UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.; SAMSUNG ELECTRONICS AMERICA, INC., Petitioner, vs. OURARING, INC., Patent Owner.	CASE NO.: IPR2025-00147 U.S. PATENT NO: 11,188,124

REMOTE VIDEOTAPED VIDEO-CONFERENCE DEPOSITION OF:

PATRICK P. MERCIER, Ph.D.

WEDNESDAY, MARCH 4, 2026

9:00 A.M. - 11:24 A.M.

REPORTED BY:

AMY P. SMITH

CSR No. 12154

Job No. 127069

UNITED STATES PATENT AND TRADEMARK OFFICE
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SAMSUNG ELECTRONICS CO., LTD.; SAMSUNG ELECTRONICS AMERICA, INC.,	)	
Petitioner,	)	
vs.	)	CASE NO.: IPR2025-00147
OURARING, INC.,	)	U.S. PATENT NO: 11,188,124
Patent Owner.	)	

Remote videotaped video-conference deposition of PATRICK P. MERCIER, Ph.D., taken on behalf of the Petitioner, beginning at 9:00 a.m. and ending at 11:24 a.m., on Wednesday, March 4, 2026, before Amy P. Smith, CSR No. 12154, a Certified Shorthand Reporter within and for the State of California.

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(ALL PARTIES APPEARED REMOTELY)

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I N D E X

PATRICK P. MERCIER, Ph.D. PAGE

Examination by Mr. Haber..... 6

E X H I B I T S
(NONE OFFERED)

WEDNESDAY, MARCH 4, 2026; CALIFORNIA
9:00 A.M.
--oOo--

THE VIDEOGRAPHER: Good morning.

This is the deposition of Patrick Mercier in the matter of Samsung Electronics Company, LTD, et al., V OuraRing, Inc., Case Number IPR2025-00147.

This deposition is being held via remote method.

The date is March 3rd (sic), 2026. The time is 9:00 a.m.

I am Rob Chang, the videographer, on behalf of First Legal Depositions, located in Los Angeles, California.

This deposition is being video'd at all times unless specified to go off the video record.

Would all attorneys present please identify yourself, beginning with the noticing attorney.

MR. HABER: Ben Haber, of O'Melveny & Myers representing Petitioner Samsung.

MR. PLUTA: Rob Pluta and Jas Vidwan from Mayer Brown representing OuraRing.

THE VIDEOGRAPHER: Thank you.

Will the court reporter please swear in the

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witness.

PATRICK P. MERCIER, Ph.D.,
called as a witness, having duly stated under penalty of perjury, was examined and testified as follows:

EXAMINATION

BY MR. HABER:

Q. Nice to see you again, Dr. Mercier.
A. Likewise.
Q. Can you tell me where you are physically located today?
A. In San Diego, California.
Q. And I assume you are in a conference room?
A. That's correct.
Q. Who else is in the conference room with you?
A. Counsel Rob Pluta and Jas.
Q. Okay. And do you have anything -- papers or anything with you?
A. I do have one copy of my declaration. It is unmarked.
Q. Okay. You don't have any of the supporting

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exhibits or other documents?
A. I do not.
Q. Okay. If I need to refer you to any of those additional documents, I will share my screen.
If you'd like, I can also e-mail them to you so you have them electronically. But --
Or you can get them electronically in whatever way is easiest for you.
A. That would be great.
Thank you.
Q. Do you understand that you are testifying under oath today?
A. I do.
Q. And you have the same obligations to testify truthfully and accurately as if you were in a court of law?
A. I do.
Q. Now, you testified previously several times in connections with previous IPR proceedings on related patents.
Correct?
A. Correct.
Q. And in those prior cases, you testified truthfully and accurately.
Correct?

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A. Yes.
Q. Do you have any reason to believe that any of your prior testimony is inaccurate or incorrect?
A. No.
Q. So today I'm going to ask you a series of questions. I'll ask for you to wait for me to finish my questions before you provide your answer.
And I'll do the same. I'll wait for you to finish providing your answer before I move on so we don't talk over each other so the court reporter can have a clean record.
Is that fair?
A. Fair.
Thank you.
Q. If you don't understand any of my questions or if there's technical difficulties or you need some clarification, just ask me for clarification, and I'll provide it.
Otherwise, I will under- -- assume that you understood my question.
Fair?
A. Okay.
Q. Is there any reason you can't give your best, most truthful, and accurate testimony today?
A. No.

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Q. Can you tell me what you did to prepare for your deposition today?
A. Yes. I read my report. I read through some of the references cited therein, and I had some discussions with counsel.
Q. Did you read or refer to any materials other than what is cited in your expert declaration?
A. No.
Q. And the individuals that you mentioned previously, Rob and Jas, that are in the room with you today, are those the individuals you met with?
A. That's correct.
Q. Did you meet with any other experts?
A. No.
Q. Did you meet with any other individuals that were not attorneys?
A. No.
Q. How long would you say you spent preparing for your deposition today?
A. That's a --
I'd have to go back and look at my notes to give you a -- a correct answer. But, you know, a -- a day and a little bit more.
Q. Okay. And you mentioned that you have in front of you your declaration in this matter.

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That's Exhibit 2018.
Correct?
A. That's correct.
Q. All right. I'm going to put on my screen another copy of this exhibit just so that we can all be referring to the same thing.
Okay. So can you see my screen?
A. Yes, I can.
Thank you.
Q. So on the screen is a document bearing a title page that states:
Declaration of Patrick Mercier. It's IPR Number 2025-00147, related to U.S. Patent Number 11,187,124 (sic), and the lower right-hand corner, Exhibit 2018.
You recognize this as your declaration in this matter?
A. I do.
Just a correction for the record. The U.S. patent is 11,188,124.
Q. Sorry if I misspoke.
I'll generally refer to it by the last three digits, the -124 patent.
If that's all right with you?
A. Yes.

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Thank you.
Q. All right. So I'd like you to turn to paragraph 107 of your declaration.
It's a paragraph that begins on page 56 of your declaration and spans to the next page, page 57.
A. Okay. I see it.
Q. And at the bottom of this paragraph, there is a sentence that reads:
Taking an existing large curved battery and simple scaling it down all while meeting the challenging needs of a small smart ring was not within the skill set of an ordinary artisan circa 2013.
Do you see that?
A. I do.
Q. You would agree that curved batteries that are larger than ring size were known before 2013.
Correct?
A. I would agree. Yes.
Q. So is it your opinion that one who is skilled in the art would not have been able to scale a large curved battery into a smaller size for a curved ring?
A. Yes. That is my opinion.

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Q. Is it also your opinion that there were no such smaller curved-sized batteries available in 2013 or before?
A. Based on all of the material that I've seen, I have not seen any curved battery that was commercially available circa 2013 that would be of the appropriate size to fit inside a -- a smart ring form factor.
Q. So is it your opinion that there were no such appropriately sized -- sized ring sized curved batteries that were available before 2013?
A. Based on everything that I've seen, all the evidence that I've been able to collect and has been presented to me, I haven't seen anything.
Q. Did you go out and look independently as to forming an opinion on whether or not ring-sized curved batteries that would have been available before 2013 were -- were available to -- to one of skilled in the art?
MR. PLUTA: Object to form.
THE WITNESS: I did look. And I could not find anything.
Q. (BY MR. HABER) At the top of paragraph 107, there's a sentence that begins:
It's not clear to me that any battery

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provider could have made rapid improvements to existing batteries to work in the -124 patent-claimed finger ring device.
Do you see that?
A. I do.
Q. So it was your opinion that there were no batteries existing in 2013 that you could have worked in the invention claimed by the -124 patent?
A. I'm sorry.
Could you repeat the question so I'm clear on what exactly you're asking.
Q. Sure.
It is your opinion that there were no --
Sorry. Strike that.
Let me say it again.
Is it your opinion that no battery existing in 2013 could have worked in the invention claimed by the -124 patent?
A. Well, it's my opinion that there were no batteries that were commercially available that could have worked in the -124 patent, and it would be beyond the skill of the ordinary artisan to, you know, miniaturize or design a new battery that -- that -- that could eventually fit into such a ring form factor.

