers, but there are financial information that is in the record, and there
10 are financial impacts of the membership app. There are fees and monies
11 collected based on those other things, and those are significant, to the extent
12 that any of their sales are significant. Those are a portion of their sales.
13 Now, they're going to argue that they're a small portion or that you can't
14 collect those fees without having the ring, but that doesn't lessen the fact that
15 they are significant. They are significant drivers of why a user might use
16 this app.

17 JUDGE HORNER: Is that what Fox Factory says, that they're
18 significant as a decision to purchase, or they're significant as to the function?
19 I think in Fox Factory it was a component where some of the missing critical
20 elements were significant to the function of the device.

21 MR. HABER: Yeah, so in Fox Factory it was bike chains. And so,
22 some of the critical features were significant to the function of the larger
23 bicycle. And so, I think that's the standard. But when you look at what
24 Oura is touting as their device, it is a whole health-monitoring ecosystem.
25 There's a ring that's part of it, and another part of it is the membership, and
26 another part of it is the app, and another part of it is hey, it looks really cool,

1 and the aesthetics. That's part of it. The whole thing that they're selling is a
2 larger system, and you know, just like a bicycle with a bike chain, you
3 know, I'm not selling a bike chain, I'm selling you a bicycle. There's all
4 sorts of different parts to it. And the issue of presumption of nexus is that if
5 it is the case that whatever evidence you've submitted is really what is
6 special about the invention, that's when you can presume nexus. And that's
7 just not what we have here. It's not what you have when you have a number
8 of critical components that aren't kind of what is special about the product.
9 And that's not to say that you can't still have a nexus, you just don't presume
10 it. And so you have to look at the evidence that the Patent Owner submitted,
11 and when you do that, you put aside the presumption of nexus and look at
12 their evidence, the evidence that they submitted just is not sufficient to meet
13 the requirements of secondary considerations. It's not sufficient because it's
14 not sufficiently tied to the claimed features, it's not sufficient because in a
15 large part they are talking about form factors. They're talking about the ring
16 form factor as being something that no one ever did before. I think that's
17 factually not true. The prior art has a number of ring form factors, but as a
18 matter of the law, the way the law is applied, if it is the case that you are
19 pointing to a claimed feature that existed in the prior art already, that is not
20 sufficient for secondary considerations. If it was the case, if it was true that
21 this ring form factor was what was really driving sales, well the issue is that
22 the ring form factor was known, and people knew about the ring form factor,
23 and there's nothing special about these claims. When you actually parse the
24 claim elements and the claim requirements we're talking about here, all of
25 these claims are a very, very small kind of minute differences between
26 themselves. The '859 Patent has a cavity where electronics are sourced.

1 If you recall the last case, I think it was the '702 Patent had a
2 transparent window. There are these very small incremental things that are
3 claimed by the patents, and when you look at the evidence, none of the
4 evidence that they point to is tied to those small incremental things. None of
5 the evidence says wow, this thing that has a cavity in it, it's amazing, I want
6 to buy it because it hasn't happened yet. That isn't the evidence that's
7 submitted. What's submitted is that a Patent Owner has a system that they
8 believe is important to their invention, and the parts of that system are just
9 not coextensive with the claims here. There is a product that in their view
10 practices some of the claims. Not all of the claims, and not all of the
11 products, but it exists in a larger ecosystem that is not what is kind of the
12 motivating force between their alleged success or their alleged long felt
13 need.

14 JUDGE HORNER: So there are customers who use the ring without
15 the membership? I think I read in the record that the ring can provide certain
16 information to customers even without the membership. Because that's kind
17 of an add-on, it's an upsell, right? You can get certain extra things from the
18 membership, but the ring can be sold without it, correct?

19 MR. HABER: Yes, the ring can be sold without it.

20 JUDGE HORNER: So, how is it critical?

21 MR. HABER: So, the way that we know that it's critical is by looking
22 at what Fox Factory tells us. Fox Factory tells us how we determine what
23 are these significant unclaimed features. And Fox Factory says that if you
24 have these unclaimed features one, that are touted by the Patent Owner as
25 being critical, then they are critical. And we have that here, we have their
26 expert saying that, and two, we know that these substantial unclaimed

1 features are critical when they exist in related patents that are not at issue
2 here. And that's what we have -- again, we have this whole larger system
3 that is what is driving their evidence, and it is certainly true that you could
4 buy the ring by itself, or in Fox Factory you could buy the bike chain by
5 itself, but that isn't what they tout, that isn't what they sell, that is not
6 sufficient to presume nexus under the Federal Circuit's law.

