

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.;	)	Case No.: PGR2024-00030
	)	U.S. Patent No. 11,868,178
	)	and
Petitioner	)	Case No.: PGR2024-00039
	)	U.S. Patent No. 11,874,702
v.	)	
	)	
OURARING, INC.,	)	
	)	
Patent Owner.	)	
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VOLUME II

REMOTE VIDEO DEPOSITION OF

PATRICK P. MERCIER, Ph.D.

WEDNESDAY, JUNE 25, 2025

8:18 A.M. PDT

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Reported by: JULIE RUMSEY, CSR 14144

Job No. 114244

Page 170	Page 172
1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 ---000--- 4 SAMSUNG ELECTRONICS CO., LTD.;) Case No.: PGR2024-00030 5) U.S. Patent No. 11,868,178 6) and 7 Petitioner) Case No.: PGR2024-00039 8) U.S. Patent No. 11,874,702 9 v.) 10) 11) 12 OURARING, INC.,) 13) 14 Patent Owner.) 15) 16) 17) 18) 19) 20) 21) 22) 23) 24) 25) REMOTE VIDEO DEPOSITION OF Patrick P. Mercier, Ph.D., located in San Diego, California, commencing at 8:18 A.M. PDT on Wednesday, June 25, 2025, before JULIE RUMSEY, Certified Shorthand Reporter 14144, in and for the State of California.	1 INDEX 2 ---000--- 3 FURTHER EXAMINATION 4 PAGE 5 BY ATTORNEY HABER 174, 235 6 EXAMINATION 7 PAGE 8 BY ATTORNEY PLUTA 225 9 ---000--- 10 EXHIBITS 11 EXHIBIT DESCRIPTION PAGE 12 Exhibit 1001 von Badinski et al. 13 U.S. 11,874,702 B2 14 Bates Petitioner Samsung Ex-1001, 0001 15 through Petitioner Samsung Ex-1001, 0090 16 90 Pages 177 17 Exhibit 1012 LeBoeuf et al. 18 U.S. 8,700,111 B2 19 Bates Petitioner Samsung Ex-1012, 0001 20 through Petitioner Samsung Ex-1012, 0040 21 40 Pages 177 22 Exhibit 2018 U.S. Patent No. 11,874,702 23 Declaration of Dr. Patrick Mercier 24 Bates Patent Owner Oura Ex. 2018, 0001 25 through Patent Owner Oura Ex. 2018, 0146 146 Pages 207 Exhibit 2121 Oura Ring 1 Photos 8 Pages 227 Exhibit 2122 ASC Sensors Article Wearable Ring-Based Sensing Platform for Detecting Chemical Threats 8 Pages 230 ---000---
Page 171	Page 173
1 APPEARANCES VIA ZOOM: 2 3 FOR THE PETITIONER: 4 OMELVENY & MYERS LLP 5 BY: BENJAMIN HABER, ESQ. 6 RENIA ZERVOS, ESQ. 7 JASON FOUNTAIN, ESQ. 8 400 SOUTH HOPE ST., 19TH FL. 9 LOS ANGELES, CA 90071 10 (213) 430-6000 11 bhaber@omm.com 12 13 FOR THE PATENT OWNER: 14 MAYER BROWN LLP 15 BY: ROBERT G. PLUTA, ESQ. 16 NICHOLAS H. CIULLA, ESQ. 17 71 S. WACKER DR. 18 CHICAGO, IL 60606 19 (312) 782-0600 20 RPluta@mayerbrown.com 21 NCiulla@mayerbrown.com 22 23 MAYER BROWN LLP 24 BY: JASJIT S. VIDWAN, ESQ. 25 1999 K ST., N.W. WASHINGTON, D.C. 20006-1101 (202) 263-3065 JVidwan@mayerbrown.com LEGAL VIDEOGRAPHER: DANIEL LONG ---	1 WEDNESDAY, JUNE 25, 2025, 8:18 A.M. PDT 2 ---000--- 3 THE VIDEOGRAPHER: We're now on the record, and 4 this is the beginning of media number 1 in the 5 video-recorded deposition of Patrick P. Mercier, Ph.D., 6 held in the matter of Samsung Electronics versus Oura Ring, 7 Inc., case number PGR2024-00030, second case number 8 PGR2024-00039, held in the United States Patent and 9 Trademark Office before the Patent Trial and Appeal Board. 10 This deposition is being taken on behalf of Petitioner. 11 Today's date is June 25th, 2025. And the time on the 12 monitor is 8:18 a.m. 13 The court reporter today is Julie Rumsey. I'm 14 Daniel Long, the videographer, on behalf of First Legal 15 Depositions, located in Los Angeles, California. This 16 deposition is being videotaped at all times unless 17 specified to go off the video record. 18 Would all present please identify themselves, 19 beginning with the noticing attorney. 20 ATTORNEY HABER: Benjamin Haber for Petitioner 21 Samsung. With me on the line is Renia Zervos and Jason 22 Fountain. 23 ATTORNEY PLUTA: Rob Pluta from Mayer Brown on 24 behalf of Oura Ring. With me is Jasjit Vidwan and Nicholas 25 Ciulla.

Page 174 1 THE VIDEOGRAPHER: Will the court reporter please 2 swear in the witness. 3 CERTIFIED STENOGRAPHER: Good morning. My name is 4 Julie Rumsey, California Certified Shorthand Reporter 5 Number 14144. The stenographic record is the official 6 record pursuant to C.C.P. 2025. 7 ---000--- 8 PATRICK P. MERCIER, Ph.D., 9 called as a witness herein, having been 10 administered an oath remotely in accordance with C.C.P. 11 Section 2096, was examined and testified as follows: 12 ---000--- 13 CONTINUED EXAMINATION 14 BY ATTORNEY HABER: 15 Q. Welcome back, Dr. Mercier. 16 A. Thank you. 17 Q. You understand that you are still under oath, and 18 you have the same obligation to testify truthfully and 19 accurately as if you were in a court of law, correct? 20 A. I do. 21 Q. Any reason why you can't do that today? 22 A. No. 23 Q. Did you speak with anyone about your deposition 24 testimony between yesterday and this morning? 25 A. No.	Page 176 1 open. 2 ATTORNEY PLUTA: Yeah. Me as well. 3 ATTORNEY HABER: Okay. Why don't we go off the 4 record so we can fix that. I think there might be a 5 setting somewhere. 6 THE VIDEOGRAPHER: Going off the record. Time on 7 the monitor is 8:22 a.m. 8 (Discussion held off the record.) 9 THE VIDEOGRAPHER: We're now back on the video 10 record. Time on the monitor is 8:34 a.m. 11 BY ATTORNEY HABER: 12 Q. All right. I apologize for technical 13 difficulties. 14 I sent along some electronic copies of the 15 exhibits that I'm planning on using. I understand the 16 witness also has his own electronic copies, which is fine. 17 You can use your electronic copies as long as there's not 18 any additional marking or annotation in them. And if you 19 refer to anything else other than what I've sent you, just 20 let me know. 21 A. Will do. Thank you. 22 Q. So today I'm going to start with a couple 23 documents. The first is your declaration in connection 24 with PGR -- PGR2024-00039, and that is a declaration 25 regarding U.S. Patent Number 11,874,702, and we're going to
Page 175 1 Q. Did you speak with anyone about any aspect of the 2 case between yesterday and this morning? 3 A. No. 4 Q. Okay. I'm going to put into the chat a 5 declaration that you submitted in connection with 6 PGR2024-00039 regarding the '702 patent. If you have that 7 in front of you, you can feel free to pull up a paper copy 8 while I take care of this. 9 A. Thank you. 10 ATTORNEY HABER: For the technician, it doesn't 11 appear to allow me to drag and drop a file into the chat. 12 Is that a setting you can fix on your end? 13 (Clarification by the certified stenographer.) 14 THE VIDEOGRAPHER: Yes. 15 ATTORNEY HABER: Is that a setting you can fix on 16 your end? I can't drag and drop a document into the chat. 17 THE VIDEOGRAPHER: One second. 18 It doesn't show that the chat is disabled, but, if 19 you'd like, we can go off the record and I can do further 20 research. 21 (Clarification by the certified stenographer.) 22 ATTORNEY HABER: I mean, we each have copies of 23 this document. I think we can proceed unless -- I can 24 throw it on the screen so people can see it. 25 THE WITNESS: I prefer to have an electronic copy	Page 177 1 refer to that as the '702 patent today, and that document 2 was previously submitted in this PGR proceeding as 3 Exhibit 1001. 4 (Clarification by the certified stenographer.) 5 (Exhibit 2018, previously marked, was 6 presented.) 7 (Exhibit 1001, previously marked, was 8 presented.) 9 BY ATTORNEY HABER: 10 Q. So if you have a copy of the patent, maybe we can 11 just start with the '702 patent. 12 A. Okay. 13 Q. I'll pull it up on the screen as well. 14 And I wanted to begin by discussing some of the 15 claims of the '702 patent. So if we scroll all the way to 16 the end, you see claim 1 begins with a finger-worn wearable 17 ring device. 18 Do you see that? 19 A. Yes. 20 Q. All right. And on the next page of the patent, in 21 the first kind of indented claim element there, towards the 22 end of the claim element, it states (as read): 23 Wherein the internal housing 24 component comprises a substantially transparent 25 material that enables light to pass through the