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Q. So your answer added the term "commercially available." And I think my question is a little broader than that.

My question is:

Is it your opinion that there was no battery existing in 2013 that could have worked in the invention claimed by the -124 patent?

MR. PLUTA: Objection. Form.

THE WITNESS: So I -- I think the words "commercially available" is -- is actually quite important here.

Because, remember, the ordinary artisan here is someone who has training in, you know, electrical or mechanical engineering or some equivalent field and two years of experience in the field or equivalent post-secondary training, and that person actually, as confirmed by -- by Dr. Anthony, wouldn't have the skill and expertise to actually go and design a -- a new battery.

What's within the skill and expertise of the ordinary artisan would be, you know, going to manufacturers and asking, Hey, do you have a battery that could fit into this form factor?

And, in fact, that's exactly what the named inventor of the patent did is he went to many

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different battery manufacturers and asked if they could make such a battery. And -- and according to his testimony, they all said, No.

And so in -- in forming my opinions here, it's -- it's actually quite important to stress that we're talking about, you know, batteries that were commercially available or that could be reasonably acquired by an ordinary artisan.

Q. (BY MR. HABER) That was not at all an answer to my question.

So my question was different.

My question is:

Is it your opinion that there was no battery existing in 2013 that could have worked in the invention claimed by the -124 patent?

That's the question. It has nothing to do with whether or not batteries were commercially available.

MR. PLUTA: Object to form.

THE WITNESS: Again, I'm -- I'm not aware of any battery that was available to an ordinary artisan to -- to use.

Q. (BY MR. HABER) You would agree that the -124 patent claims required a battery.

Correct?

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A. Yes.

Q. At what point in time did batteries exist that could work in the invention claimed by the -125 (sic) patent?

A. I'm not clear on the timeline here. You know, reading the testimony from the -- the named inventory, you know, he went and talked to a bunch of different battery manufacturers; found that -- that no one was willing to -- to purchase -- or to -- to provide such a battery that would work for them.

My further understanding is that he -- or they ended up just buying an actual battery manufacturer to -- to -- to make this happen for them.

Q. Okay. So the question is:

Do you have an understanding of a point in time where batteries were available to implement the claims of the -124 patent?

MR. PLUTA: Objection. Asked and answered.

THE WITNESS: I don't know when -- when they ended up purchasing the battery -- battery manufacturer and -- and going through those steps.

So -- so I'm not clear on -- on the timeline there.

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Q. (BY MR. HABER) Okay. So sitting here today, you don't have any particular knowledge of when batteries that were sufficient to implement the -124 patent were available.

Is that fair?

A. Yeah. I would -- I guess that's fair.

I don't know when they were commercially available, and I don't know when the named inventors or the manufacturers of such rings went and acquired the -- the battery manufacturers to do so.

Q. If you look at paragraph 106 of your declaration, which is on the screen, there's a sentence here that, I believe, suggests that, in your opinion, battery density did not start rapidly improving until well after 2015.

Do you see that?

A. I do, yes.

Q. Is it your opinion that the batteries that would have been required to implement the invention claimed by the -124 patent were not available until after 2015?

A. No. That's not what I'm saying.

Q. Is it your opinion that batteries required to implement the -124 patent were available before 2015?

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A. Well, what I'm trying to say here in -- in this section of my declaration is that, you know, Dr. Anthony had said that a person of ordinary skill would -- doesn't have the capability to, you know, design a new battery wholesale.

And so they would look to the market for an available -- commercially available battery to -- to implement into a -- a ring-like device like this.

And what I'm trying to say here is that, you know, it didn't exist commercially as of 2013.

And I'm just citing some data here showing that progress in battery development is -- is slow, and, you know, if -- if one would have to wait for a commercially available product, it might take some time.

Q. In paragraph 104, you state:

While battery miniaturization research wasn't focused in the years leading up to 2013, the pace of miniaturization was slow.

Do you see that?

A. I do.

Q. Why was the pace of miniaturization slow after 2013?

A. Well, I cite on the next page a -- a plot from Ziegler and Trancik showing the cost and energy

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density of -- of batteries from 1991 to 2023.

And it does show that the rate of increase in energy density and batteries from 1991 all the way to about 2015 or so was fairly slow.

And it's known in the industry, you know, in -- in semiconductors there's this wonderful law called Moore's Law that suggests that semiconductor technology increases at, you know, dramatic expediential paces. And it's known that there is no such Moore's Law for -- for batteries.

And so, you know, a person of ordinary skill in this area would understand that battery -- battery miniaturization does happen with time, but the -- but the pace of miniaturization is slow.

Q. Do -- do you have an opinion as to why the pace miniaturization would have been slow?

A. I -- I don't at this time.

Q. It looks like around 2015 there was an uptick in the blue line shown in the graph in paragraph 106 of your declaration.

Do you have any understanding of -- of what that uptick relates to?

A. I -- I don't recall.

Q. Are you aware of particular obstacles to the pace of battery miniaturization in 2013?

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MR. PLUTA: Object to form.

THE WITNESS: My understanding is that, you know, battery energy densities are related to many factors including, you know, the actual battery chemistry, packaging constraints, and so on.

So there's -- it's a multifactor -- multiple factors contribute to the reason for -- for slow increase.

Q. (BY MR. HABER) In 2013, for example, battery chemistry was an issue with miniaturizing the size of a battery.

Do you have any understanding of what would have needed to be done to improve battery chemistry such that battery sizes could have been removed -- or could have been reduced?

MR. PLUTA: Object to form.

THE WITNESS: I -- I mean, I can't say that I did specific research in preparation for this declaration and -- and deposition on battery chemistry and, you know, sub-details like that.

So I -- I can't recall off the top of my head or nor can I do realtime analysis on that.

I was simply just looking at the literature, as well as my knowledge of the POSITA in this area about the state of available batteries in

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forming my opinions.

Q. (BY MR. HABER) So if a POSITA in the area of the -124 patent wanted to understand and investigate battery chemistry to make smaller-sized batteries, is that something that they would or would not have been able to do?

MR. PLUTA: Object to form. Relevance.

THE WITNESS: Well, actually, I'll -- I'll -- I'll refer to Dr. Anthony in answering that question.

And he said something to the effect of:

A POSITA wouldn't have the capabilities to design a -- a new battery.

Q. (BY MR. HABER) Okay. I'm not interested in your characterization of Dr. Anthony's testimony. I'd like to know your opinion on this issue.

And so in your opinion, one that's skilled in the art in the area of the -124 patent, if they were interested in, for example, understanding battery chemistry such that they could reduce the size of batteries, is that something that, in your opinion, they would or would not have been able to do in 2013?

MR. PLUTA: Object to form. Outside the scope of the declaration. Also irrelevant.

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THE WITNESS: So let me just read the understanding of -- of the skills a POSITA would have.

This is actually directly from Dr. Anthony, and I agree with this.