7 JUDGE VALEK: Counsel, I have a question for you about something
8 you said about 10 minutes ago. You told us that the claims of the '178
9 Patent, which were at issue in that ITC proceeding, that they're different than
10 the claims in the '859 and the '953 Patents which are at issue here, and
11 therefore the ITC judge's finding that there was a presumption of nexus
12 doesn't apply here, because it's on a claim-by-claim basis. What I'm hoping
13 you can do is, can you help me out by pointing to some sort of difference in
14 the actual claims that distinguishes them?

15 MR. HABER: Let me just pull up the claims.

16 JUDGE VALEK: Because when I look at them they all seem to be
17 addressing sort of the same thing, which is this form factor with an internal
18 cavity where you have all the components that you get a nice sleek-looking
19 smart ring package.

20 MR. HABER: All right. So, they're certainly directed to similar
21 subject matter. They use different words, and the way that the art is being
22 applied and the way that the claims are being understood is different. I don't
23 have a particular difference to point you to right now, but if you wouldn't
24 mind, I could do that on my rebuttal time.

25 JUDGE HORNER: Judge Valek, that question was for you.

26 JUDGE VALEK: No, I don't have any more questions.

1 JUDGE POWELL: He asked if it's okay if he brings it on rebuttal.

2 JUDGE VALEK: Oh, sure.

3 MR. HABER: Okay, then I think with that I'll reserve the remainder
4 of my time.

5 JUDGE POWELL: Which is a little over 18 minutes.

6 MR. HABER: Apologies for the confusion.

7 JUDGE POWELL: The apology should be from me, I should have
8 noted expressly that the timer was for 40 minutes. Mr. Pluta, would you like
9 to reserve some time?

10 MR. PLUTA: 10 minutes.

11 JUDGE POWELL: Okay. I'll mention this time that I'm going to --

12 MR. PLUTA: I got it, thanks.

13 JUDGE POWELL: We're ready when you are.

14 MR. PLUTA: Good afternoon, Your Honors, and may it please the
15 Board. Before I get into my presentation, I just wanted to provide some
16 citations in light of some of the questions that arose during my colleague's
17 presentation. Judge Horner, you asked about the Mestas-Henderson
18 connection in the ITC. I'd point you to the ITC's decision at Exhibit 2122 at
19 page 89, Exhibit 2126 at the Respondent's pre-hearing brief. All to the point
20 that the battery, the curved battery art, so-called, was considered by the ITC.
21 It's in the record at at least those points. And then Judge Valek, to your
22 point on the similarity of the claims, I don't know that we'll get to it in my
23 presentation, but I'd point you to Slide 91 where we put side by side the
24 Claim 1, I think, only, of the '178, '859, and '953 Patents. And our position
25 of course would be that they are quite similar, but the Board can review
26 them for itself and come to its conclusion.

1 I'd like to start on Slide 8, and to orient ourselves again to Petitioner's
2 proposed definition of a person of ordinary skill in the art set forth in both
3 petitions, the definition offered by Petitioner is impactful because based on
4 this definition, it's clear that a POSITA would not have found the claimed
5 inventions obvious. And that point is best exemplified by the background
6 evidence submitted by Petitioners, such as the research done by Dr. Asada in
7 Exhibit 1037 and Dr. Rhee in Exhibit 1035, the Niwa reference in Exhibit
8 1005, and the Kimura reference in Exhibit 1028. All those scientists were
9 far beyond the qualifications set forth in the Petitioner of a person of
10 ordinary skill in the art, yet none of them created a smart ring as claimed in
11 the '859 and the '953 Patents. But they continued to put the components on
12 top of the ring and follow the prior art rings at that time.

13 So, with that background, I'd like to get into the first ground of the
14 '859 Patent, the Yuen and Mestas ground. On Slide 10, Yuen and Mestas
15 are both wrist and arm band devices, they're not finger-worn devices. And
16 moving to Slide 14, the parties have a claim construction dispute based on
17 Petitioner's attempt to apply prior art relating to disparate body parts, such as
18 Yuen's passing reference to a toe band, to the claims of the '859 Patent. The
19 proper construction of ring in the context of the claims and specification of
20 the '859 Patent is a device specifically configured to be worn on a user's
21 finger. A POSITA around November 29, 2013 would understand this
22 construction in the context of claims such as wearable ring computing device
23 and computing device. This construction is supported by the intrinsic
24 evidence of the '859 Patent, its prosecution history, and extrinsic evidence,
25 all of which consistently point to a finger-worn device.