Page 178 1 internal housing component. 2 Do you see that? 3 A. Yes. 4 Q. Do you have an understanding of what the term 5 "substantially transparent" means? 6 A. So when I discuss claim construction, I discuss 7 that terms should take their plain and ordinary meaning, 8 and I didn't feel the need to construe a definition for any 9 of the -- any terms in the claims. So plain and ordinary 10 meaning. 11 Q. Can you tell me what the plain and ordinary 12 meaning of "substantially transparent" is? 13 A. Again, without trying to come -- you know, with -- 14 with a very precise or specific definition, a general 15 understanding of the words "substantially transparent" 16 would be, you know, there's varying degrees of 17 transparency. Something can be fully transparent to light 18 where it doesn't block light at all. Something could be 19 nontransparent where it completely blocks light. So 20 substantially transparent would be more transparent than 21 not. 22 Q. Okay. Would you agree that a IR transmissive 23 window is substantially transparent? 24 ATTORNEY PLUTA: Object to form. Foundation. 25 THE WITNESS: An IR transmissive what? Sorry.	Page 180 1 material that enables light to pass through the internal 2 housing component. Normally, in the art, if we're 3 referring to non-visible light, we would specify if it were 4 non-visible light. 5 And in this case, it doesn't. So I would assume 6 that substantially transparent would enable light to -- 7 visible light to pass through -- or, I mean, in this case, 8 it just says light to pass through. So if there were a 9 material that only allowed IR, or infrared light, to pass 10 through, I'm not sure it would meet this definition. 11 Q. Okay. And you're kind of reading that from the 12 claim recitation of light; is that correct? 13 A. Correct. 14 Q. And is there, in your mind, a particular 15 wavelength range that defines light as it's used in this 16 claim? 17 A. Again, without context, if an ordinary person is 18 using the word "light," I think it's pretty safe to assume 19 it's visible light. So visible light wavelengths would 20 certainly encompass this range. 21 Q. Okay. Are there other wavelengths that would be 22 encompassed in your view of this term "light"? 23 A. Yeah. Possibly. 24 Q. Can you give me some examples? 25 A. So, again, without further construing or further
Page 179 1 BY ATTORNEY HABER: 2 Q. Sorry. IR, infrared. 3 So would you agree that an infrared transmissive 4 window is substantially transparent? 5 A. I think it would be fair to say it's substantially 6 transparent to infrared but doesn't suggest any possibility 7 to other wavelengths of light. 8 Q. In your opinion, does this term "substantially 9 transparent" require transparency to all wavelengths of 10 light? 11 A. So terms should take their plain and ordinary 12 meaning. And the plain and ordinary meaning of light 13 without any further context would -- you know, if you're 14 talking to a regular person, you would assume that would be 15 visible light unless otherwise specified. 16 So my read of substantially transparent material 17 that enables light to pass through ought to include visible 18 light. 19 Q. Okay. Just to be clear. If, for example, a 20 window was transmissive in the infrared but not 21 transmissive in a visible ultraviolet range, in your 22 opinion, that would not be substantially transparent as 23 claimed? 24 A. I think that's fair. I think, you know, the claim 25 term specifically refers to substantially transparent	Page 181 1 specifying what's meant by the word "light," one would 2 assume certainly visible light, possibly infrared, possibly 3 ultraviolet, and wavelengths extend beyond that. The word 4 "light" itself is not exactly limiting in this context. 5 But, again, a person of ordinary -- a person of 6 ordinary skill, if they specifically refer to, for example, 7 a window that only passes -- sorry -- a window that passes 8 infrared light, that says nothing about the other 9 wavelengths, but it is very specific to infrared light; 10 whereas, in this passage, it just says light. 11 So, again, a person of ordinary skill would assume 12 visible wavelengths or more. I don't think it's limiting 13 in that way. 14 Q. Let's say that there was a piece of glass with a 15 filter over it that was transparent to blue light, for 16 example, which is a visible light range, but filtered out 17 every other wavelength -- no red, no green, no ultraviolet, 18 et cetera -- would that be substantially transparent in 19 your definition? 20 A. It would be substantially transparent to blue 21 light. 22 Q. But would it be substantially transparent as 23 reciting the claim in that it enables light to pass through 24 the internal housing component, just a narrow wavelength of 25 light, just blue light?

Page 182 1 (Clarification by the certified stenographer.) 2 ATTORNEY PLUTA: Object to form. 3 THE WITNESS: Well, I don't think that would be 4 very clear communication to say, hey, this window or this 5 material is substantially transparent to light, and then 6 not mention that, oh, by the way, only blue light. Right? 7 That's a pretty restrictive interpretation of the word 8 "light" without further context. 9 And so, again, I think a person of ordinary skill 10 saying something like this, knowing that it only passes 11 blue light, would specify it's substantially transparent to 12 blue light specifically. 13 BY ATTORNEY HABER: 14 Q. Right. It probably would. 15 And so what I'm trying to understand is 16 substantially transparent to light seems to be fairly 17 broad, and substantially transparent to blue light seems to 18 be a subset of that broad definition. And so the question 19 is: Is the term "substantially transparent to light," 20 which is broad, does it somehow exclude the more narrow 21 subsets where it's substantially transparent to just a 22 smaller wavelength of light within that broader universe? 23 ATTORNEY PLUTA: Object to form. 24 THE WITNESS: Yeah. I mean, I think if we're 25 taking plain and ordinary meaning, if someone says	Page 184 1 Do you see that? 2 A. Yes. 3 Q. And in describing what it is substantially 4 transparent to, it uses this term "and/or." 5 Do you see that? 6 A. I do. 7 Q. And so, as a POSITA reading that, would you 8 understand that substantially transparent can be 9 transparent to all of those things or just one of those 10 things? 11 A. So I think it's never a bad idea in writing 12 anything, patents in particular, to be expressive and use 13 words to describe things well and clearly. And in this 14 case, the authors decided to, you know, explicitly describe 15 the types of light they had in mind, which, again, is in 16 line with how I was interpreting or -- you know, with some 17 of our discussions that we had earlier. 18 So in this case, they do specifically say visible 19 light, infrared light, and/or ultra light -- ultraviolet 20 light. My apologies. So, again, and/or means it could be 21 all three or it could be one of those three, but at least 22 they have specified the range and light over which this is 23 operating under. 24 In the claims, they only say light. But, again, 25 if we take the plain and ordinary meaning of light, we have
Page 183 1 substantially transparent to light, and they don't qualify 2 that it's only substantially transparent to a single 3 wavelength, I think that's a misrepresentation of being 4 substantially transparent to light. And, yeah, I don't 5 think that would be appropriate without further context or 6 clarification. 7 BY ATTORNEY HABER: 8 Q. Okay. So you have the '702 patent in front of 9 you, right? 10 A. Yes. 11 Q. I'm going to go up to the abstract, which is on 12 the cover of the patent. In the last two lines, it talks 13 about the invention. It says there's a -- 14 (Clarification by the certified stenographer.) 15 BY ATTORNEY HABER: 16 Q. (As read): 17 There is potting material that encapsulates 18 the components, and it's substantially transparent 19 to visible light, infrared light, and/or 20 ultraviolet light. 21 Do you see that? 22 A. I do. 23 Q. And when describing the invention, the applicant 24 gave three examples of different types of light: Visible 25 light, infrared light, and ultraviolet light.	Page 185 1 to assume that encompasses visible light if there's no 2 other qualifier. But, again, if there's another instance 3 in which we're only talking about one particular wavelength 4 of light and nothing else, then it would be -- then I would 5 assume it would be substantially transparent to that one 6 wavelength and not the others. 7 Hopefully, that makes sense. 8 Q. Somewhat. I mean, I think we're on the same page 9 that you need to understand the claim language in light of 10 the words used to describe the invention and specification, 11 right? 12 A. Right. 13 Q. And at least in this portion, describing at a high 14 level what the invention is, the applicant says it can be 15 substantially transparent to visible light, infrared light, 16 and ultraviolet light, right? 17 A. Right. 18 Q. The applicant also says it can be substantially 19 transparent to any one of those things. So, for example, 20 just infrared light, correct? 21 A. Yeah. I mean, using the words in the abstract, I 22 would agree with that. But, again, if there's no 23 description of what wavelengths of light is specifically 24 being used, then the plain and ordinary meaning of light 25 would be visible light.

Page 186 1 Q. In your opinion, the plain and ordinary meaning of 2 light is never understood to mean infrared light only? 3 A. I mean, without bigger context, if you enter a 4 room and say, oh, it's light in here, it's not likely that 5 you're referring to there's a lot of infrared light in that 6 room, right? So I think the plain and ordinary meaning of 7 light, as humans tend to use it or even ordinary -- people 8 of ordinary skill, would be referring to visible light. 9 Q. You would agree that there are instances, for 10 example, where people are referring to light and they're 11 only referring to infrared light. For example, a 12 television remote control uses light, right? What sort of 13 light does it use? 14 A. Likely uses infrared light. 15 Q. Exactly. So there are engineering applications 16 that the people of skill in the art would understand where 17 light is referring to infrared light, correct? 18 A. Yes. I agree. But, again, in that context, I 19 think it's clear from the context it would be referring to 20 infrared light, because a person of ordinary skill would 21 know that the remote is using infrared light. And so if 22 you drop the word "infrared," the context is still 23 understood. 24 Q. And is it your opinion that without specifying 25 infrared light, one of skill in the art would never	Page 188 1 there (as read): 2 The IR illumination can pass through a window 3 provided on the interior housing or can pass 4 through a transparent potting material. 5 Do you see that? 6 A. I do. Yes. 7 Q. And the window that's being described here is IR 8 transmissive, right? 9 A. Yes. 10 Q. Would you agree that it's substantially 11 transparent in the IR range? 12 A. I would agree. Yes. 13 Q. And there's no other description of any sort of 14 transparency in any of the other wavelengths of light, 15 right? 16 Doesn't say anything about visible or ultraviolet, 17 correct? 18 A. That's correct. 19 Q. And so would you agree that this IR transmissive 20 window falls within the scope of the claim language that 21 requires substantial transmissivity to light? 22 ATTORNEY PLUTA: Object to the form. 23 THE WITNESS: I don't believe that it is. Again, 24 claim 1 says, substantially transparent to light, which, 25 again, would assume to mean visible light unless otherwise
Page 187 1 understand this term "light" to be referring to infrared 2 light? 3 A. To only infrared light without further context? 4 Yeah. I think so. I mean, if it's only transparent to 5 infrared light and there's no kind of appropriate context 6 to suggest that otherwise, then that needs to be stated 7 somewhere. Right? 8 Q. Let me turn you to another part of the '702 9 patent. We're talking a little bit in the abstract here. 10 Let's get some context. And I want to turn to column 25, 11 around line 5. 12 A. Okay. 13 Q. This is a particular application that is described 14 in the '702 patent discussed in figure 21A. And -- 15 A. Okay. 16 Q. -- you have a chance to look at it. 17 Can you describe for me kind of the context that's 18 being described at this portion of the specification? 19 (Clarification by the certified stenographer.) 20 THE WITNESS: So in this area, the specification 21 is talking about shining infrared light into a finger and 22 then receiving that light to produce an image of the skin 23 of the finger. 24 BY ATTORNEY HABER: 25 Q. And around column 25, line 17, there is a sentence	Page 189 1 specified. The claims don't otherwise specify. 2 And so this embodiment that they're talking about 3 only talks about IR and no other forms of light. If, later 4 on, that same embodiment were described as passing other 5 wavelengths of light that would include visible light, 6 then, in that case, yes, it would be following the 7 limitations of claim 1, but in isolation on its own, I 8 don't believe that it does. 9 BY ATTORNEY HABER: 10 Q. Okay. And just to be clear, the embodiment here 11 describing figure 21 and related functionality, in your 12 opinion, is not within the scope of claim 1, right? 13 A. With respect to light, that's correct. 14 Q. Okay. And the -- going back to claim 1. Is there 15 a particular kind of functionality that needs to be 16 performed with the light that is kind of transmitted, 17 collected, and received in the other elements of the claim? 18 ATTORNEY PLUTA: Object to form. 19 THE WITNESS: So some of the other claim 20 limitations require that this light is emitted through the 21 substantially transmissive material -- sorry -- through the 22 substantially transparent material of the internal housing 23 component into the tissue of a user and then that 24 same or -- same or other light should be received through a 25 substantially transparent material of the internal housing