"A POSITA would have at least a four-year degree in electrical engineering, mechanical engineering, biomedical engineering, optical engineering, or related field of study or equivalent experience and at least two years' experience in academia or industry, studying or developing psychological-monitoring devices, such as noninvasive biosensors.

"A POSITA would also have been familiar with, for example, sensor-system design and signal processing, including inertial and other motion sensor-system design, signal processing, and human/machine interfaces."

So that's Dr. Anthony's proposed definition of a POSITA. I generally agree with that.

And I'll note that there's no -- no mention of battery engineering or -- or chemistry engineering in -- in that description.

MR. HABER: Okay. Yeah. I -- I don't think that that was responsive to my question.

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Q. (BY MR. HABER) I understand you generally agree with the level of skill in the art that Dr. Anthony has proposed that you just read.

Correct?

A. Yes.

And then I was further pointing out that, you know, engineering of -- of -- design and engineering of new batteries is -- is not within the scope of that definition.

Q. Okay. And so -- so I understand:

Under the level of skill in the art that you just set out for the -124 patent, is it your opinion that one who's skilled in the art would not have been able to, for example, understand or implement whatever experiments were necessary regarding battery chemistry to reduce curved batteries to an appropriate size for a finger ring?

Correct?

MR. PLUTA: Object to form.

THE WITNESS: So -- so, again, you know, Dr. Anthony said that a POSITA wouldn't have the skills to design and miniaturize a -- a battery on their own, and they would look to existing manufacturers of batteries to do so. And I agree with that.

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And so I think, yeah, designing a new battery from -- from scratch or miniaturizing existing batteries is outside the capabilities of -- of a POSITA with two years' experience post their undergraduate degree, which is my understanding why the inventors and users of this technology ended up buying an entire battery manufacturing facility to -- to do the job.

Q. (BY MR. HABER) All right. Your answer gave, again, your view of Dr. Anthony's testimony.

The problem that I have with that is:

We can have reasonable differences in understanding of what Dr. Anthony testified.

And I'm really trying to get to what your opinion is; not what your opinion of what Dr. Anthony's opinion is.

And so I'm going to ask you a question, and I want you to answer based on your opinion, not Dr. Anthony's opinion.

Can you do that?

A. I will do my best.

Q. So my question is:

In your opinion, would one of skill in the art, as defined by a POSITA, have been able to implement a ring-sized curved battery by, for

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example, doing or understanding the experiments required with regard to battery chemistry?

MR. PLUTA: Object to form. Outside the scope of this declaration. Irrelevant.

THE WITNESS: Yeah. I -- I -- I mean, I guess again, I have to say I didn't personally do that analysis.

You know, I read what Dr. Anthony said. I -- I think you know my opinion on -- on what he said.

I read what the named inventor said about batteries and their availability commercially and so on.

I didn't do the analysis on whether a POSITA could go ahead and build a new battery from scratch.

Although, I do agree with Dr. Anthony that it's unlikely that -- that they could.

Q. (BY MR. HABER) Now, you mentioned, battery packaging as a potential impediment to reducing the size of batteries.

Is it your opinion that one of skill in the art -- the definition of a POSITA as you understand it, would have been able to do the design and experiments required to miniaturize battery

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packaging to fit into a ring-sized form factor for the -124 patent?
MR. PLUTA: Object to form. Lacks foundation.
THE WITNESS: I -- I mean, this is just a slightly more specific question than -- than you asked me before.
Before you were asking me generally about battery miniaturization and -- and chemistry, and now it's specifically about packaging.
Yeah. I guess I -- I didn't strictly do that analysis related to -- to packaging of -- of batteries and whether a POSITA could -- could do that or not.
Q. (BY MR. HABER) Sitting here today, do you have an opinion, one way or the other, as to whether or not one skilled in the art would have been able to do whatever is required to miniaturize and package a battery into a ring form factor?
MR. PLUTA: Object to form. Outside the scope. Relevance.
THE WITNESS: Sitting here today, no. I'd -- I'd have to do that analysis.
Q. (BY MR. HABER) Are you -- can you please --

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Actually, do you have the -124 patent in front of you?
A. I don't, no.
Q. So I can bring it up on the screen, but would you like me --
A. If you could share it in the chat, that would be great.
Thank you.
Q. Sure. I can do that.
A. Or -- or e-mail or whatever.
Or I can just pull it up on my computer.
Q. If you could pull it up on your computer, I'm fine with that. But --
A. Okay.
Q. -- obviously constrain yourself to what I'm asking you to look at, and if you look at anything else, just let me know.
But if you could pull it up, I think that might be the easiest.
A. Okay. I will.
Thank you.
Okay. I have it here.
Q. Okay. So I also have shared on the screen United States Patent, which I've been referring to as the -124 patent. It's been previously marked as

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Exhibit 1001 to this proceeding.
You can see it on the screen.
Right?
A. Yes, I can.
Thank you.
Q. I understand you have an electronic copy there in front of you?
A. I do.
Q. So is it your opinion that --
Strike that.
Let me ask another question.
Is there anywhere in the -124 patent that teaches a POSITA how to manufacture an appropriately sized battery for the ring device claimed in the patent?
MR. PLUTA: Object to form. Relevance.
THE WITNESS: I mean, I'd have to go through and -- and -- and read it carefully to make sure of my answer.
I -- I don't believe that the patent is discussing manufacturing of batteries, though.
Q. (BY MR. HABER) You've read the -124 patent several times, I would imagine, in preparing your declaration.
Right?

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A. I have, yes.
Q. Would you agree with me that the -124 patent does not teach a POSITA how to manufacture an appropriately sized battery for the invention claimed in the patent?
MR. PLUTA: Object to form. Also relevance.
THE WITNESS: Based on my recollection, yes. I don't think that the patent describes battery manufacturing.
Q. (BY MR. HABER) And would you also agree that the -124 patent does not teach a POSITA how to miniaturize a battery?
A. Right.
MR. PLUTA: Same objections.
THE WITNESS: And -- and, again, miniaturizing a battery is -- is related to battery manufacturing, which is not something that the -- that I -- I don't believe the patent describes.
Q. (BY MR. HABER) Based on what is taught in the -124 patent, how would one of skill in the art know how to implement the ring-sized curved battery that's required by Claim 1?
MR. PLUTA: Object to form. Outside the scope. Relevance.

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THE WITNESS: Yeah, I -- I guess I -- I hadn't considered that in forming my opinions. I didn't think it was necessary in forming my opinions.

Q. (BY MR. HABER) So having read through the -124 patent now several times, you have no opinion on how one skilled in the art, using that disclosure, would have implemented the finger-sized curved ring that's required by Claim 1.

Correct?

MR. PLUTA: Object to form. Outside the scope of the declaration. Lack of relevance.

THE WITNESS: Well, what I can say is that the patent does offer quite detailed discussions about the geometries and arrangement of components and so on. So there's a lot of teaching there on how to implement the -- the invention here.

But, you know, it doesn't cover battery manufacturing, for example.

You can't possibly cover every single step of implementing something in -- in every patent.

MR. HABER: That wasn't my question.

Q. (BY MR. HABER) My question is:

Having read through the -124 patent several times, what specifically in the disclosure of the

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-124 patent would have taught a POSITA how to acquire or produce or manufacture or otherwise have the finger-sized curved battery that they need to implement Claim 1?

MR. PLUTA: Object to form. Compound. Outside the scope of the declaration. Lack of relevance.

THE WITNESS: I mean, the patent doesn't describe battery manufacturing. You know, there's -- there's many things that need to go into inventions that -- that, you know, aren't always -- can't possibly -- everything can't possibly be covered in a single document.