1 JUDGE HORNER: If we assume that, or agree with you that the ring,
2 is a finger ring in the context of the challenged patent, what's the structural
3 difference between a finger ring and a toe ring?

4 MR. PLUTA: I think the structural difference is set forth in some of
5 the evidence in the record. We put in, for example, a definition of band,
6 which is usually an elastic band. Yuen itself has several references to a band

7 --

8 JUDGE HORNER: Well, a wedding band can be a ring, right? that's
9 a band, but that's a ring.

10 MR. PLUTA: That's a terminology, yes, but if we look at Yuen and
11 its reference to what it means by a band, I'll reference Exhibit 1006 at
12 column 2, lines 7 through 17, 1006 at 24, lines 7 through 13, and 31, lines 61
13 through 62. When Yuen discusses a band, it's discussing a flexible band. So
14 to your question, Judge Horner, you could call a wedding band a band, but in
15 the context of the prior art and in the record, that would be a soft or an
16 expandable object, which is not what the claims recite. We think the claims
17 are limited to a finger-worn ring, based on the specification. And the
18 abstract of the patent is short and to the point on this issue. It says the
19 present disclosure describes a wearable computing device in the form of a
20 ring that can be worn on the finger of human user. As shown in Figures 11,
21 22a and 22b, all show a finger-worn ring computing device.

22 On Slide 15, again, we see Figures 23, 25, and 38 all showing a
23 finger-worn ring computing device. Other points in the specification
24 disclose a finger-worn ring. Exhibit 1001 at column 15, lines 53 through 55.
25 It's recognized by the present disclosure that a human being's finger can
26 come in various different sizes, and so should the WCB 410. At column 1,

1 lines 35 through 40, the wearable computing device can be worn for
2 extended periods of time because of its form factor and position on the
3 finger of a user. In fact, there's 87 references to finger in the specification of
4 the '859 Patent.

5 JUDGE HORNER: Would it be fair to say that whenever the '859
6 Patent describes a ring they're talking about the finger ring embodiment and
7 not a different embodiment?

8 MR. PLUTA: Yes, Your Honor. And there are two different
9 disclosed embodiments, and we see that on Slide 16. There's a ring version
10 and a wrist-worn version. So, it's clearly distinguishing between finger rings
11 and a wrist based, or maybe even an armband-based device. And that's
12 borne out in the prosecution history.

13 JUDGE VALEK: Counsel, before you move on to the prosecution
14 history, why don't you address the specification's teaching on your Slide 16
15 that's sort of contrary to your position. Why don't you give us your
16 explanation of that?

17 MR. PLUTA: Yeah. The patent acknowledges a broader wearable
18 computing device, you know, the invention as claimed talks about wrist
19 worn devices and other places on the body at one separate embodiment. It
20 also talks about the ring embodiment. So that's the distinction. So, the other
21 body parts might be one embodiment and the ring, finger-worn ring version
22 is the other embodiment, which is borne out in how the specification is laid
23 out. And the specification references these other body parts, wrist, neck, ear,
24 et cetera, but during the prosecution history it was, we think, clear that the
25 claims were limited to finger-worn ring, based on the types of references that
26 the Examiner rejected the claims over. The Examiner rejected claims over

1 prior art references Raghunath and Ajagbe, Exhibits 2004 and 2005. Those
2 references, Raghunath discloses a rechargeable wristwatch system, and
3 Ajagbe discloses a device configured to be worn around the wrist of the
4 user. And both of those references are similar to the disclosures in Yuen and
5 Mestas utilized in Ground 1 for this patent.

6 And if we go to Slide 18, applicant amended the claims to consistently
7 recite a ring in light of those references. A ring form factor, and argued that
8 those references failed to disclose a device configured as a ring with the
9 claimed internal components. And our expert, Dr. Mercier, testified on cross
10 examination that this prosecution history specifically added claim language
11 to include ring language. And read in light of the specification, a person of
12 ordinary skill in the art would understand that to be a finger-worn ring.