Page 190 1 component. Those -- that language is used in claim 1. 2 BY ATTORNEY HABER: 3 Q. Okay. And then, I think, if you scroll down to 4 the second to the last element of claim 1, there are 5 recited (as read): 6 One or more processors configured to process 7 data based at least in part on the light... 8 And then it goes on. 9 Do you see that? 10 A. I do. 11 Q. Other than processing data, is there any 12 particular function that needs to be done with that light? 13 (Clarification by the certified stenographer.) 14 THE WITNESS: I mean, claim 1 discusses 15 transmitting light into the tissue of a user, receiving 16 light, processing data based, at least in part, on the 17 light received by that light-receiving component. That's, 18 you know, what claim 1 talks about. 19 BY ATTORNEY HABER: 20 Q. Okay. Maybe I can ask a more specific question. 21 You know there are a number of kind of biometric 22 functions you can perform by shining light onto a body part 23 and kind of analyzing that light, correct? 24 A. Correct. 25 Q. You can do things like measuring pulse oxygenation	Page 192 1 A. I do. 2 Q. What is that? 3 A. So it's a -- basically a map of the vascular 4 structure in a biological sample. 5 Q. And for what purpose does the '702 patent describe 6 creating this capillary map? 7 A. It says it would -- (as read): 8 The user can generate a reference capillary 9 map in order to identify himself or herself as the 10 authorized user of the WCD, the wearable computing 11 device. 12 Q. Would you agree that the creation and use of this 13 capillary map is for general security purposes? 14 A. I mean, the language of the '702 patent does 15 directly say the authorized user and identification of the 16 authorized user. Those are security terms. 17 Q. And you recall yesterday we were talking about the 18 Schroder reference and its vein-mapping functionality; 19 that's substantially the same as what's being described 20 here at column 25 in connection with figures 21 and 22, 21 correct? 22 A. It is. 23 Q. And Schroder performs that functionality in a 24 similar way using an IR illumination technique, correct? 25 A. Well, to be fair, Schroder discusses doing this
Page 191 1 and things like that; certain health functions, right? 2 A. Blood oxygenation, but yes. 3 Q. Yes. I'll apologize for my loose use of medical 4 terms. I'm not a doctor. 5 The patent also describes, in the example that we 6 were just looking at, doing capillary mapping, right? 7 A. Yes. That's right. 8 Q. But those particular biometric functions aren't 9 actually recited in claim 1, correct? 10 A. That's -- that -- yeah, that's correct. 11 Q. The claim 1 recites, more broadly, processing 12 data, and the type of processing could include specific 13 biometric functions, but it's not necessarily limited to 14 any particular function, correct? 15 A. That's correct. The language in claim 1 doesn't 16 specify. 17 Q. Maybe we can go back to column 25 where we were 18 talking about the embodiment of figures 21 and 22, 19 actually. Let me just get there. 20 And if you look at 25, around line 27, there's 21 reference to a capillary map. 22 Do you see that? 23 A. I do. 24 Q. Do you have an understanding what a capillary map 25 is?	Page 193 1 but doesn't give a whole lot of instruction on how exactly 2 it manages to do that. But in general Schroder does 3 discuss that, yes. 4 Q. And Schroder discusses in general using an IR 5 illuminator, correct? 6 A. That's correct. 7 Q. And Schroder includes a discussion of a window 8 that will allow IR light to pass through the ring, correct? 9 A. I'm going to pull up Schroder. 10 Q. Sure. 11 If it helps, I think the information is discussed 12 around column 9. There's reference to a window around 13 line 34. 14 A. So Schroder does disclose a window, but in the 15 passage you recite, column 9, starting at line 26, Schroder 16 is referring to security features as protection against 17 forgery where he goes on to explain things like holograms, 18 Kinograms, microprints, and things like this, optically 19 variable inks, transparent regions through windows, et 20 cetera. 21 And so a POSITA reading this -- and they do say on 22 the surface. The POSITA reading this, I think, would 23 understand this to be not for imaging, but this description 24 is referring to, you know, placement of some hologram or 25 something like this.

Page 194 1 Q. You would agree, though, that this is generally 2 teaching what it says there: Transparent regions and 3 windows, correct? 4 A. So I'd like to also refer you to Schroder, 5 column 2, lines 38 to 42, where Schroder says (as read): 6 The at least one security feature can be 7 arranged, for example, on an outer area of the 8 external secure unit. 9 Here, external secure unit is generally, although 10 not exclusively, referring to a ring form factor. And so 11 here he provides at least a little bit more context for the 12 discussions in this cited section in column 9 we were just 13 reading. 14 So to answer your question, yes, Schroder is 15 referring to windows. But, again, in this context he's 16 referring to windows on the outer area of the secure 17 external unit for the purpose of displaying something like 18 a hologram. 19 Q. If you go down two paragraphs from where you 20 directed me to, around line 47, there's discussion of 21 (as read): 22 A further advantageous embodiment example of 23 the invention is that the external secure unit 24 employs a sensor in order to recognize finger 25 veins.	Page 196 1 the finger as the user is putting the ring on his finger, 2 correct? 3 A. Yes. 4 Q. And that image is being captured by at least one 5 infrared diode and at least one infrared sensor, right? 6 That's what Schroder says? 7 A. He does say that in the subsequent sentences. 8 Yes. 9 Q. So in order for the infrared light to be 10 transmitted from the inside of the ring and shining on the 11 finger that's passing through the ring, there would have to 12 be at least an IR transmissive window or other IR 13 transmissive material for that to be possible, right? 14 A. That would be needed in order to do this. I would 15 like to point out that I don't believe Schroder actually 16 states that anywhere. 17 Q. Okay. But one of skill in the art would have 18 understood that, in order for an IR light to be transmitted 19 from the inside of a structure to the outside of a 20 structure, there needs to be some sort of IR transmissive 21 window or other IR transmissive material that allows that 22 to happen, right? That's how that would function, right? 23 A. Yeah. I mean, that's correct. And as I stated in 24 my disclosure, you know, I do, in paragraph 92, discuss how 25 Schroder doesn't actually disclose windows on the inside of
Page 195 1 Do you see that? 2 A. I do. 3 Q. And a sensor to recognize finger veins would be on 4 the inside of the ring -- right? -- to recognize the veins 5 as the finger goes into the ring, correct? 6 A. I'm not sure it has to be. You could do this 7 measurement by holding the ring up to a finger and not 8 actually wearing it. 9 Q. Sure. You could. 10 But you would agree that you could also do it 11 while the finger is being inserted into the ring, right? 12 A. That's possible. 13 Q. And, in fact, that's what Schroder says at the 14 bottom of column 9, right, around line 64? 15 A. Let me just recite this. The -- 16 (Clarification by the certified stenographer.) 17 THE WITNESS: Sorry. 18 (As read): 19 The biometric sensor can be integrated into 20 the finger-ring 2, example, such that the 21 biometric sensor captures, example, at least a 22 partial vein image in the finger while the 23 finger-ring 2 is being pushed over a finger. 24 BY ATTORNEY HABER: 25 Q. Right. And so while the ring is being pushed over	Page 197 1 the ring or that the materials that compose the inside of 2 the ring are transparent to all light. 3 I'll concede that it would be pointless to say 4 that you would use infrared diodes and sensors to image 5 something if you can't get the light into the thing you're 6 trying to image. But, again, my position is that, even if 7 it were so, there's no disclosure about being transmissive 8 to other forms of light in Schroder. 9 Q. Okay. We can, I think, take that in parts. 10 First part is, is it your opinion that one of 11 skill in the art seeing the teaching in Schroder to use 12 transparent regions in windows arguably on the outside of 13 the ring would not have been able to take those transparent 14 regions or windows and place them on the inside of the 15 ring? Is that your opinion? 16 A. Again, here's where I just -- I wish Schroder was 17 a little bit more clear in his disclosure about this and 18 many other things. But, you know, Schroder is just leaving 19 a lot up to the ordinary person of skill in the art in 20 order to figure things out and fill in the blanks. 21 So yes, Schroder does disclose windows located on 22 the outside of the ring. Schroder discloses infrared 23 diodes and infrared sensors. Schroder does not disclose 24 the location of those, but I think it's fair to say a 25 person of ordinary skill would likely place them on the