So, yeah. The -- the patent doesn't describe the battery-manufacturing aspect.

Q. (BY MR. HABER) And it's also your opinion that one skilled in the art would not have understood the battery manufacturing components that were required for Claim 1.

Correct?

MR. PLUTA: Object to form. Outside the scope. Relevance.

THE WITNESS: The person of ordinary skill, as defined by Dr. Anthony, and which I generally agree with, doesn't include skills of battery

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manufacturing.

Q. (BY MR. HABER) And I believe that you mentioned earlier that the inventors at some point were forced to purchase or subsidize a battery factory to implement the inventions claimed by the -124 patent.

Is that right?

A. That's my understanding. Yes.

Q. Does the level of skill in the art for the -124 patent include purchasing factories?

MR. PLUTA: Object to form.

THE WITNESS: I mean, that's a very hard question to answer because there's a lot of other confounding factors here as it relates to costs and economics and -- and so on.

I -- I don't know how I can answer that -- that question.

MR. HABER: Well, I mean, feel free to look back at the level of skill that -- that both you and Dr. Anthony have proposed.

Q. (BY MR. HABER) Is there anything in that level of skill related to all that would be required to purchase a factory?

MR. PLUTA: Same objections.

THE WITNESS: I just don't know. I -- I

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hadn't considered that or -- or done that analysis.

Q. (BY MR. HABER) Well, purchasing a business would require some sort of financing, I imagine.

Correct?

A. I would imagine, yes.

Q. Is there anything in the level of skill that you and Dr. Anthony have proposed related to business financing?

A. I -- I don't know. I guess it depends, you know, the -- the -- the candidate -- the person of ordinary skill has an undergraduate degree in engineering, perhaps they majored in business.

I -- I just don't know.

Q. Well, you didn't propose that level of skill to include a business major or business degree.

Right?

A. Correct.

Q. And you didn't propose a level of skill that includes running a battery factory.

Correct?

A. Yeah. I did not do that. Nor did Dr. Anthony, yes.

Q. And I would imagine purchasing and subsidizing a battery factory includes, for example,

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hiring workers to work at that battery factory.
Correct?
MR. PLUTA: Object to form. Speculation.
THE WITNESS: Yeah. I -- I mean, I would have to speculate here. But I -- I think that's a pretty safe assumption.
Q. (BY MR. HABER) And nothing about the level of skill that you proposed includes employment, management, human resources, the sorts of thing that would be required to hire and train and employ workers.
Correct?
MR. PLUTA: Object to form. Lack of foundation.
THE WITNESS: Yeah. I -- I just don't know.
You know, I -- I was focused on analyzing engineering aspects of this, not the economic and -- and business aspects.
MR. HABER: That's fair.
Q. (BY MR. HABER) So if there are economic and business aspects that would be required, for example, to purchase and implement a battery manufacturer, that is outside of whatever opinions you have regarding the level of skill in the art.

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Correct?
A. Yeah. I -- I don't have an -- an opinion on that.
Q. Do you have an understanding of when the inventors' purchase and subsidy of a battery manufacturing occurred?
A. I don't recall the -- the timeline for when this happened. No.
Q. And so you don't know how long it took for these endeavors to kind of result in an appropriately sized curved battery for the invention of Claim 1?
A. I -- I don't.
Q. And you don't have an understanding of the costs associated with the purchase and subsidy of a factory that the inventors undertook to implement the invention of Claim 1 of the -124 patent?
A. No, I don't have that information.
Q. Do you consider yourself one of skill in the art?
A. I do.
Q. Have you ever purchased a battery manufacturer facility?
A. I have not personally, no.
Q. Have you ever considered it?

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A. As a realistic option, no.
Q. If, as a realistic option, for whatever reason you decided that you needed to purchase and subsidize a battery manufacturer, do you have any understanding of how you would do that?
MR. PLUTA: Object to form. Outside the scope of these proceedings. Irrelevant.
THE WITNESS: I -- I don't know. I -- I've never considered doing this. And so I haven't looked into the details.
MR. HABER: Go back to the declaration in paragraph 99.
Just let me know when you're there.
It should be on the screen.
THE WITNESS: Okay.
Q. (BY MR. HABER) In the first sentence, there's a mention of many of the engineering challenges that a POSITA would need to navigate.
Do you see that?
A. I do, yes.
Q. What engineering challenges are you referring to there?
A. So here we're talking about Dr. Anthony's discussion of how GMB Power had some batteries available. They were too big for use in a

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ring-style form factor.
And it's my opinion that simply just taking those batteries that -- that they had commercially available and miniaturizing them is outside of the scope of what a POSITA could reasonably do.
Specifically the engineering challenges associated with that would be things like looking at the battery chemistry to help improve energy density as you scale down to a smaller size, as well as some of the packaging considerations.
When you scale down a -- a battery to a smaller size, it's sometimes or often difficult to scale the packaging proportional to the total volume of the battery.
And so a larger percentage of the total volume of the battery is now occupied by the packaging as opposed to the battery chemistry, which is providing the actual energy that the battery can utilize.
So those would be some of the challenges associated.
Q. Is there anything in the -124 patent that describes, for example, the amount of power that would be required for the ring-sized curved battery?
A. Let me ask a clarifying question.

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You said the power of the battery.
Did -- did you mean energy, or do you mean peak power?
Q. Maybe you can tell me:
Is there a particular difference between energy and peak power, in your mind?
A. Yes, there is.
Energy relates to the total energy stored in the battery, typically quoted in units of milliwatt hours or sometimes milliamp hours.
And then power is in units of watts, and that indicates the, you know, instantaneous power demands that the battery would need to support.
Q. Okay. I'm assuming we can take that in parts.
Is there anything in the -124 patent that describes the amount of energy and milliamp hours or other units that would be required by the finger-sized curved battery required for Claim 1?
A. I'd have to go and double-check the document to -- to see if there's a specific reference to that. I -- I don't have the -- the full patent memorized.
But what I can say is that the document is -- or the patent is very descriptive of the

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elements that are required in the invention.
And it is reasonable for a POSITA to recognize those components, understand approximately their power and energy needs and be able to come up with an estimate for the energy required for a reasonable lifetime.
Q. Okay. And have you done that analysis?
A. I -- I haven't, no.
Q. I want to look at --
There's a table above paragraph 96 of your declaration.
Do you see that?
A. Yes.
Q. Do you have an understanding of what this table is?
A. I do.
Q. And what is it?
A. These are various different types of batteries that were available at various different dimensions and various different capacities.
Q. And is it your --
You see there's a column, I think, five over from the left called "Rated Capacity Milliamp Hours."
Do you see that?

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A. I do.
Q. Is it your opinion that batteries with these rated capacities listed in this table are not sufficient for the Claim 1 of the -124 patent?
MR. PLUTA: Object to form. Outside the scope.
THE WITNESS: I -- I didn't do that analysis myself.
And, actually, in -- in paragraph 97, I -- I just was pointing out that Dr. Anthony didn't do that either.
And I think that that was important because, you know, in various combinations proposed in his declaration, you know, there's a lot of things being thrown into a very small area.
And a POSITA would -- would need to do that analysis to make sure that everything would -- would work.
And Dr. Anthony didn't do that analysis, and -- and so it's -- it's unclear how a POSITA would succeed in -- in achieving what he was suggesting.
Q. (BY MR. HABER) Sitting here today, do you have any opinion, one way or the other, on whether or not the rated capacities of the batteries

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identified in this table on the top of paragraph 96 are insufficient for the requirements of the battery in Claim 1 of the -124 patent?
MR. PLUTA: Excuse me.
Object to form. Outside the scope.
THE WITNESS: So I can --
Let me answer this question in -- in two ways because we talked about two different types of energy and power.
I didn't provide any analysis or opinions on the rated capacity or the energy of the battery with respect to the needs of the system.
But in my paragraph 98 I did provide a quote from the inventors about the discharge current and how the discharge current of the smallest battery was not sufficient to meet the needs of the application.
Q. (BY MR. HABER) That discharge current that you identified, is that different than the rated capacity that's identified in this table on the top of paragraph 96?
A. Well, it's related actually.
The discharge current relates to the peak power drawing capabilities of the battery. And that is related to the rated capacity, as well as the

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discharge current column on -- on the far right on that table.