13 JUDGE VALEK: Why didn't they amend it to recite finger-worn? I
14 believe that Petitioner's counsel referred to some other related patents that
15 apparently claim it specifically on a finger, or expressly on a finger. Why
16 didn't they do that here? Particularly given the specification's teaching that
17 you could also have it in an earring, which at least in a hoop earring would
18 seem to be a very similar structure?

19 MR. PLUTA: I guess I don't know honestly why it wasn't amended to
20 recite a finger-worn ring, but in the subsequent applications it was, and I
21 believe in light of the references that recited in past prosecution history, it
22 was made clear.

23 JUDGE HORNER: Does it matter to your position that it has to be a
24 finger ring as opposed to an earring? Could we say ring means something
25 other than a wrist band?

1 MR. PLUTA: I think it is a finger-worn ring. I mean, that's what all
2 the examples talk about in the specification. The specification does
3 reference an earring, but we don't think an earring would make sense.
4 Certainly it's not in the record analyzing whether an earring would match the
5 claims or even match the prior art. In light of the hearing reference, in the
6 claim, they didn't, the Petitioner did not come up with earring references.
7 They went to finger-worn ring references, for a couple of them, and in the
8 case of Yuen, is resorting to Yuen's reference to toe band. So, we don't think
9 the earring is a viable option. And there's a little bit of evidence, we believe,
10 that an earring wouldn't be suggestive of the ring. For example, when the
11 claims were amended, Claim 20 was added, the current Claim 20 was added.
12 And it references near-field communication chip, and the near-field
13 communication is configured for enabling the ring to be used to make a
14 commercial transaction. And just from a practical standpoint, if you have
15 the ring wearable device, and if we take the example of an earring, it just
16 wouldn't --

17 JUDGE VALEK: But that's a dependent claim, right? that's a
18 narrower claim.

19 MR. PLUTA: That is correct, Your Honor. But it depends upon the
20 independent claim.

21 JUDGE VALEK: It could encompass the finger-worn portion of the
22 independent claim, but it doesn't really address the issue of whether the
23 independent claim is broad enough to also read on an earring?

24 MR. PLUTA: I think the point we're trying to make would be, it
25 wouldn't make sense in light of reading the broader, the independent claim
26 as an earring if the subsequent claim implicates NFC technology, because

1 trying to complete a commercial transaction with your ear would be just
2 simply awkward.

3 I mean, there's other evidence too. As I mentioned, Dr. Mercier at
4 paragraph 56 of his declaration noted that a POSITA would understand a
5 finger-worn ring. Dr. Anthony, at page 42, lines 14 through page 43, line 2
6 of his deposition, he said he was not aware of any devices called a ring that
7 are not intended to be worn on a finger. Again, there's 87 references to
8 finger in the specification, one to an earring.

9 JUDGE VALEK: Do we ignore the earring? Is that how it works?
10 There's more references to a finger, so we ignore the earring?

11 MR. PLUTA: I think the specification certainly, Your Honor, can
12 inform how claims are interpreted.

13 JUDGE VALEK: I agree, and so I'm trying to figure out what do we
14 do with the reference to earring that's in there. It seems to be put there in
15 order so that we don't construe the claims too narrowly, because it says it's
16 not limited specifically to the finger-worn, even though that's what it shows
17 over and over and over again in the figures. I agree with you that the
18 specification certainly evidences that a finger-worn ring is the preferred
19 embodiment, but what do we do with that language that's on your Slide 16
20 where it seems like the inventors express some sort of desire not to be
21 limited specifically to that?

22 MR. PLUTA: I would answer that in this way, Your Honor. The
23 specification is fairly clear on two embodiments. There's the ring version,
24 which we contend is a finger-worn ring, and then there's the other
25 embodiments. We call it a wrist-worn embodiment, but that is where the
26 specification talks about the other body parts. So, I agree you can't ignore

1 the language, but in light of the two embodiments and as we discussed, the
2 reference is to fingers in the specification and certainly all the figures and
3 the prosecution history, the claim should be limited to a finger-worn ring. If
4 there aren't any other questions on claim construction, I'll move on.