Page 198 1 inside of the ring, although, of course, again, Schroder 2 offers no recipe or direction to do this. 3 And then Schroder offers no recipe, direction, or 4 suggestion at all that there needs to be transparency on 5 the internal surface. I think it's fair to say a POSITA 6 would understand there would need to be that, but Schroder 7 offers no guidance or direction on how to accomplish that. 8 Q. You understand that a person of ordinary skill in 9 the art, you know, is not an automaton, right? They have a 10 level of creativity of an ordinary engineer, right? 11 A. Correct. 12 Q. And so a person of ordinary skill in the art 13 reading a reference takes it for what it teaches and then 14 applies general engineering principles to make kind of the 15 right and standard trade-offs to achieve the objective that 16 that engineer is trying to achieve, correct? 17 A. Correct. 18 Q. And if one of the objectives was to shine infrared 19 light through the inside of a ring and Schroder says, hey, 20 there are these IR transmissive windows out there, wouldn't 21 one of skill in the art understand that you could use such 22 an IR transmissive window to transmit IR light wherever it 23 needs to be transmitted? 24 (Clarification by the certified stenographer.) 25 THE WITNESS: So I think it's -- it's a little	Page 200 1 finger. Do you see that? 2 A. Yes. 3 Q. And we were looking at '702 patent before, where 4 it talked about a capillary map. The capture of the vein 5 image and the capture of a capillary map, that's talking 6 about substantially the same thing, right? 7 A. Yes. 8 Q. And in your opinion, the way Schroder does this 9 with an IR diode is the same as the way the '702 patent is 10 saying to do it with an IR source, correct? 11 A. I mean, in the sense that they both suggest using 12 infrared light to illuminate and capture capillary maps, 13 yes. 14 Q. And in your opinion, Schroder, in talking about 15 this vein mapping embodiment, is outside of the scope of 16 the claims for the same reason that the embodiment 17 described in the '702 patent in figure 21 is outside the 18 scope of the claims, namely that they use IR light and not 19 other wavelengths, correct? 20 ATTORNEY PLUTA: Object to form. 21 THE WITNESS: Yes. 22 BY ATTORNEY HABER: 23 Q. Are you familiar with the process of doing this 24 capillary mapping or vein mapping? 25 A. I'm generally familiar.
Page 199 1 difficult to answer that question when reviewing it through 2 a lens of isolating it to one specific problem, simply 3 because the design of, you know, a wearable ring like this 4 is extremely complicated with many design trade-offs and 5 nuances and so on. 6 And so, I mean, yes. A person of ordinary skill 7 in the art could look at, you know, a window, recognize the 8 need for a window, look to install a window on the interior 9 of the ring. But just because you can consider doing that 10 doesn't mean that that person of the ordinary skill knows 11 how to execute all of the other features that would be 12 necessary to make that happen, including adding a battery 13 and driver circuitry and, you know, carrier foils that 14 would contain this or, you know, other -- other mechanisms 15 to package and integrate all of these things together and 16 so on. 17 There's a lot of design challenges here that, in 18 my opinion, go beyond the ordinary skill of the person -- 19 of a person of ordinary skill in the art circa 2013. But 20 when you break it down to one simple problem in isolation 21 of everything else, sure, I'll concede that. 22 BY ATTORNEY HABER: 23 Q. The function that Schroder is describing, and it 24 continues in the discussion from column 9 to column 10 -- 25 is column 10, line 4, capture of a vein image of the ring	Page 201 1 Q. Are there other wavelengths of light besides IR 2 that could useful or used for preparing a capillary or vein 3 map? 4 A. So I'll first state that I'm not an expert in 5 capillary mapping. I'm generally aware of the techniques 6 used. And it's my understanding that infrared is a 7 preferred wavelength because it passes through tissue more 8 readily than other wavelengths of light. 9 Q. Are there -- 10 (Clarification by the certified stenographer.) 11 BY ATTORNEY HABER: 12 Q. Implementations of capillary or vein mapping that 13 use light in addition to IR light, such as various 14 wavelengths of visible light or other spectra? 15 A. I'm not aware. 16 THE WITNESS: Would now perhaps be a good time for 17 a break? 18 ATTORNEY HABER: Sure. Sure. We can take a 19 break. 20 (Clarification by the certified stenographer.) 21 ATTORNEY PLUTA: Yes. 22 THE VIDEOGRAPHER: Going off the video record. 23 The time on the monitor is 9:27 a.m. 24 (Recess taken.) 25 THE VIDEOGRAPHER: We're now back on the record.

Page 202 1 Time on the monitor is 9:38 a.m. 2 BY ATTORNEY HABER: 3 Q. All right. Welcome back. 4 We were talking about claim 1, the '702 patent. 5 And claim 1 of the '702 patent uses a number of terms that 6 are the same as terms that are used in claims of the '178 7 patent. 8 A. Uh-huh. 9 Q. And so the question that I have for you is where 10 the '178 patent and the '702 patent use the same claim 11 terms, are those terms generally -- do those terms have the 12 same meaning in each claim? 13 A. I'm not sure I've done a patent-to-patent analysis 14 of the claim. So I'm not -- I'm not certain. 15 Q. Okay. So I'll give you an example. The '702 16 patent uses the term "printed circuit board," and the '178 17 patent also uses the term "printed circuit board." Are you 18 applying a different meaning for that term in the '702 19 patent as you are compared to the '178 patent? 20 A. No, I'm not. And I suppose I could answer a 21 little bit more generally and say, you know, in our claim 22 construction discussions, we -- we use the plain and 23 ordinary meaning of the terms. And if it's not clear it's 24 informed by the specification, of course, the specification 25 between the two patents is the same so -- and likely the	Page 204 1 BY ATTORNEY HABER: 2 Q. Okay. And, in fact, claim 1 doesn't recite a 3 battery or any sort of power management circuitry, right? 4 A. That's correct. 5 Q. So claim 1 doesn't require a battery at all, 6 regardless of shape or size? 7 A. Claim 1 doesn't mention a battery, but a POSITA 8 would understand that the elements cited in claim 1 would 9 need a power source in order to operate. 10 Q. Certainly. Certainly. And the power source, 11 whatever power source is driving the components of claim 1, 12 it's not specified or required in any way in the actual 13 claim elements, right? 14 A. Not in claim 1. In some of the other claims, yes. 15 Q. Okay. So in claim 1, the only component that has 16 to have some sort of a shaping to fit within the ring 17 wearable device is the printed circuit board, and the claim 18 specifies it has to be configured to conform to arc within 19 the cavity. 20 Do you see that? 21 A. I do. Yes. 22 Q. The -- I think the later claims that require some 23 power management are claims 12 and 13 that depends on 24 claim 1, right? 25 A. Claim 12 cites a battery as well as claim 16
Page 203 1 term meanings would be similar, again, although I haven't 2 done a claim-by-claim analysis of this between the two 3 patents. 4 Q. And the '702 patent uses the term "cavity," and 5 that is also used in the '178 patent. There's no different 6 meaning you're applying to that term between the two 7 patents, correct? 8 A. Correct. 9 Q. Sitting here today, are there any particular words 10 that are used in both of the claims that you are 11 understanding to mean meaningfully different things? 12 ATTORNEY PLUTA: Object to form. 13 THE WITNESS: Again, I haven't done a full 14 claim-by-claim analysis. 15 BY ATTORNEY HABER: 16 Q. Okay. Yesterday we were talking about claim 1 of 17 the '178 patent. And I believe you offered the opinion 18 that the battery that's recited in claim 1 has to be 19 curved. And is it your opinion that claim 1 of the '702 20 patent also requires a curved battery? 21 ATTORNEY PLUTA: Object to form. 22 THE WITNESS: I'm just going to refer to my 23 declaration. Just give me a moment. 24 So I guess I should note the word "battery" is not 25 present in claim 1.	Page 205 1 and 17. 2 Q. The claims 16 and 17 recite, specifically, a 3 curved battery, right? 4 A. Correct. 5 Q. And claims 12 and 13 also recite a battery, but 6 they don't specify that it is a curved battery, right? 7 A. Yes. That's correct. But I'd like to kind of 8 also state that, as we discussed yesterday, you know, a 9 POSITA's understanding in reading the -- in this case, '702 10 patent, would understand the construction that is described 11 in claim 1, in external and internal housing components, 12 printed circuit board disposed between those external and 13 internal housing components that conforms to an arc within 14 the cavity, I think, that, we agree with. 15 Claim 1 discloses light-emitting components, 16 light-receiving components, processors, communication 17 modules, which a POSITA would understand are located on the 18 disclosed printed circuit board. 19 And, further, a POSITA would understand that the 20 device requires a power source. The specification spent a 21 great deal of time discussing the battery, a curved battery 22 specifically, as well as the construction, assembly, and so 23 on of that. 24 So I think it's very reasonable to -- that a 25 person of ordinary skill would understand that, in light of

Page 206 1 the specification, a battery is required to develop a 2 system -- a ring that meets the needs of -- that meets the 3 limitations of claim 1. 4 Q. Okay. So just to be clear, just like your opinion 5 for claim 1 of the '178 patent, in your opinion, claims 12 6 and 13 require that the battery be a curved battery; is 7 that fair? 8 A. Yes. With the understanding that a POSITA would 9 recognize the features present within claim 1 and the other 10 claims recognize there are power requirements, both peak 11 and average power requirements, and that a curved battery 12 would be necessary to meet those -- the requirements from 13 those components. 14 Q. I want to turn to another prior art reference. 15 This is the LeBoeuf reference. I'm not entirely sure how 16 to say it. I say it lots of different ways. I'm going to 17 try to say LeBoeuf, but if there's a different way to say 18 it, let me know. 19 I've emailed the reference to you. If you have a 20 printout, you can use that as well. I'll throw it on the 21 screen. 22 A. Thank you. 23 ATTORNEY HABER: It's U.S. patent 8,700,111 to 24 LeBoeuf. And it has been previously marked in this 25 proceeding as Exhibit 1012.	Page 208 1 Q. And you would also agree that LeBoeuf explains 2 that these windows may include optical filters, right? 3 A. It does. 4 Q. And an optical filter will filter out one or more 5 frequencies or wavelengths of light, right? 6 A. So LeBoeuf says (as read): 7 Windows 74W may include optical filters to 8 selectively pass one or more optical wavelengths. 9 So yes. 10 Q. I want to go back to your declaration here. The 11 section that you prepared regarding secondary 12 considerations and nexus. Now, there are a number of 13 images captured in this section regarding your analysis of 14 the Aura Ring gen 3 and gen 4 products, right? 15 A. That's right. 16 Q. And you conducted a teardown of the Aura Ring 17 gen 3 and gen 4 products, correct? 18 A. That's correct. 19 Q. Did you follow some procedure or protocol in 20 conducting that teardown? 21 A. Can you elaborate on what you mean? 22 Q. Maybe I can ask you a better question. Is there 23 some sort of standard technique that you have or set of 24 particular actions that you take in conducting your 25 teardown? And if so, can you describe, generally, what --
Page 207 1 (Exhibit 1012, previously marked, was 2 presented.) 3 BY ATTORNEY HABER: 4 Q. I want to turn to figures 22A and B of LeBoeuf. 5 And so you would agree that this is a ring-shaped 6 device that's depicted here in figures 22A and 22B of 7 LeBoeuf, right? 8 A. Yes. 9 Q. And included in these figures are elements 74W. 10 Do you see that in figure 22B? 11 A. Yes. 12 Q. And if we go down to -- we're on column 28 of 13 LeBoeuf which describe these figures. Element 74W are 14 described as windows, correct? 15 A. Correct. 16 Q. And you would agree that these windows are 17 substantially transparent to light, correct? 18 A. I think that's fair to say. Yes. 19 Q. And in that same paragraph, LeBoeuf describes that 20 these windows may include lenses, correct? 21 A. Correct. 22 Q. And you would agree that a lens changes certain 23 optical properties of light that transmits through it, 24 correct? 25 A. Correct.	Page 209 1 how you came about those procedures? 2 A. I -- for the teardowns, for the Aura gen 3 and 3 gen 4, I mean, it wasn't particularly complicated. Take a 4 few photos of the ring in various orientations, cut the 5 ring to produce different cross sections and take 6 photographs and inspect through the photographs and/or 7 under the mic- -- microscope. 8 Q. You mentioned you took various cross sections. 9 How did you decide what cross sections you wanted to take? 10 A. Well, I looked at the claim language, where the 11 claim language describes various elements, including 12 printed circuit boards, batteries, sensors and so on. And 13 I attempted to cut in locations that would reveal some of 14 these features. 15 Q. Can you describe the particular cross sections 16 that you took of the Aura Ring devices to do your analysis? 17 A. Okay. Let's go to page 82. So here, we're 18 showing two different cross sections of a Aura generation 3 19 ring. In the bottom picture, we can see actually quite a 20 bit of detail including the battery, the printed circuit 21 board, LEDs and photodiodes. We can see some large chips 22 that may correspond to processors or communication modules 23 and so on. 24 The top photo is a different cross section showing 25 printed circuit board, a chip, and a sensing -- part of the