Q. Okay. Now, this discharge current that the inventors appear to be talking about in paragraph 98, does the -124 patent describe anything with regard to required discharge currents?

A. So the -124 patent does have a quite detailed description of the various components that would need to go into the development of such a system.

The -124 patent does offer some power numbers. We're talking about like peak power numbers here for some of the components.

And -- but a POSITA would be able to recognize some of the other components and -- and do some analysis and come up with some power -- peak power estimates of -- of these various components.

That's within the skill set of a POSITA.

Q. Can you point me to where specifically the -124 patent describes specific power requirements for its components?

A. I can point you to one example. This would be column 23, line 64.

Q. Let me pull that up on the screen so we're looking at the same thing.

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It says:

The RF signal can have a power of less than 500 milliwatts and a frequency of 13.56 megahertz.

Is that what you're referring to?

A. Yes.

Q. Is there anything else in the -124 patent, or is that it?

A. Again, I'd have to scan through, but -- but, again, the -- there's quite detailed discussion of the various different components that would go into the system and what their various power requirements might -- might be -- or rather a POSITA would understand what their various power requirements might be.

Q. So a POSITA would have understood what the power requirements are for the processors, memory, sensors, other devices that are required by Claim 1.

Is that your opinion?

A. Yeah. I think that's fair, at least in a -- an approximate sense, yes.

Q. And because a POSITA would have understood those power requirements, they're not disclosed in the -124 patent.

Is that fair?

MR. PLUTA: Object to form.

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THE WITNESS: So -- so the power requirements can vary depending on very specific implementation details and application uses and so on.

So I -- I don't think it's necessary for the patent to offer specific examples because these things, you know, can vary with -- with respect to those items I just mentioned.

But they're within the -- the wheelhouse of the POSITA to be able to figure out.

MR. HABER: I think we've been going for about an hour.

Do you want to take a quick break?

MR. PLUTA: Good.

MR. HABER: All right. Ten minutes?

MR. PLUTA: Sure.

MR. HABER: All right. Thanks.

THE WITNESS: Thank you.

THE VIDEOGRAPHER: Counselors, we're going off the record.

The time is 10:03.

(Recess taken.)

THE VIDEOGRAPHER: Counselors, Madam Court Reporter, Gentleman Witness, we are going back on the record.

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The time is 10:13.

Please proceed.

MR. HABER: Thank you.

Q. (BY MR. HABER) So just to wrap up some of the things that we've been talking about:

You would agree that a POSITA, as you understand that term, would not have been able to implement the finger-sized curved battery required by Claim 1 of the -124 patent.

Correct?

MR. PLUTA: Object to form. Outside the scope.

THE WITNESS: I -- I would say that a POSITA is not skilled in battery -- a POSITA for this case is not skilled in -- in battery manufacturing, and so the engineering challenges to arrive at a battery appropriate for this would not -- would require taking paths that are not obvious to a POSITA.

Q. (BY MR. HABER) So would you agree that a POSITA would not have been able to themselves manufacture the finger-sized curved battery required of Claim 1?

MR. PLUTA: Same objections.

THE WITNESS: On their own as a POSITA,

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using the definition applied here, no, a POSITA is not skilled in battery manufacturing.

Q. (BY MR. HABER) And you would agree that a finger-sized device with a curved battery of Claim 1 was not actually implemented until sometime after this patent was filed in 2013.

Correct?

MR. PLUTA: Object to form.

THE WITNESS: I'm not aware of the timeline that the inventors had in -- in developing their -- their prototypes.

Q. (BY MR. HABER) Are you aware of Oura's Generation 1 ring device?

A. I am, yes.

Q. And that Generation 1 ring device was produced sometime around 2015.

Correct?

A. That sounds right.

Q. And the Oura Generation 1 device did not implement a curved battery.

Correct?

A. That is correct.

It's my understanding that they didn't have the rights to this patent at that point, and it wasn't until they acquired the rights that they were

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able to release their Gen 2 device, and that included the curved battery.

Q. You mentioned the Gen 2 device and you state in your paragraph 295 of the declaration that that was released in 2018.

Does that sound right?

A. I'm just going to go to paragraph 295 to confirm.

Yes.

Q. And so Oura did not actually implement a ring device with a curved-sized battery until 2018 at the earliest.

Correct?

MR. PLUTA: Object to form. Outside the scope.

THE WITNESS: So I don't -- I don't recall the -- the timeline of when they acquired patent, or nor do I know when they may have built prototypes along the way.

So -- so I'm -- I'm not sure.

Q. (BY MR. HABER) Do you have any information regarding the prior owner of this patent when they have may have implemented a finger ring device with a curved battery in it?

MR. PLUTA: Object to form. Outside the scope. Irrelevant.

THE WITNESS: I -- I don't recall off the top of my head the -- the timeline.

I -- I do know the named inventor had many different prototypes and -- developed over the years, but I don't recall the timelines.

Q. (BY MR. HABER) Okay. So based on the evidence that you are aware of, Oura's Gen 2 device released in 2018 is the first finger-sized device implemented with a curved battery, according to the claims of the -124 patent.

Is that fair?

MR. PLUTA: Object to form. Outside the scope. Irrelevant.

THE WITNESS: No, I don't think that's fair.

Q. (BY MR. HABER) Are you aware of an earlier device?

MR. PLUTA: Same objections.

THE WITNESS: I am aware of some prototypes that the named inventor designed. I just don't recall the -- the timelines. Though I believe they were certainly before 2018.

Q. (BY MR. HABER) Sitting here today you don't have knowledge of when those prototypes were

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designed?

A. Sitting here today, no.

Q. What evidence did you review indicating that there were earlier devices implemented by the inventor?

MR. PLUTA: Object to form. Outside the scope. Irrelevant.

THE WITNESS: Well, I did read the inventors' transcripts. I've seen some drawings. I've inspected some physical prototypes.

But, yes, sitting here today I -- I don't recall the -- the timelines under which any of these were developed.

Q. (BY MR. HABER) You would agree that the inventors had to do a number of things that are not described in the -124 patent in order to acquire the -- the finger-sized curved battery of Claim 1.

Correct?

MR. PLUTA: Object to form.

THE WITNESS: I -- I'm not sure that I understood the -- the question.

MR. HABER: Let me ask again. Maybe I can clarify.

Q. (BY MR. HABER) You would agree that the inventors had to take a number of additional steps

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that are not described in the -124 patent in order to implement the finger-sized curved battery of Claim 1.

Correct?

MR. PLUTA: Object to form. Outside the scope of these proceedings. Irrelevant. Also lacks foundation.

THE WITNESS: So -- so this patent is describing, you know, geometries and electronics and so on that would go into a -- finger-worn ring.