5 With respect to Ground 1, there's no motivation to combine Yuen and
6 Mestas. Petitioner, to the extent the Board agrees with us on the finger-worn
7 ring issue, Petitioner never presents an alternative argument that a finger
8 ring would have been obvious in view of Yuen and Mestas. So Ground 1
9 fails for this reason alone. Petitioner then is left with Yuen and Mestas's
10 disclosure of a litany of body parts, to which the devices of Yuen and Mestas
11 are attached, none of which include the finger. Yuen and Mestas both
12 primarily describe devices like the prior art considered during prosecution,
13 adapted for larger body parts like the arm, the wrist, the leg, the ankle, and
14 preferred embodiments in those pieces of art are wrist-worn or arm mounted.
15 There's simply no motivation that would lead a person of ordinary skill in
16 the art, particularly as defined by Petitioner, to reengineer wrist-based or
17 arm-based designs into the compact integrated structure of the '859's ring.

18 On Slide 23, Dr. Anthony conceded during his deposition that central
19 structural details for Yuen's toe band, which is what they argue is equivalent
20 to the ring, are not explicitly shown in Yuen. Yuen's simple one reference to
21 a toe band would not motivate a person of ordinary skill in the art to
22 undertake combining disparate elements from Yuen and Mestas to arrive at
23 the claimed ring computing device, nor would there be any expectation of
24 success in doing so. And I think that's an important point. Petitioner likes to
25 argue against the ITC and against our arguments that we're trying to bodily
26 incorporate all of this art. That's not what we're arguing. As we argued last

1 month, which is replete through the ITC's decision, is the point that there
2 would be no reasonable expectation of success. A person of ordinary skill in
3 the art, as defined in the petition, would not do these things that they're
4 contending. Taking Yuen and Mestas, both wrist-worn or arm-worn --

5 JUDGE POWELL: Just a second, I'm sorry to interrupt. It looks like
6 we've got a technical glitch. I'm going to stop the clock. Lorena, do you
7 know if we can get Judge Valek reconnected?

8 JUDGE VALEK: I can hear you.

9 JUDGE POWELL: Yeah, we can hear you, check. I think we're all
10 good. Sorry for the -- please continue.

11 MR. PLUTA: I'm going to move on to the housing limitations with
12 Yuen and Mestas. Slide 25. Yuen's skin side and environmental side, as
13 noted in the petition, denote general external surfaces of its device. They do
14 not teach the claimed distinct, coupled, and concentric interior and exterior
15 bounding members that form a required internal waterproof cavity. Yuen's
16 structure is not a ring. It resembles an open shell, as can be seen on Slide
17 25, with exposed centric protrusions, with a detachable band rather than a
18 fully sealed internal cavity formed between distinct bounding members as
19 claimed, which is shown in Figure 8 of the '859 Patent. Petitioner relies on
20 Mestas, but Mestas's generic teaching of a water-resistant housing is
21 unavailing here. Mestas's wrist-worn device provides no disclosure that
22 would have motivated a person of ordinary skill in the art to fundamentally
23 reengineer Yuen's disparate housing structure into a specific coupled interior
24 and exterior bounding member construction.

25 Moving on to Slide 26, these are the curved battery limitations. Yuen
26 does not disclose a curved battery. Its electronic package, including its

1 battery, is depicted as flat and a detachable band that has no electronics.
2 Petitioner argues that Yuen's passing reference to toe band is enough to
3 disclose a curved battery, but Petitioner's proposal to put a curved battery in
4 Yuen is entirely based on hindsight. Yuen itself describes a removable
5 sensor package. And Dr. Anthony conceded that Yuen's battery, as
6 depicted, is flat. His deposition as page 28, lines 3 through 10.

7 JUDGE HORNER: Can I go back to Slide 26 for a minute? You
8 have on there that the ITC ruled that replacing flat batteries with curved
9 batteries would lower performance. And the ITC relied on the testimony
10 from Dr. Rossing to support this ruling. I think Dr. Rossing said a curved
11 battery would have lower energy density than a flat battery. Do we have any
12 evidence in our record of that fact? The differences between the energy
13 density of a curved and flat battery?

14 MR. PLUTA: Yes, Your Honor. Dr. Mercier testified to that. I don't
15 have the specific point. It's also in this record insofar as the ITC record at
16 Exhibit 2122 at page 96, and that was a similar ruling with respect to -- that
17 was related to Niwa's flat battery in combination with Mestas or Henderson
18 in that regard. That would come with reduced performance and lower
19 energy density than a flat cell.