Page 210 1 sensing module. 2 Q. The two cross sections that are shown here on 3 page 82, are those the only two cross sections that you 4 took? 5 A. I also have, on page 94, a cross section of the 6 battery. 7 Q. These are the same general cross sections that you 8 looked at geometrically -- 9 A. Yes. 10 Q. -- before? Just different images of the ring, 11 correct? 12 A. That's correct. 13 Q. Okay. Are there any other differently -- strike 14 that. 15 Are there any other sort of different geometric 16 cross sections that you took in conducting your analysis of 17 the Oura Ring devices? 18 A. No. 19 Q. You mentioned yesterday when we were talking about 20 Schroder, Schroder's figure 7 may have been some cross 21 section that was difficult for you to explain and 22 visualize. 23 Did you take any such complicated or difficult 24 cross section of the Oura Ring devices when you were 25 conducting your analysis?	Page 212 1 A. Yeah. I didn't find it necessary to do that cross 2 section. 3 Q. And so I think you said that in your opinion, 4 Schroder's figure 7 is a cross section of some angle other 5 than 90 degrees. Do you have any opinion as to what that 6 angle might be? 7 A. Again, Schroder, at best, is very unclear. And 8 trying to depict a three-dimensional object with a very 9 simple rectangle is extremely difficult without showing 10 things like curvature and so on. And so, you know, I can 11 see why his figure 7 is not very descriptive because of 12 that. 13 I'm sorry. I'm not sure I'm understanding the 14 question that you're trying to ask here. 15 Q. Sure. 16 Do you think, as a reasonable assumption, that a 17 cross section depicted in Schroder's figure 7 would be a 18 similar sort of cross section as you took when you were 19 comparing and trying to figure out the details of the ring 20 device? 21 A. So I think I have the benefit that, in my cross 22 sections, I'm representing a real three-dimensional object 23 and I'm taking a picture of a real three-dimensional 24 project, and as a result, you know, things don't get lost 25 in translation when moving it to a two-dimensional object.
Page 211 1 A. No. I only took the two cross sections that we -- 2 that we discussed. 3 Q. So the cross section that you have in mind for 4 what Oura figure 7 is is not actually a cross section that 5 you felt was necessary to conduct your analysis? 6 (Clarification by the certified stenographer.) 7 ATTORNEY PLUTA: Object to form. 8 THE WITNESS: I -- 9 BY ATTORNEY HABER: 10 Q. My question might have an error in it. Let me ask 11 the question again. 12 So the cross section that you have in mind for 13 what Schroder's figure 7 is attempting to depict is not 14 actually some cross section that you felt was necessary to 15 conduct your analysis of the Oura Ring, correct? 16 A. I didn't take any other cross sections. And, 17 again, Schroder's figure 7, in my opinion, is a cross 18 section at a, you know, non-right angle through the ring. 19 And trying to depict that in a two-dimensional manner is -- 20 well, is leading -- is, as a result, in Schroder's 21 figure 7. 22 Q. And so this cross section that in your mind is at 23 some non-right angle is not a cross section that you 24 actually thought was necessary to determine the interior 25 components of the Oura Ring, correct?	Page 213 1 In addition, the Oura Rings, the generation 3 and 2 generation 4 rings that I analyzed, correspond very nicely 3 to the claims in the '178 and the '702 patents. And as a 4 result, simple cross sections were sufficient for the 5 purposes of this section in demonstrating nexus for my 6 purposes. 7 Q. Well, this might be an area where we just have a 8 disagreement. 9 I know Dr. Anthony has opined that Schroder 10 corresponds very nicely to the claims in the '178 and '702 11 patents, and the cross sections that he has seen in 12 Schroder are also very similar to the analysis that you 13 have done in the Oura Ring, and he understands those cross 14 sections kind of in a simple way, the same way that you 15 appear to understand the cross sections of the Oura Ring. 16 And so the question that I have for you is why is 17 that understanding not correct? 18 ATTORNEY PLUTA: Object to form. 19 THE WITNESS: So, again, the '178 and the '702 20 patents are very descriptive and very illustrative with 21 figures; long textual descriptions; very detailed 22 mechanical drawings, and so on. 23 And the Oura Rings, generations 3 and 4 that I 24 analyzed, represent the claim language and many of the 25 descriptions in the specification of the patents very

Page 214 1 cleanly and very nicely. So I found that analysis very 2 easy to do. 3 In contrast, Schroder is very brief. There's only 4 a small handful of figures. The text description is short. 5 And furthermore, those figures are not nearly as detailed 6 as what's in the '178 and '702 patents. They're all 7 two-dimensional images representing a three-dimensional 8 structure. And the corresponding texts that describe the 9 images is, in many cases, very, very unclear, with a lack 10 of detailed description of what's going on in some of those 11 figures. 12 And, as a result, a POSITA, you know, has to infer 13 a lot of what's not said in Schroder in order to understand 14 what's actually going on in Schroder. And so I guess 15 that's the basis for, perhaps, the disagreement that I have 16 with Dr. Anthony on this matter. 17 In addition, I do feel it's easy to exercise 18 hindsight when something is clear and well articulated as 19 the '178 and '702 patents are to use those teachings and 20 help inform opinions about prior art. 21 BY ATTORNEY HABER: 22 Q. So I want to just ask you a couple general 23 questions about the claims of the one oh -- of the '178 24 and '702 patent. 25 So the claims of each one of these patents recite	Page 216 1 pleasing design. 2 If you don't have familiarity with design patents, 3 we don't need to have a course on the record. That's fine. 4 Is there a certain level of comfort, user comfort, 5 required by the claims of the '178 or '702 patents? 6 A. So the claims of the '178 and '702 patents don't 7 recite comfort in the language of the claims, but, again, 8 they need to be read in light of the specification in which 9 comfort and wearability and so on are important objectives 10 of the inventions. 11 And, you know, the specification and, 12 subsequently, the claims, you know, offer solutions to 13 design a ring that ultimately does enable a comfortable 14 device to be worn. 15 Q. You would agree that the elements recited in 16 claims, those are technical elements, right? 17 A. Correct. 18 Q. And so they don't have kind of subjective 19 requirements of visually appealing or specifically 20 comfortable to a particular user, correct? 21 A. Again, the language in the claims don't -- when 22 read in light of the specification, you know, they do 23 provide a recipe for designing something that would be 24 comfortable. 25 Q. Okay. And you would agree that if there was a
Page 215 1 a ring generally, correct? 2 A. Correct. 3 Q. The claims don't recite an aesthetically pleasing 4 ring, correct? 5 A. That's right. That language isn't in the claims, 6 but, again, the claims are read in light of the 7 specification, and the specification, you know, makes small 8 and comfortable use very important. And furthermore, 9 that's, you know, a big purpose of the patents is to 10 describe methods and techniques to build a ring that can 11 achieve those goals and that's captured in the claims. 12 Q. Are you familiar with design patents? 13 A. I'm not a lawyer. My understanding of the law is 14 informed by my discussions with counsel and stuff. I'm 15 familiar with the term "design patent," but I'd be -- it 16 would be difficult for me to define it. 17 Q. Well, you'd agree that -- you'd agree that '178 18 and '702 patents, these are not design patents, correct? 19 ATTORNEY PLUTA: Object to the form. 20 THE WITNESS: Can you define "design patent" for 21 me? 22 BY ATTORNEY HABER: 23 Q. I could, but I don't think that we need to get 24 into a patent law class. Design patents are a class of 25 patents that are specifically directed to an aesthetically	Page 217 1 prior art device that satisfied every single technical 2 limitation of the claims, but someone out there thought it 3 was unappealing to look at, it would still meet the claim 4 language, correct? 5 ATTORNEY PLUTA: Object to form. 6 THE WITNESS: I mean, I can't argue. If there was 7 a prior art that met all the claims, which there is not, 8 then it would meet the claims regardless of the visual look 9 of device. 10 BY ATTORNEY HABER: 11 Q. The '702 patent specifically recites a 12 communication module in claim 1, correct? 13 A. That's correct. 14 Q. And the '178 patent in its claim 1 does not recite 15 a communication module, right? 16 A. I'm just going to read that claim just to verify. 17 The communication module is referred to 18 extensively in the specification of the '178 patent, but 19 the word "communication module," as far as I can tell, does 20 not appear in claim 1. 21 Q. And the Oura Ring devices that you analyzed, the 22 gen 3 and gen 4 devices, they each have a communication 23 module, right? 24 A. That's right. 25 Q. We talked today about the '702 patent requires