But, you know, there's -- there's a lot of things that -- that need to go into the engineering of -- of products, and it's not possible to describe every single manufacturing step and so on in -- in a patent.

I find that reasonable to -- when drafting my own patents, for example, to not have to explain every single thing that I'm doing.

And it appears that that's what the inventors did here, as well.

MR. HABER: Right.

Q. (BY MR. HABER) And so the inventors didn't describe battery manufacturing and miniaturization details.

Correct?

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A. That's -- that's correct. The inventors describe a great many things, but battery manufacturing was -- was not one of those things.

Q. And the battery manufacturing and miniaturization details that are not described by the -124 patent that are required for Claim 1 are outside of the level of skill of a POSITA.

Fair?

MR. PLUTA: Object to form. Calls for legal conclusion. Outside the scope of these proceedings and irrelevant.

THE WITNESS: Well, as I mentioned in my report, it's my opinion that the inventors, you know, tackled the engineering challenges of battery manufacturing by taking paths that would have not been obvious to a person of ordinary skill in the art as -- as defined in these proceedings.

MR. HABER: That -- that wasn't my question.

Q. (BY MR. HABER) My question was:

The battery manufacturing and miniaturization details that would have been required to implement the finger ring device of Claim 1, you would agree that that's outside the agreed-upon level of skill for the -124 patent.

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Correct?

A. That's right.

Dr. Anthony and I agree that a POSITA wouldn't have skills in battery manufacturing.

Q. Right.

And those specific implementation details that are required to implement the Claim 1 of the -124 patent are not described in the -124 patent itself.

Fair?

MR. PLUTA: Object to form. Calls for a legal conclusion. Lack of foundation. Outside the scope of these proceedings. Irrelevant.

THE WITNESS: Well, so Claim 1 does describe, you know, a lot of details about how one might construct a finger ring, but Claim 1, or the specification, doesn't describe battery manufacturing.

Q. (BY MR. HABER) And, fundamentally, you agree that one skilled in the art would have had -- would have to have a finger-sized ring in Claim 1 --

I'm sorry.

Strike that.

You would agree that, fundamentally, one of skill in the art would have to have a finger-sized

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curved battery to implement Claim 1 and those details on how to manufacture or require that battery are not taught by the -124 patent.

Fair?

MR. PLUTA: Object to form. Outside the scope. Irrelevant.

THE WITNESS: So -- so, again, the -124 patent is not describing battery manufacturing.

I don't really know how else to answer that question other than to say that.

Q. (BY MR. HABER) So, fundamentally, I think my question is this:

If battery manufacturing is not described by the -124 patent, a finger-sized curved battery, if required by Claim 1 of the -124 patent, manufacturing and miniaturizing a battery that is required by Claim 1 is outside of the agreed-upon level of skill in the art, how would one skilled in the art know how to implement Claim 1?

MR. PLUTA: Object to form. Outside the scope.

Counsel, how is this related to any of the grounds that the Board instituted?

MR. HABER: Rob, I'm going to ask you to refrain from your speaking objections.

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I've given you a lot of leeway. You are well outside the parameters that are allowed in a IPR deposition.
You can object to form. You can object to scope.
You've had extensive speaking objections.
Now you're trying to interject into my deposition.
I'd appreciate if you would not do that.
MR. PLUTA: No. I'm --
MR. HABER: My question is pending.
MR. PLUTA: I'm going to protect my record.
The scope of this deposition is limited to the instituted grounds.
You know what you're doing, and we're going to stop it, if it continues.
So I'm going to continue making my objections, and it would be great if you could focus on something that the Board instituted, like the 103 grounds.
MR. HABER: Okay. Are you finished?
MR. PLUTA: For now, yes.
MR. HABER: Okay. Your speaking objection is entirely inappropriate.
I have a question pending, and I would like

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my question to be answered.
And the --
So my question is pending, and can you answer it?
THE WITNESS: Could you repeat the question.
I'm sorry.
There's a lot of stuff in between there.
MR. HABER: Sure. Let me see if I can repeat the question again.
Q. (BY MR. HABER) So my question is this:
Battery miniaturization details are not in the -124 patent. A finger-sized curved battery is required by Claim 1 in the -124 patent.
You and Dr. Anthony --
Sorry.
Strike that.
Let -- let me ask the question again.
Battery miniaturization details are not included in the -124 patent. Claim 1 of the -124 patent requires a finger-sized curved battery.
You agree that manufacturing or otherwise acquiring a -- a finger-sized curved battery is outside the agreed-upon level of skill in the art.
So the question is:

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How would one of skill in the art implement an invention claimed by Claim 1?
MR. PLUTA: Same objections.
THE WITNESS: Well, like I said, you know, the inventors took a path that would not be obvious to the ordinary artisan.
They ended up acquiring a battery manufacturing facility and -- and worked with them to -- to make the engineering happen that -- that they needed.
Q. (BY MR. HABER) Okay. So is it your opinion then that one of skill in the art, looking at the -124 patent, would decide, I need to buy a battery factory in order to implement this invention?
MR. PLUTA: Object to form. Outside the scope. Irrelevant.
THE WITNESS: I mean, I guess it's -- it's a little difficult for me to answer that knowing, you know, what the -- the actual inventors did.
Of course, they did end up buying that battery manufacturer to accomplish the engineering challenges set out here.
And, you know, with -- with all the -- the prior art published prior to this patent, that's a

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kind of very nonobvious direction.
But that's what the inventors did and, you know, they had success doing so.
I don't know if they had that in mind when they were writing the patent. I -- I don't know the timelines of -- of when this all happened.
But that's what they did, and, obviously, it -- it succeeded.
Q. (BY MR. HABER) So the inventors went and purchased a battery factory.
Other than purchasing a battery factory, is there anything that the -124 patent suggests with regard to how to implement Claim 1?
MR. PLUTA: Object to form. Outside the scope. It's irrelevant.
THE WITNESS: Well, Claim 1 has a -- a lot of things that are described in -- in detail in the patent.
MR. HABER: I think that -- I think that was probably a broader question than I wanted to ask.
So let me -- let me ask a more narrow question.
Q. (BY MR. HABER) Other than purchasing a battery factory, is there anything in the -124

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patent that describes how to implement the miniaturized finger ring curved battery of Claim 1 of the -124 patent?

MR. PLUTA: Object to form. Outside the scope. Irrelevant.

THE WITNESS: Well, there's a -- there's a lot details about the form factor and geometry of -- of the required battery.

So I think the patent is providing, you know, good detail in -- in that regard.

As it relates to actually manufacturing that battery, no, I don't think the patent describes how to do that.

MR. HABER: I want to look at Claim 1 of the -124 patent. So if you could bring up Exhibit 1001, I think we can look at it together.

THE WITNESS: Okay.

Q. (BY MR. HABER) So the first element of Claim 1 begins after line 40 of column 33.

I see there's an external housing having an outer surface and an interior surface, sidewalls.

Do you see that?

A. I do.

Q. And it continues:

The sidewalls are characterized by an

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approximately C-shaped cross section and define an interior space.

Do you see that?

A. I do.

Q. So the -12- -- the -124 patent --

Let me ask you this:

Do you agree that the -124 patent describes a few different embodiments for how to construct an external housing?

A. In the specification, yes.

Q. Is Claim 1 intended to cover all of the embodiments that are described in the -124 specification or just the subset of them?

MR. PLUTA: Object to form.

THE WITNESS: These are -- I -- I believe they're meant to describe the subset.

Claim 1 is meant to describe the subset.