20 JUDGE VALEK: I'm sorry, this is kind of a foundational question, to
21 the extent you're trying to rely on testimony from the ITC case. Was the
22 respondent there the same as the Petitioner here? And what I'm getting at is,
23 if they didn't have a chance to cross-examine your expert there because
24 they're different parties, wouldn't that raise hearsay issues?

25 MR. PLUTA: To your first question, Your Honor, no, Petitioner here
26 was not a respondent in the ITC action. And to your second point, to the

1 extent we're relying on testimony, we're not from the ITC actually, we're
2 relying on the ITC's ruling, and we don't believe that would be hearsay here.
3 The ITC considered a full record, had a full evidentiary hearing, heard the
4 evidence on similar prior art, on similar claims, and made factual findings
5 relating to that claim.

6 JUDGE HORNER: But we're not bound by that. We just have to
7 distinguish it, if we disagree with it. And if we don't have the evidence
8 before us, we may not have enough to adopt that finding in our record. But I
9 understand you to say Dr. Mercier testified on this. Did he testify as to what
10 Dr. Rossing said in the ITC, or did he make his own statements on the record
11 under cross examination?

12 MR. PLUTA: Your Honor, he made his own statements, and that is
13 Exhibit 2018 at paragraphs 177 and 178, where he compared flat versus
14 curved batteries. So, I agree with you, you're not bound by the ITC ruling.
15 We do have similar evidence in this case, independent of the ITC that is
16 consistent with the ITC decision, certainly. And we would argue that in
17 light of the independent evidence, so to speak, in this record, coupled with
18 the ITC's ruling, coupled with the staff's ruling at the ITC, all favoring Oura,
19 that there's compelling reasons to follow the ITC. But certainly, the Board is
20 not found to follow the ITC.

21 JUDGE VALEK: Counsel, I'm looking at the citation you just gave
22 us, and I don't see a reference to that specific question about the energy
23 density being different for curved versus flat batteries. Is there anything on
24 that point specifically? Or maybe I'm missing it?

25 MR. PLUTA: Your Honor, let me also point to paragraph 182 of
26 2018, where Dr. Mercier testifies that a curved battery such as Mestas would

1 add significant power requirements and thus impact the size of the battery,
2 and in turn affect the placement of the battery in a particular ring. I seem to
3 recall there is testimony with respect to energy density. I don't have that at
4 my fingertips right now, we can look for it when I sit down. I just don't
5 want to tell you the wrong --

6 JUDGE VALEK: Sure. Thank you, that would be helpful.

7 MR. PLUTA: Yeah. Okay, so person of ordinary skill in the art
8 would not look to Mestas's battery to improve Yuen's framework. Again,
9 Yuen presents flat electronics, an undertaking for which Petitioner provides
10 no reason why one would ignore Yuen's teaching and modify it to include
11 Mestas's curved battery. Petitioner doesn't provide any reasons why or how
12 Yuen would be affected if the curved battery of Mestas, or any other curved
13 battery, would be applied to Yuen.

14 In fact, Mestas's battery teaches away from the '859 Patent and is
15 unsuitable for combination with Yuen. Mestas discloses a specific structure,
16 a spine member 22 that may be considered, Mestas says, as a chassis
17 member, having various components attached thereto. And it has an inner
18 surface 32 and an outer surface 30. That's paragraph 153 of Mestas. Inner
19 surface 32 has recesses 50 for batteries. The outer encasement member 24 is
20 formed around the center spine, and Mestas has two cavities, one between
21 the outer encasement member 24 and the external side of the spine member.
22 Mestas's Figure 7b, 8a, and 16 shown on Slide 29, conform to the curvature
23 of the recesses 50 of the spine member 22, not the curvature of the external
24 housing, which is the outer encasement member 24. So, there's a difference
25 there and a lack of motivation to look to Mestas to attempt to curve the
26 battery of Yuen.

1 Petitioner never explains in the petition why a person of ordinary skill
2 in the art would abandon these secondary cavities central to Mestas's design
3 if a person of ordinary skill in the art looked to Mestas to solve Yuen's so-
4 called battery issue. On Slide 30, Yuen discloses flat, not curved batteries.
5 Petitioner's attempt to use Mestas, which is dimensionally and functionally
6 incompatible with Yuen, particularly when Petitioner uses Yuen's so-called
7 toe band reference. This would require extensive non-obvious redesign, and
8 again, far beyond the skill of a POSITA as define in the petition.