Page 218 1 transmissive materials as recited in the claims of the '702 2 patent. Is there any requirement in the '178 patent to 3 have transmissive materials such as windows or potting? 4 A. So claim 1 of the '178 patent, the very last 5 limitation cites -- and let me just read it (as read): 6 One or more sensors electrically coupled with 7 the printed circuit board and the battery and 8 configured to acquire data from the user through 9 the internal housing component. 10 So this is referring to a sensor that captures 11 data from the user through the internal housing component, 12 which, in the specification and so on, is described as 13 either being transparent or having transparent windows and 14 there being various different types of light sources 15 available to do sensing through that internal housing 16 component. 17 Q. And there are other non-light-based sensors 18 described in the '178 patent -- 19 (Clarification by the certified stenographer.) 20 BY ATTORNEY HABER: 21 Q. -- near field communication, et cetera, right? 22 A. Well, the '178 patent specification discusses 23 things like an accelerometer. That wouldn't be something 24 that captures data through the internal housing component. 25 Q. Fair. But you would agree that RF-based sensors	Page 220 1 THE WITNESS: I'm not an economist or a market 2 researcher or an advertising specialist, so I wouldn't 3 know. 4 BY ATTORNEY HABER: 5 Q. Just in your -- in your ordinary experience, would 6 you expect an ordinary purchaser to know one way or the 7 other whether the batteries inside the Oura Ring were 8 curved? 9 ATTORNEY PLUTA: Object to form. 10 (Clarification by the certified stenographer.) 11 ATTORNEY PLUTA: Relevance objection as well. 12 THE WITNESS: I'm not sure. I can only speak for 13 myself. Of course, I work in wearable sensors, I've 14 considered ring designs, and so I'm very well aware that 15 curved batteries exist in these products. I don't know 16 what the average consumer would think. 17 BY ATTORNEY HABER: 18 Q. Well, you had to cut the ring in half to confirm 19 that it had a curved battery in it, correct? 20 A. I think it's a nice evidence to include in my 21 report. Of course, this was not a surprise to me, given 22 everything I know about the Oura Ring, including Oura's own 23 marketing material that describes curved batteries. 24 Q. Do you expect an ordinary consumer to cut their 25 ring in half?
Page 219 1 can capture data through the component that are not 2 light-based, right? 3 A. Is there something specific you're referring to in 4 the '178 patent? 5 Q. So let's look at column 12. 6 A. Okay. 7 Q. Line 32. There's a Galvanic Skin Response sensor, 8 electrocardiogram -- EKG, ECG -- sensor recited there. 9 Those are not light-based sensors, right? 10 A. That's correct. They're not light-based sensors. 11 Q. And so when the '178 is describing connecting 12 information through the interior housing, it's not 13 requiring light transmissive windows or potting, correct? 14 (Clarification by the certified stenographer.) 15 THE WITNESS: I'd have to think about that more 16 actually. 17 BY ATTORNEY HABER: 18 Q. Well, you would agree that the '178 patent doesn't 19 use same words as the '702 patent which specifically 20 require transmissive material for light, correct? 21 A. In claim 1, yes. 22 Q. In your opinion, do purchasers of the Oura Ring 23 devices have any idea whether or not the batteries inside 24 them are curved? 25 ATTORNEY PLUTA: Object to form.	Page 221 1 A. No. Although, I have seen a video of someone in 2 the ER getting their ring cut because they had some problem 3 and the ring needed to be taken off. 4 Q. That was hopefully an emergency situation; not an 5 everyday occurrence? 6 A. Yes. 7 Q. Let's assume that the Oura Ring device didn't have 8 a curved battery and had a sequence of flat batteries in 9 it. And let's also assume that there was a very curious 10 consumer out there decided to cut the ring in half and 11 determine that, in fact, the Oura Ring did not have a 12 curved battery. It had a sequence of flat batteries. Do 13 you think that that consumer would be upset, disappointed 14 in the fact that the ring that he purchased did not have a 15 curved battery in it? 16 ATTORNEY PLUTA: Object to form. 17 THE WITNESS: I -- again, I would really -- I 18 don't want to speculate on what the average consumer would 19 think. For myself, I would be very surprised knowing what 20 I know as a POSITA about battery energy densities and 21 capacities and the power requirements of Bluetooth and 22 sensors and so on, I would personally be very surprised if 23 that were the case. 24 BY ATTORNEY HABER: 25 Q. You'd be surprised, but assuming that the ring

Page 222 1 functioned the way that it was supposed to function and did 2 everything it was supposed to do and the flat batteries 3 provided all the power they needed to provide, you might be 4 surprised. Would you be disappointed, be upset -- 5 ATTORNEY PLUTA: I'm sorry. Object to form. 6 THE WITNESS: I don't know. This is a 7 hypothetical situation that I haven't encountered. And I 8 guess I'd like to point out that all of the prior art of 9 smart rings that I'm aware of that are of similar form 10 factors to Oura also use curved batteries, including some 11 of the ones shown in the teardown report here. 12 So, again, I'd be surprised. Would I be 13 disappointed? I don't know. Maybe. I think a curved 14 battery is cool. Beyond that, I don't know. 15 BY ATTORNEY HABER: 16 Q. Okay. Do any of the claims of the '178 or '702 17 patent require an external app to be installed on a user's 18 phone to practice the claims? 19 A. So the '702 patent does discuss a communication 20 module, and let me just recite that here. It says 21 (as read): 22 A communication module communicatively coupled 23 with one or more processors, the communication 24 module configured to transmit the data processed 25 by the one or more processors.	Page 224 1 But, of course, there are other ways to do that as well. 2 Q. So none of those app design features in other 3 components that are in the specification are actually 4 claimed in the '702 and '178 patent, right? 5 A. Again, you know, there is discussion of the 6 communication module that data must go somewhere, and you 7 know, that's processed, for example, by the app. So the 8 app really kind of goes hand in hand with the ring. 9 As far as discussions of details of the app design 10 and so on in the claims, beyond there being a communication 11 module that communicates somewhere, there's no other 12 description in the claims, but, again, the specification 13 does have a lot of detail about this. 14 Q. And so you're aware that both the '702 and '178 15 patent are a continuation. There are a number of other 16 patents -- there are other patents that are directed to 17 apps and other software features in the Oura family, 18 correct? 19 (Clarification by the certified stenographer.) 20 ATTORNEY HABER: In the Oura patent family, 21 correct? 22 ATTORNEY PLUTA: Object to form. Relevance. 23 THE WITNESS: I was, for the purposes of this 24 case, only asked to analyze the '702 and the '178 patents, 25 and I haven't analyzed any of the other patents beyond this
Page 223 1 So given that the ring doesn't have a display, the 2 user needs some way to access or view the data generated by 3 the ring. And so the communication module here is 4 transmitting that data. That data needs to be received by 5 something. Could be the Bluetooth radio on a smartphone. 6 Could be the Bluetooth radio on a computer or other types 7 of wireless communication infrastructure on which the user 8 could, you know, receive and view or further process the 9 data. 10 And so the ring is, you know, the key ingredient 11 here. It's the device that's generating the data, but then 12 the app on the phone or the program on the computer or 13 whatever interface it happens to be, goes hand in hand with 14 that in order to have the user gain utility over the smart 15 features of the device. 16 Q. And you say that, you know, it could be an app. I 17 mean, it could be anything that receives that response from 18 the communication module, right? 19 A. Yeah. I mean, there must be something to receive 20 the data and, at minimum, you know, show it to the user. 21 So, you know, the specification of the patent spends a 22 great deal of time talking about, you know, app design and 23 various ways to display data to the user and so on. So 24 that's, you know, a very logical way to do that. 25 So I think a POSITA would be motivated to do that.	Page 225 1 for this case. 2 ATTORNEY HABER: And maybe we can take a quick 3 break. I think I'm kind of nearing the end of my 4 questions. Let me just look over my notes for five 5 minutes, and we can come back on the record. 6 ATTORNEY PLUTA: Please do. 7 THE VIDEOGRAPHER: Off the record. The time on 8 the monitor is 10:28 a.m. 9 (Recess taken.) 10 THE VIDEOGRAPHER: We're now back on the video 11 record. Time on the monitor is 10:36 a.m. 12 ATTORNEY HABER: All right. With that, I have no 13 further questions at this time. So thank you for your time 14 today, Dr. Mercier. 15 ATTORNEY PLUTA: I only have several questions. 16 FURTHER EXAMINATION 17 BY ATTORNEY PLUTA: 18 Q. I'd like to go back to 15 minutes ago. You were 19 asked the following question and gave the following answer: 20 Assuming the ring functioned the way it was 21 supposed to function, did everything it was supposed to do, 22 and the flat batteries provided all the power they needed 23 to, you might be surprised. Would you be disappointed? 24 And your answer was: I don't know. This is a 25 hypothetical situation that I haven't encountered, and I

Page 226 1 guess I'd like to point out that all of the prior art of 2 smart rings that I'm aware of that are of similar form 3 factor to Oura also used curved batteries including some of 4 the ones shown in the teardown report here. 5 Do you recall that testimony? 6 A. I do. 7 Q. And is that the answer? 8 A. I'm sorry. In reviewing my comments, I believe I 9 meant to say -- or I meant to say all of the current art 10 that has the same form factor as Oura rather than the prior 11 art of which there's none that has the same form factor as 12 Oura. 13 Q. Do you recall counsel asked you yesterday certain 14 questions about the Oura gen 1 ring? 15 A. I do. 16 Q. And I believe you testified you spoke with an Oura 17 engineer regarding the Oura gen 1 ring? 18 A. I did. 19 Q. And do you recall your testimony regarding certain 20 pictures that you saw in connection with the Oura gen 1 21 ring? 22 A. Yes. 23 ATTORNEY PLUTA: I'd like to introduce 24 Exhibit 2121 into the record, which I'm dropping into the 25 chat box.	Page 228 1 ATTORNEY HABER: All right. Give me a moment to 2 just quickly look through it. 3 Just for the record, I'm going to object to this 4 exhibit as untimely. To the extent it is necessary to 5 Dr. Mercier's opinions, they should have been submitted 6 when his opinions were submitted. I'll object on relevancy 7 grounds, completeness grounds. I'm not sure how this 8 disassembly is done. I'm not sure what we're looking at. 9 To the extent that this is information provided by 10 another witness, I don't know who that witness is. I don't 11 know his background. He hasn't been subject to deposition 12 in this case. This is an improper exhibit on a number of 13 bases, and I'm going to -- those are the bases that I can 14 think of right now, having looked at this document for all 15 of 30 seconds, but I'm going to reserve my right to 16 additional objections as well. 17 (Clarification by the certified stenographer.) 18 BY ATTORNEY PLUTA: 19 Q. Do you have Exhibit 2121 open in front of you? 20 A. I do. 21 Q. And do you recall counsel asked you yesterday 22 certain questions about the Oura gen 1 ring? 23 (Clarification by the certified stenographer.) 24 THE WITNESS: I do. 25 BY ATTORNEY PLUTA:
Page 227 1 (Exhibit 2121 was presented and subsequently 2 marked for identification.) 3 ATTORNEY HABER: Just to be clear, this is a new 4 exhibit that hasn't been previously introduced? 5 ATTORNEY PLUTA: Correct. 6 ATTORNEY HABER: I'm not sure the chat is working 7 for me, so maybe you could email it to me. 8 ATTORNEY PLUTA: Yeah. I'll email it to you. 9 ATTORNEY HABER: I'd like to just get a chance to 10 look at it before you start asking questions. I may have 11 objections. 12 ATTORNEY PLUTA: Sure. 13 Were you able to download the exhibit, 14 Dr. Mercier? 15 THE WITNESS: Yes, I have it here, thank you. 16 ATTORNEY HABER: You can get it through the chat. 17 One of my colleagues sent it to me. Hold on. Let me see 18 if I can -- 19 ATTORNEY PLUTA: Okay. Counsel just sent it to 20 you, Ben. 21 ATTORNEY HABER: Downloading right now. 22 Okay. I think I've received a file here. It 23 looks to be eight images. Is this the file that you're 24 intending to use? 25 ATTORNEY PLUTA: That's right.	Page 229 1 Q. And you testified you spoke with an Oura engineer 2 regarding the Oura gen 1 ring; is that right? 3 A. Yes. 4 Q. Have you seen Exhibit 2121 today -- before today? 5 A. Yes. 6 Q. Can you describe what you see in Exhibit 2121? 7 A. My understanding is that these are historical 8 pictures of the Oura generation 1 ring design in various 9 states of disassembly. 10 Q. And what -- what do some of the pictures show? 11 A. So I can see the battery, the flat battery 12 connected to the printed circuit board. I can see a few 13 chip modules mounted on the printed circuit board. Part of 14 the printed circuit board is flexible. That's a brief 15 summary of what I'm seeing here. 16 Q. And is the ring depicted in Exhibit 2121 similar 17 to any figures you described in your declarations -- 18 ATTORNEY HABER: Objection. Objection. Leading. 19 Scope. Relevance. 20 THE WITNESS: Yes. This is a real-life depiction 21 of the Oura generation 1 design that is depicted in 22 paragraph 71 of the '702 patent, and the same figure is 23 used in the '178 patent. 24 And I suppose I should say my opinion, as written 25 in my declaration, did not change. None of my opinions