Q. (BY MR. HABER) What subset specifically is Claim 1 --

Let me ask a more clear question.

What subset of disclosed embodiments in the -124 patent is Claim 1 directed to, in your opinion?

A. Well, I'm not quite sure how to answer that.

I mean, Claim 1 describes the geometry pretty clearly.

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There are alternative geometries that are described in the specification that wouldn't be covered by Claim 1.

Q. Are there particular geometries that you have in mind that are described in the specifications that are not covered by Claim 1?

A. Sure.

So there was a -- a U-shaped design that's described. That -- that wouldn't be covered by -- by this Claim 1.

Q. Which embodiment in particular?

Is there a figure that you can point to for the U-shaped design that is not intended to be covered by Claim 1?

I'm flipping through the figures on the screen. But if there's one in particular you can direct me to . . .

A. Yeah.

If you go to Figure -- yeah, right here -- Figure 14A, that's my understanding of the U-shaped geometry.

Q. And there's also a cross section in -- in Figure B -- 14B?

A. Right. Yep.

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Q. What's shown in Figure 14B is what you refer to as a U-shaped geometry that's not intended to be covered by Claim 1.

Is that your opinion?

MR. PLUTA: Object to form.

THE WITNESS: I believe that's the case, yes.

Although, I -- I'd have to kind of review the text and so on to -- to double-check.

Q. (BY MR. HABER) What about this embodiment in particular takes it outside of the scope of Claim 1?

MR. PLUTA: Object to form.

THE WITNESS: So -- so Claim 1 describes having an external housing component and a potting material that forms an internal housing component.

And -- and so that's different than what's described in Figure 14B, which is kind of this U-shaped singular housing, if you will, that the components can just slide into.

So it's a little different than what's covered in Claim 1.

Q. (BY MR. HABER) Go to Claim 1.

So Claim 1 requires an external housing with an interior surface and sidewalls that has a

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C-shaped cross section and an interior space.
A. That's right.
Q. Right.
So I'm reading this element of Claim 1, and I only see one housing that is required there -- right? -- the external housing.
Right?
A. Well, if you go to the very last element in Claim 1, it describes a potting material that is disposed in the interior space. That forms an interior wall.
Q. The interior wall that's recited in the last element of Claim 1, is that the portion of the ring that contacts the -- the user's finger as the user wears the ring?
A. Yes. In this claim, yes.
Q. So then there are really two kinds of structural components to the ring.
Right?
There's an external housing with various surfaces and spaces, and an interior wall of the ring.
Right?
A. I think that's fair.
Q. And the interior space that's recited in

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the first element sits between the external housing and -- of the ring and the interior wall of the ring.
Right?
MR. PLUTA: Object to form.
THE WITNESS: So -- so my read on this is that the first element in Claim 1 is that the external housing has an outer surface, an interior surface, and sidewalls, where the interior surface and the sidewalls are characterized by the approximately C-shaped cross section and define an interior space.
Okay?
So the definition of the interior space is established by the geometry of the C-shaped cross section formed by the external housing component.
The claim then goes on to say, you know, various components can be placed into this interior space.
Some of those components may extend beyond that defined interior space, but then the potting material goes on top of all of that and forms the interior wall that encapsulates all of those components.
Q. (BY MR. HABER) We can go to your

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declaration, page 154.
Let me know when you're there.
A. Oh, sorry. Page -- what? Sorry?
Q. Page 154.
A. 154. Okay.
Q. Just let me know when you're there.
A. Okay. Yep.
Q. What's shown here is a -- I believe some analysis that you did on a third party device describing how that third party device satisfies the element of Claim 1.
Correct?
MR. PLUTA: Object to form.
THE WITNESS: Well, this is an Oura Generation 3 ring.
MR. HABER: Sorry.
Yeah. Correct.
Okay. So let me ask a -- better question.
Q. (BY MR. HABER) This is an analysis that you did to describe how one of the Oura's Gen 3 products practices Claim 1 of the -124 patent.
Right?
A. That's right.
Q. And the interior space we were talking about before required by Claim 1 is shown as a red

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rectangle in the middle of this image.
Correct?
A. That's right.
It's defined by the geometry of the external housing component, which is C-shaped, if you rotated it by 90 degrees.
Q. And I believe this is a cross section where the battery is.
Right?
A. That's correct.
Q. And the battery extends outside the interior space?
A. Yes, the battery extends outside of the boundary established by the external housing component, but is encapsulated within the inner wall formed by the potting material.
Q. And so, in your opinion, the battery required by Claim 1 can extend beyond the claim's interior space.
Right?
A. As to how the interior space is defined in the patent in Claim 1 specifically, yes.
Q. And Claim 1 recites a number of other components other than the battery.
Right?

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A. That's correct.
Q. And each of those other components, just like the battery, can extend beyond the interior space as defined in the first element of Claim 1.
Right?
A. Yes.
Q. And the last element of Claim 1 is the --
The last element of Claim 1 is the interior wall that is made of potting material.
Right?
A. Right.
Q. Is it your opinion that the interior wall made of potting material has to entirely cover all of the components that are held or retained within the interior space?
MR. PLUTA: Object to form.
THE WITNESS: Well, the language in the claim says:
A potting material disposed in interior space incapsulating the plurality of components.
The word "encapsulating" suggests that it does need to cover all of those internal components.
Q. (BY MR. HABER) There's another cross section shown on page 155.
At the bottom, appears to be a -- there's a

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similar cross section that we were looking at before, and then at the bottom there's a ring split in half lengthwise.
Do you see that?
A. I do.
Q. And at the bottom of the ring there appears to be three bumps or -- or ridges on the inside wall of the ring.
Do you see that?
A. I do.
Q. Can you describe what those bumps or ridges are?
A. Those are formed by the potting material, and those are over some of the optical elements in the ring.
Q. And so, in your opinion, your ring device here that you've shown with these kind of bumps and ridges on the internal wall, that still practices the claims.
Right?
Those interior bumps and ridges don't take it outside the scope of the claims?
A. That's correct.
Q. Do these internal bumps and ridges make the Oura ring device unusable as a finger ring?

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MR. PLUTA: Object to form.
THE WITNESS: No. There's millions of customers who've used it with those bumps.
Q. (BY MR. HABER) And you're not aware of any complaints from those millions of customers regarding comfort or interference because of the ring's internal bumps or ridges?
A. I'm not aware of any.
Q. I want to bring up one piece of prior art. It's Exhibit 1010, the patent refereed to as Mestas.
So if you can pull that up, that would be great.
A. Sure. Just give me a moment.
Okay. I have it up here.
Q. All right. And I also have it on the screen, Exhibit 1010, which is Patent Publication U.S. 20140244009 to Mestas -- Alex Mestas.
Can you see my screen?
A. I can, yes.
Thank you.
Q. All right. I have on the screen here Figure 2 of Mestas.
A. Okay.
Q. And you can see in Figure 2 an item marked "24."

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Right?
A. I see that, yes.
Q. And Mestas describes Item 24 --
Let me pull it down.
Here in paragraph 157, there's outer Encasement Number 24.
Do you see that?
A. I do.
Q. And you would agree that outer Encasement Number 24, shown in Figure 2, goes around kind of the outside of all of Mestas' components -- internal components.
Right?
A. Not necessarily.
Q. Are there particular components that outer Encases -- outer Encasement Number 24 does not go around?
A. Yeah.
If you stop here at Figure 2, there's Element 74.
Q. Uh-huh.
A. And this is described in Mestas as a cap or a closure member secured over the second opening by fasteners.
So this is some sort of additional material

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that -- that goes over top of the -- this -- I forget what we call it -- the encapsulant or the enclosure.