9 I'd like to move on to Ground 2, unless the Board has any questions
10 on Ground 1, and this is familiar, Schroder and Mestas. Again, Schroder
11 describes an external secure unit for the purpose of authenticating user, not
12 health monitoring. Schroder attempts to improve on this existing smart card
13 and RFID devices, which have poor range. Integrating Mestas's health
14 monitoring system into Schroder with its large curved battery and complex
15 PCB, which is designed for a wrist band with all its cavities and the other
16 items that we were just discussing, into Schroder's slim, security-oriented
17 finger ring, again would be a radical redesign that negates Schroder's core
18 attributes.

19 On Slide 33, the only components shown in the figures is chip module
20 10. It protrudes from beyond the surface of the ring housing, making it
21 accessible via hinge cover 14. None of the figures of Schroder include a
22 battery or a sensor, because its focus is on an improved antenna. On Slide
23 34, even if a person of ordinary skill in the art was motivated to look to
24 Mestas to combine with Schroder, a person of ordinary skill in the art would
25 lack a reasonable expectation of success due to the significant technical
26 challenges. We've seen this testimony last month, but Dr. Anthony

1 conceded that the miniaturization of Mestas would require 5 to 10 times
2 scaling. And he never investigated whether such batteries were available in
3 2013 and were appropriate to fit into Schroder as proposed. Again, this
4 doesn't go to bodily incorporation, it goes to what are the skills of one of
5 skill in the art at the time, and would they have looked to Mestas to
6 implement those features in Schroder? The testimony in the case is that they
7 would not.

8 And the inventor, on Slide 25, Curt Von Badinsky, he was asked in
9 2013, were there off the shelf curved batteries? He acknowledged there
10 were curved cells, but there weren't any that could be dropped in for
11 application, in a ring. And could a curved cell for a wrist wearable work for
12 a ring form factor? And his answer, I think logically was well, if the ring
13 was very, very, very big. But there was no way for it to work for what Mr.
14 Von Badinsky was contemplating for his invention.

15 Dr. Mercier, on Slide 36, also testified that the power requirements of
16 Schroder and Mestas would also be different, given that Mestas is constantly
17 monitoring health conditions, and Schroder only takes vein pattern images in
18 a security validation effect. That's Exhibit 2018, paragraphs 181 to 182.
19 And maybe this gets to the point of the question that we were looking for the
20 citation, but I'll cite Dr. Anthony's deposition at Exhibit 2021 at page 326,
21 lines 10 through 18. He testified that different materials at different energy
22 densities, different thermal properties, and again, a POSITA would select the
23 battery, the capacity they needed for the design tradeoffs that they were
24 trying to achieve, such as size, duty cycle, measurements, thermal
25 management, that they would need to address. But this is all in hindsight to
26 the specification of the '859 Patent. So, there is testimony to support the

1 ITC's consideration of the different design requirements and the
2 inapplicability of wristband art to ring art.

3 On Slide 37, just to go to the housing issues, Petitioner relies solely on
4 Schroder for this limitation, requiring a housing having an interior bounding
5 member and an exterior bounding member. When my colleague was up
6 here, relating to Figure 4, creating new Figure 4 prime, we would object to
7 that. It's not in the petition. What the petition does say is that ring half 18 is
8 the exterior bounding member and ring half 16 is the interior bounding
9 member that touches the user's finger. Now, we didn't include bagel
10 analogies here, but if we do recall the way Schroder describes its ring halves
11 is that they come down together. So, on Figure 4, you'd put a similar Figure
12 16, or Element 16, over Figure 4. So, that inner ring that my colleague
13 pointed to as the inner bounding member, that cannot be the case because
14 that's still part of the so-called outer ring half 18. It just shows the inlay 12
15 between it. So, the reading of Schroder in that regard is incorrect.

16 And we can see this further in the petition's mapping of the curved
17 battery limitations. In the ITC investigation, the ALJ concluded that
18 Schroder's designs, Schroder's design, while disclosing separate housing
19 components, only contemplates the inclusion of an inlay between them. And
20 the expert, Dr. Rossing, credibly testified that one of skill in the art would
21 understand that the thickness of the inlay is on the order of 100 microns.