Page 230 1 changed after the conference call with the Oura engineer 2 nor with viewing of these photographs. 3 ATTORNEY PLUTA: All right. Thank you. 4 I've dropped into the chat box what I've marked as 5 Exhibit 2122. 6 (Exhibit 2122 was presented and subsequently 7 marked for identification.) 8 ATTORNEY PLUTA: I've also emailed counsel. 9 ATTORNEY HABER: Make sure I have this. Yeah, 10 this is a new exhibit I haven't viewed before, so let me 11 just look at it before we proceed. 12 I have the document. And, again, for the record, 13 I will object to this document being submitted now at this 14 late stage as untimely. It's important to the doctor's 15 opinions. It should have been submitted with his 16 declaration. 17 I object as to this document on relevancy grounds 18 under 402, 403. Document appears to be hearsay. It's 19 being offered for the truth of the matter asserted. 20 There's no evidence that this document has ever been 21 published or publicly available. 22 I object to this document to the extent it's being 23 offered as evidence of prior art or state of the art or any 24 other substantive purpose in this case. It's improper to 25 submit evidence after the patent owner response goes in.	Page 232 1 Joseph Wang, and he's my closest collaborator. 2 BY ATTORNEY PLUTA: 3 Q. Have you seen Exhibit 2122 before? 4 A. Yes. 5 Q. What is Exhibit 2122? 6 A. This is a peer-reviewed paper authored by Joseph 7 Wang and colleagues. Some of these are students that I 8 helped supervise on other projects. And this paper 9 appearing in the journal ACS Sensors in 2017 describes a 10 wearable ring-based platform for detecting chemical 11 threats. 12 Q. When was this paper published? 13 A. 2017, October 11th, 2017. 14 Q. I'd like to direct your attention to the second 15 paragraph. If you could read that. 16 A. Okay. Wearable chemical sensors, that paragraph? 17 Q. Yes. 18 A. Yeah. (As read): 19 Wearable chemical sensors have relied 20 primarily on the noninvasive monitoring of sweat, 21 saliva, or tears in connection to epidermal -- 22 tattoo or textile -- devices, mouth guards, and 23 contact lenses, respectively. Particular 24 attention has been given to wearable sensors worn 25 as a patch, wristband, or headband. Incorporating
Page 231 1 There is no additional evidence to the submitted by the 2 patent owner without authorization of the board unless such 3 authorization has been granted. 4 Again, I reserve the right to lodge additional 5 objections. 6 ATTORNEY PLUTA: Probably needless to say, but we 7 disagree to your objections to Exhibits 2121 and 2122, but 8 I'll proceed. 9 BY ATTORNEY PLUTA: 10 Q. Do you have the Exhibit 2122 open? 11 A. I do. 12 Q. Do you recall testimony yesterday counsel asked 13 you regarding certain activities in the Center of Wearable 14 Sensors? 15 A. I do. 16 Q. And you, I believe, testified about a collaborator 17 that you worked closely with? 18 ATTORNEY HABER: Objection. Leading. 19 Mischaracterizing. 20 BY ATTORNEY PLUTA: 21 Q. Do you recall testimony regarding certain 22 personnel in the Center for Wearable Sensors? 23 (Clarification by the certified stenographer.) 24 THE WITNESS: I believe I mentioned Joseph Wang, 25 who is -- I codirect the Center for Wearable Sensors with	Page 233 1 the electronic interface, energy source, and 2 wireless data transmission capabilities onto these 3 compact and light noninvasive platforms requires a 4 high degree of integration and, miniaturization -- 5 citing to two references. 6 Major integration challenges arise due to the 7 different fabrication processes of the different 8 system components. The creation of chemical 9 sensors that can be easily and completely 10 integrated into an individual's lifestyle, for 11 example, on daily fashion accessories, will 12 facilitate a widespread acceptance of wearable 13 sensor technology -- citing to two references. 14 Q. What kind of wearable sensor is Dr. Wang 15 describing that's in there? 16 ATTORNEY HABER: Objection. Leading. 17 THE WITNESS: A ring. 18 BY ATTORNEY PLUTA: 19 Q. Were there components associated with the ring 20 Dr. Wang is describing? 21 A. Yes. If you refer to figure 1, it shows the ring 22 portion that gets circular and the finger is inserted 23 through, and on top of that ring portion is a housing 24 component that features a circular flat battery, some 25 electronic components, and a sensor mounted on top.

Page 234 1 Q. Where are the electronic components situated in 2 Dr. Wang's ring? 3 ATTORNEY HABER: Objection. Leading. 4 (Clarification by the certified stenographer.) 5 BY ATTORNEY PLUTA: 6 Q. Sure. 7 Where are the electronic components situated in 8 Dr. Wang's ring of 2017? 9 ATTORNEY HABER: Objection. Leading. 10 THE WITNESS: They're located in the housing -- a 11 rather large housing, I should say, that's located on the 12 top of the ring, like a large crown. 13 BY ATTORNEY PLUTA: 14 Q. Was there a battery included in Dr. Wang's ring? 15 A. Yes. As I mentioned, there's a large flat battery 16 that's mounted on top of the electronics and located in 17 that large housing component on the top of the ring. 18 ATTORNEY PLUTA: I have no further questions. 19 ATTORNEY HABER: All right. So a couple things. 20 One, obviously, we maintain our objections to these new 21 exhibits, and we reserve the right to move to exclude or 22 strike them, including Dr. Mercier's testimony that he just 23 provided on them. I've not had a chance to review these 24 documents, but I do have a few follow-up questions. 25 /////	Page 236 1 Q. And ring-type pulse oximeters are the sorts of 2 sensors that are envisioned by the '178, '702 patents, 3 correct? 4 A. Correct. 5 Q. And this sensor for detecting chemical and 6 biological threats is substantially larger than a pulse 7 oximeter sensor, correct? 8 A. I mean, I would say this is of roughly similar 9 size to some of the earlier work that I saw from Professor 10 Harry Asada's group, for example. 11 Q. That earlier work was done in 2003 by Professor 12 Asada, correct? 13 A. That's right. 14 Q. And you would agree that between 2003 and 2017 15 when this paper was published, the components that 16 Professor Asada was working with got substantially smaller 17 than they were in 2003, right? 18 A. I'm not certain if the exact components did. In 19 general, electronic miniaturization happened between 2003 20 and 2017. Yes. 21 Q. So the components that Dr. Asada working with in 22 2017 -- in 2003, in your opinion, would be smaller than 23 these large chemical and biological threat-detecting 24 components that are described in this 2017 paper, correct? 25 A. My understanding of this work is that the largest
Page 235 1 FURTHER EXAMINATION 2 BY ATTORNEY HABER: 3 Q. First, regarding this document that is on screen, 4 Exhibit 2122, you describe this as a chemical sensor? 5 A. That's correct. 6 Q. Does the '178 or '702 patent relate to this sort 7 of chemical sensor? 8 A. The specification of both the '178 and the '702 9 patents do describe glucose sensing, which is a form of 10 chemical sensing. 11 Q. The document that's on the screen is relating to 12 developing wearable sensing platforms for detecting 13 chemical and biological threats. Do you see that? 14 A. Yes. 15 Q. Are the '178 patent and '702 patent directed to 16 detecting chemical and biological threats? 17 A. No. 18 Q. And in the first page of this document, in the 19 second column in the middle of the paragraph, there's a 20 sentence that says (as read): 21 To the best of our knowledge, only ring-type 22 pulse oximeters have been reported as wearable 23 sensing devices. 24 Do you see that? 25 A. Yes.	Page 237 1 component on the system is the Bluetooth transmitter. The 2 other components, the sensing component is smaller than the 3 Bluetooth module. So I think it's a little difficult to 4 kind of say a direct apples to apples comparison. 5 Q. Have there ever been commercialized wearable 6 devices that are used for chemical and biological 7 threat-monitoring to your knowledge? 8 A. I'm generally aware of activities in this space, 9 but I'm not certain if there's been successful 10 commercialization efforts. 11 Q. You would agree that the problems envisioned by 12 the '178 and '702 patent, while there are a number of them, 13 was not chemical and biological warfare, right? 14 A. Correct. 15 Q. I want to go back to Exhibit 2121. 16 These images were provided to you in your 17 discussion with an Oura engineer; is that right? 18 A. That's correct. 19 Q. Is there a physical -- strike that. 20 The physical component that's depicted in these 21 images, did you actually see it, physically? 22 A. I was given a prototype or -- strike that. Not 23 prototype. 24 I was given an Oura generation 1 that had the 25 electronics inside available for inspection. I don't