Q. Okay. And Item 84 is positioned on the interior of the device in Figure 2.

Correct?

A. That's correct.

Q. And the interior of the device in Figure 2 is the portion of the device that is closest to the user's skin.

Right?

A. Right, in this case on the wrist.

Q. Okay. So would you agree that what's shown in Figure 2, the -- the interior components --

Strike that.

Let me ask another question.

What's shown in Figure 2, there are (sic) an interior space that's defined between outer Encasement Number 24 on the outside and Item 75 on the inside -- I'm sorry. Strike that -- 74 on the inside.

A. No, I don't agree with that.

Q. You don't agree that there is an interior space defined between outer Encasement Number 24 and Item 74?

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A. Correct. I don't agree with that.

Q. Okay. Why not?

A. Well, Item 74 is just a cap. It doesn't go around the entire circumference of the inner side of the device.

Q. And, in your opinion, in order to define an interior space you would need to have, for example, Item 74 go around the entirety of the interior space of the device?

A. Well, the interior space of the device is in the -12 -- -124 patent is -- is defined by the boundary of the external housing component.

And then the potting material in the -124 patent encapsulates that plurality of components that are -- that are located within that interior space.

Whereas, in Mestas here, you know, there's -- there's, you know, the Cap 74. There may be -- I don't remember what 70 is. But that's another element. There's a few different elements that -- that are provided here.

And the -- the petitioner mapping of some of these claimed elements was not consistent or -- or clear in my mind with respect to Mestas.

Q. But you would agree that at least what's

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shown in Figure 2 and also Figure 2A, the interior side of the device is completely covered such that, you know, sensitive electronics aren't exposed directly to a user's skin.

Right?

A. Yes. I agree with that.

Q. And I think that's also shown in Figure 3.

Right?

There is complete covering of both the interior side of the device and the exterior side of the device to protect the internal components from the elements and other potentially adverse effects.

Right?

A. That's true, with the caveat that Mestas described quite a few embodiments.

I don't recall if Figure 3 is the exact embodiment of Figure 2 and so on.

But generally, yes, it does cover the sensitive electronics.

Q. Okay. And in all of the embodiments of Mestas, the interior electronics are protected by being encased both internally and externally.

Right?

MR. PLUTA: Object to form.

THE WITNESS: In -- in one way or another,

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yes. But the -- the internal components --

Well, the -- the language is -- is tricky here.

The components inside of Mestas are sealed from the environment generally.

Q. (BY MR. HABER) In the embodiment of Figure 2A, do you know what this particular device --

Strike that.

In the embodiment of Figure 2A, do you have an understanding of what material is used to cover kind of the internal and external components of the device?

A. I don't recall.

Mestas is a very -- very long patent.

Q. 216 pages.

Go to -- go back to your declaration.

Paragraph 130, it's on the pages that span pages 68 and 69.

A. Okay.

Q. Towards the top of page 69 you have a sentence describing Shroder's Inlay 12, and you say that is approximately 100 micrometers thick.

Do you see that?

A. I do.

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Q. What is your basis for your statement that Shroder's Inlay 12 is 100 microns thick?
A. Well, I cite Exhibit 2122 at 101.
It would be useful if we could pull that up.
Q. I can pull it up so we can see it.
I see a sentence here. I assume this is what you're referring to.
A. Yeah. So I believe this is a quote that if --
I believe this maybe was the Patent Board citing Dr. Rosing providing credible testimony that one skilled in the art would understand the thickness of Shroder's inlays on the order of 100 microns.
Q. This is just -- sorry.
This is the ITC, not the Patent Board.
A. I'm sorry.
Yes, you're right.
Thank you.
Q. Okay. And so the basis for your statement that inlay 12 is approximately 100 microns thick is the testimony of a third party expert that has not provided testimony here, Dr. Rosing.
Is that fair?

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A. Yes.
In addition to my own experience as a POSITA knowing that an inlay does need to be thin, and 100 microns is -- that sounds about right to me as a POSITA, as well.
Q. I believe that you testified in connection with Shroder that the inlay would have been made of material like P.E.T. or Kapton.
Do you recall that testimony?
A. Yes.
Q. And I believe your prior testimony was that a layer of P.E.T. or Kapton is approximately 100 microns thick?
A. It can be.
Q. Would you agree that multiple layers of P.E.T. or Kapton stacked on top of each other could easily be greater than 100 microns thick?
A. It could be.
I'm sure you can get P.E.T. or Kapton in various thickness.
MR. HABER: We've been going for about another hour.
Do you mind if we take another quick break?
MR. PLUTA: Yeah. That sounds good.
MR. HABER: All right. Ten minutes.

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THE VIDEOGRAPHER: Counselors, we're going off the record.
The time is 11:13.
(Recess taken.)
THE VIDEOGRAPHER: Counselors, Madam Court Reporter, Gentleman Witness, we are going back on the record.
The time is 11:23.
Please proceed.
MR. HABER: Okay. I don't have any further questions at this time. So . . .
MR. PLUTA: Let's just go off the record for one minute.
MR. HABER: Okay.
THE VIDEOGRAPHER: Counselors, we're going off the record.
The time is 11:23.
(Recess taken.)
THE VIDEOGRAPHER: Counselors, Madam Court Reporter, Gentleman Witness, we are going back on the record.
The time is 11:24.
MR. PLUTA: I -- I don't have any questions.
THE VIDEOGRAPHER: Madam Court Reporter, do you have anything to add for the record?

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THE REPORTER: I just need to know if counsel needs a copy.
MR. PLUTA: I don't need one.
THE REPORTER: Okay.
MR. HABER: I'd like a copy and a -- and a rough as soon you can get them.
THE REPORTER: Okay. We're all set.
THE VIDEOGRAPHER: Counselor, do you want your video synched to transcript, or would you like us to just archive it for now?
MR. HABER: I think we can just archive it for now.
THE VIDEOGRAPHER: Excellent.
Counselors, Madam Court Reporter, Gentleman Witness, we are going off the record.
The time is 11:24.
(The deposition was concluded at 11:24 a.m.)
--oOo--

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REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) SS.
COUNTY OF SAN BERNARDINO)

I, AMY P. SMITH, a certified shorthand reporter for the State of California, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition was sworn by me to testify to the truth, the whole truth, and nothing but the truth;

That the said deposition was taken down by me in stenotype at the time and place therein stated and thereafter reduced to typewriting under my direction and that the deposition transcript is a true and correct record of the proceedings here held.

I further certify that I am not of counsel or attorney for any of the parties hereto or in any way interested in the event of this cause and that I am not related to any of the parties thereto.

Dated this 5th day of March, 2026.

AMY P. SMITH

Errata Sheet

NAME OF CASE: SAMSUNG ELECTRONICS vs OURARING
DATE OF DEPOSITION: 03/04/2026
NAME OF WITNESS: Patrick P. Mercier, PH.D.
Reason Codes: 1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

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_____
PATRICK P. MERCIER, PH.D.

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_____
PATRICK P. MERCIER, PH.D.

STATE OF _____)
) ss.
COUNTY OF _____)

I, PATRICK P. MERCIER, PH.D., declare under penalty of perjury that I have read the foregoing transcript, and I have made any corrections, additions, or deletions that I was desirous of making; that the foregoing is a true and correct transcript of my testimony contained therein.

EXECUTED this _____ day of _____, 20_____, at _____, _____.
(City) (State)

_____
PATRICK P. MERCIER, PH.D.

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