22 JUDGE HORNER: I have a question about that. How do we
23 reconcile that 100-micron thickness with Schroder's disclosure that this inlay
24 can have a deep enough depression in it to house a chip module and be flush
25 or flat on top of the depression? So, the way I understand column 13 of
26 Schroder is that it's describing creating depressions in that inlay and then

1 putting in components in those depressions, and then having a flush or flat
2 surface. It doesn't seem like that's possible while some carrier made this
3 particular material may have a 100-micron thickness, is that a fair reading of
4 the carrier being described in Schroder?

5 MR. PLUTA: I think it is a fair reading of how Schroder's carrier is.
6 Dr. Mercier offers similar evidence here at Exhibit 1081 at page 96, 1
7 through 9. But to your point Judge Horner, I don't think Schroder ever does
8 note that the chip module is within the carrier or the inlay. Schroder does, as
9 you mentioned I believe in column 13, discuss some electrical components.
10 The answer to that is well, there might be some, but they'd have to be very,
11 very, very small.

12 JUDGE HORNER: I thought Schroder said the chip module was
13 within the --

14 MR. PLUTA: I apologize, I'm going by memory. I can certainly get
15 it from Schroder, but I believe Schroder discusses the chip module presiding
16 in a recess, and then it's connected to a rectifier circuit to the antennae coil,
17 which is then in the inlay. I don't believe that Schroder references that the
18 chip module would be in the inlay. So, in the internal, for lack of a better
19 word, housing of Schroder.

20 JUDGE VALEK: Doesn't Schroder also teach that you can stack up
21 multiple layers of that carrier foil? So maybe one is 100 microns, but you
22 can stack multiple ones and glue them together? I'm looking at also column
23 13.

24 MR. PLUTA: Yes, Your Honor. My recollection is that Schroder
25 does disclose a certain ability to stack components. But again, given Dr.
26 Mercier's testimony and the finding of the ITC that the thickness of the

1 inlay, which I don't believe is rebutted in this proceeding either, is 100
2 microns. So, to the extent that there is stacking going on, it would severely
3 limit the type of components that would be within that inlay, and certainly
4 our contention, consistent with the testimony of Dr. Mercier and consistent
5 with the ITC, is that the battery would not go in the inlay because of that size
6 and --

7 JUDGE HORNER: Calling your attention to column 13 of Schroder,
8 around line 27. Column 13, line 27, the sentence starts, advantageously.

9 MR. PLUTA: Yes, Your Honor.

10 JUDGE HORNER: And it says that a depression is manufactured in
11 the carrier foil, for example by milling, lasering, and etching, before the chip
12 module 10, the antenna coil 8, and optional further electronical devices are
13 inserted into the depression. So, it reads to me as though the chip module is
14 in that depression. And then it goes on to say the depression has the purpose
15 that the devices to be inserted into the depression should not protrude
16 beyond the carrier foil if possible, so that an even surface is present on the
17 carrier foil to facilitate a later processing of the carrier foil with the inserted
18 devices. So, I find it hard to believe that this foil is only 100 microns given
19 that it's housing chip module 10 in a depression and then even on the top.
20 But I'll certainly look at Dr. Mercier's testimony on that.

21 MR. PLUTA: Yeah, certainly Schroder says what it says, as we just
22 were reading. It has no detail. I think that's part of the broader problem with
23 Schroder, it has no detail. It has no detail about how big or how small the
24 chip model is. It does disclose in Figure 3 how the chip module is inserted
25 into a recess. None of the other figures show anything with respect to the

1 chip module. So, it's very difficult to define what can be read from
2 Schroder. Clearly both sides offer differing opinions.

3 So, in light of my time left I would like to skip to secondary
4 considerations, unless the Board has any other questions. I unfortunately
5 don't think I'm going to have any more time to get to the technical issues. I
6 would like to move to Slide 75. And we may --

7 JUDGE HORNER: Need to go on the confidential record?

8 MR. PLUTA: We may need to go on the confidential record,
9 probably.

10 JUDGE POWELL: Okay, thanks. Let me stop this. Looks like the
11 gallery is clearing itself.

12 Lorena, can we have the public line paused?

13 (Whereupon, the above-entitled matter went off the record at 2:28
14 p.m.)

IPR2024-01077 (Patent 10,139,859 B2)
IPR2024-01078 (Patent 10,281,953 B2)

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