Page 238 1 believe it was this exact device. The casing was white, if 2 I recall correctly, not black. But, otherwise, it appeared 3 to be the same. 4 Q. This device in these images is disassembled. Did 5 you disassemble the device? 6 A. The device I was given looked kind of like -- it 7 was in a similar state of disassembly. The circuit boards 8 were external. But they could be placed back inside. 9 Q. Okay. So the device that you physically 10 manipulated yourself, when you received it, it was at least 11 in a partial state of disassembly, correct? 12 A. Correct. 13 Q. And what's depicted in these images is similarly 14 in a state of partial disassembly, right? 15 A. Correct. 16 Q. Were you provided a fully assembled gen 1 ring at 17 any time? 18 A. No. I don't believe so. 19 Q. And do you know with certainty that the at least 20 partially disassembled ring that you were provided that's 21 depicted in this image actually includes all of the 22 components of a finally assembled product? 23 A. The device wasn't functional. I wasn't able to 24 test its functionality, so from that perspective, I'm not 25 certain. I wasn't given any reason to believe otherwise,	Page 240 1 A. I mean, on the fly I can identify the green 2 regions certainly look like printed circuit boards. The 3 orange and brown regions, I'm not certain. I'd have to 4 take a closer inspection. Same with the region under the 5 battery. 6 ATTORNEY HABER: All right. Again, reserving my 7 rights to exclude this additional belated evidence and 8 testimony, I have nothing further. 9 ATTORNEY PLUTA: No further questions. 10 CERTIFIED STENOGRAPHER: Robert, I'll get your 11 transcript order on the record, please. 12 ATTORNEY PLUTA: We don't need a copy of the 13 transcript. Just a rough. 14 CERTIFIED STENOGRAPHER: We'll discuss this off 15 record. 16 Okay to go off record? 17 ATTORNEY HABER: Yes. 18 ATTORNEY PLUTA: Yes. 19 THE VIDEOGRAPHER: Going off the video record. 20 This concludes today's video deposition. Time on the 21 monitor is 11:05 a.m. 22 (Proceedings adjourned at 11:05 a.m. PDT.) 23 ---000--- 24 25
Page 239 1 that it wasn't a complete design, though. 2 Q. So the only devices that you were given, including 3 what's depicted here were non-functioning, at least 4 partially disassembled gen 1 devices, correct? 5 A. Correct. 6 Q. The battery that's depicted in these images, that 7 is a -- you would characterize it as a flat battery, 8 correct? 9 A. That's right. 10 Q. Did you do any analysis of the battery that's 11 depicted in Exhibit 2121 on the device that you were 12 provided with? 13 A. I didn't. 14 Q. So based only on your visual inspection of the 15 battery, you reached the opinion that a flat battery of the 16 gen 1 device takes the gen 1 device outside of the scope of 17 the claims; is that correct? 18 A. I didn't perform that -- that full analysis. 19 Q. The -- in your opinion, which parts of what's 20 shown on page 3 of Exhibit 2121 comprise the printed 21 circuit board? 22 A. Again, I didn't do a detailed analysis. 23 Q. So looking at this image, you can't immediately 24 identify the printed circuit board as compared to other 25 components?	Page 241 1 ---000--- 2 3 I, PATRICK P. MERCIER, Ph.D., do hereby declare 4 under penalty of perjury that I have read the foregoing 5 deposition; that I have made any corrections as appear 6 noted, in ink, initialed by me, or attached hereto; that my 7 testimony as contained herein, as corrected, is true and 8 correct. 9 EXECUTED on this ____ day of _____, 10 2025, at _____, _____. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 PATRICK P. MERCIER, Ph.D.

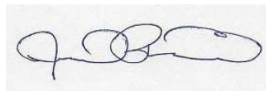
Page 242

REPORTER'S CERTIFICATE

I, JULIE RUMSEY, CSR 14144 do hereby certify that the foregoing deposition of PATRICK P. MERCIER, Ph.D., VOL.2, was taken on JUNE 25, 2025 via zoom videoconference before me at 8:18 A.M. for the purpose in the caption stated; that the Witness was first duly sworn to tell the truth, the whole truth, and nothing but the truth; that the deposition was taken before me stenographically and afterwards transcribed under my direction; that the foregoing is a full, true, and correct transcript of the said deposition so given; that counsel for all parties were present at the time of the deposition; that there was a request that the witness read and sign the transcript.

I further certify that i am neither of counsel nor of kin to any of the parties to this action, and am in no way interested in the outcome of said action.

Witness My Signature on June 27, 2025.



JULIE RUMSEY, CSR No. 14144

Page 243

Errata Sheet

NAME OF CASE: SAMSUNG ELECTRONICS CO., et al. vs OURARING, INC.

DATE OF DEPOSITION: 06/25/2025

NAME OF WITNESS: PATRICK P. MERCIER, Ph.D., VOLUME II

Reason Codes:

1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

Page ____ Line ____ Reason ____

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Page ____ Line ____ Reason ____

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Page ____ Line ____ Reason ____

From ____ to ____

Page ____ Line ____ Reason ____

From ____ to ____

Page ____ Line ____ Reason ____

From ____ to ____

Page ____ Line ____ Reason ____

From ____ to ____

Exhibits	217:12,14,20 218:4 219:21 226:14,17,20 228:22 229:2, 8,21 233:21 237:24 238:16 239:4,16	2 178 202:6,10,16, 19 203:5,17 206:5 213:3, 10,19 214:6, 19,23 215:17 216:5,6 217:14,18 218:2,4,18,22 219:4,11,18 222:16 224:4, 14,24 229:23 235:6,8,15 236:2 237:12	2121 226:24 227:1 228:19 229:4, 6,16 231:7 237:15 239:11,20 2122 230:5,6 231:7, 10 232:3,5 235:4 21A 187:14 22 191:18 192:20 22A 207:4,6 22B 207:6,10 25 173:1 187:10, 25 191:17,20 192:20 25th 173:11 26 193:15 27 191:20 28 207:12	30 228:15 32 219:7 34 193:13 38 194:5
Exhibit 1001 172:12 177:3, 7	10 199:24,25			4
Exhibit 1012 172:15 206:25 207:1	1001 177:3,7			
Exhibit 2018 172:18 177:5	1012 206:25 207:1			4 199:25 208:14,17 209:3 213:2, 23 217:22
Exhibit 2121 172:21 226:24 227:1 228:19 229:4,6,16 237:15 239:11,20	10:28 225:8 10:36 225:11	2		402 230:18
Exhibit 2122 172:22 230:5, 6 231:10 232:3,5 235:4	11,874,702 176:25 11:05 240:21,22 11th 232:13 12 204:23,25 205:5 206:5 219:5 13 204:23 205:5 206:6 14144 174:5 15 225:18 16 204:25 205:2 17 187:25 205:1,	2 194:5 195:20, 23 2003 236:11,14,17, 19,22 2013 199:19 2017 232:9,13 234:8 236:14, 20,22,24 2018 177:5 2025 173:1,11 174:6 2096 174:11 21 189:11 191:18 192:20 200:17	21A 187:14 22 191:18 192:20 22A 207:4,6 22B 207:6,10 25 173:1 187:10, 25 191:17,20 192:20 25th 173:11 26 193:15 27 191:20 28 207:12	403 230:18 42 194:5 47 194:20
-				5
---o0o---				5 187:11
173:2 174:7, 12 240:23				6
1			3	64 195:14
1 173:4 177:16 188:24 189:7, 12,14 190:1,4, 14,18 191:9, 11,15 202:4,5 203:16,18,19, 25 204:2,5,7, 8,11,14,15,24 205:11,15 206:3,5,9			3 208:14,17 209:2,18 213:1,23 217:22 239:20	7 210:20 211:4,

13,17,21 212:4,11,17	9	accordance 174:10	185:22 186:9, 18 188:10,12, 19 192:12 194:1 195:10 205:14 207:5, 16,22 208:1 215:17 216:15,25 218:25 219:18 236:14 237:11	apologies 184:20
702 175:6 177:1, 11,15 183:8 187:8,14 192:5,14 200:3,9,17 202:4,5,10,15, 18 203:4,19 205:9 213:3, 10,19 214:6, 19,24 215:18 216:5,6 217:11,25 218:1 219:19 222:16,19 224:4,14,24 229:22 235:6, 8,15 236:2 237:12	9 193:12,15 194:12 195:14 199:24 90 212:5 92 196:24 94 210:5 9:27 201:23 9:38 202:1	accurately 174:19 achieve 198:15,16 215:11 acquire 218:8 ACS 232:9 actions 208:24 activities 231:13 237:8 actual 204:12 adding 199:12 addition 201:13 213:1 214:17 additional 176:18 228:16 231:1,4 240:7 adjourned 240:22 administered 174:10 advantageous 194:22 advertising 220:2 aesthetically 215:3,25 agree 178:22 179:3	allowed 180:9 analysis 202:13 203:2, 14 208:13 209:16 210:16,25 211:5,15 213:12 214:1 239:10,18,22 analyze 224:24 analyzed 213:2,24 217:21 224:25 analyzing 190:23 and/or 183:19 184:4, 19,20 209:6 Angeles 173:15 angle 211:18,23 212:4,6 annotation 176:18 Anthony 213:9 214:16	apologize 176:12 191:3 app 222:17 223:12,16,22 224:2,7,8,9 Appeal 173:9 appealing 216:19 appeared 238:2 appearing 232:9 appears 230:18 apples 237:4 applicant 183:23 185:14,18 application 187:13 applications 186:15 applies 198:14 applying 202:18 203:6 apps 224:17 arc 204:18 205:13 area 187:20 194:7,
71 229:22	A			
74W 207:9,13 208:7	a.m. 173:1,12 176:7,10 201:23 202:1 225:8,11 240:21,22			
8	abstract 183:11 185:21 187:9 accelerometer 218:23 acceptance 233:12 access 223:2 accessories 233:11 accomplish 198:7			
8,700,111 206:23				
82 209:17 210:3				
8:18 173:1,12				
8:22 176:7				
8:34 176:10				

16 213:7	9	12,16,19,21,	bad	belated
arguably	assuming	25 228:1,18,	184:11	240:7
197:12	221:25 225:20	25 229:18	based	Ben
argue	assumption	230:3,8,9	190:7,16	227:20
217:6	212:16	231:6,9,18,20	239:14	benefit
arise	attempted	232:2 233:16,	bases	212:21
233:6	209:13	18 234:3,5,9,	228:13	Benjamin
arranged	attempting	13,18,19	basically	173:20
194:7	211:13	235:2 240:6,9,	192:3	big
art	attention	12,17,18	basis	215:9
180:2 186:16,	232:14,24	authored	214:15	bigger
25 196:17	attorney	232:6	batteries	186:3
197:11,19	173:19,20,23	authorization	209:12 219:23	biological
198:9,12,21	174:14	231:2,3	220:7,15,23	192:4 235:13,
199:7,19	175:10,15,22	authorized	221:8,12	16 236:6,23
206:14 214:20	176:2,3,11	192:10,15,16	222:2,10	237:6,13
217:1,7 222:8	177:9 178:24	authors	225:22 226:3	biometric
226:1,9,11	179:1 182:2,	184:14	battery	190:21 191:8,
230:23	13,23 183:7,	automaton	199:12	13 195:19,21
articulated	15 187:24	198:9	203:18,20,24	bit
214:18	188:22 189:9,	average	204:3,5,7,25	187:9 194:11
Asada	18 190:2,19	206:11 220:16	205:3,5,6,21	197:17 202:21
236:12,16,21	195:24 199:22	221:18	206:1,6,11	209:20
Asada's	200:20,22	aware	209:20 210:6	black
236:10	201:11,18,21	201:5,15	218:7 220:19	238:2
aspect	202:2 203:12,	220:14 222:9	221:8,12,15,	blanks
175:1	15,21 204:1	224:14 226:2	20 222:14	197:20
assembled	206:23 207:3	237:8	229:11 233:24	block
238:16,22	211:7,9	B	234:14,15	178:18
assembly	213:18 214:21	back	239:6,7,10,15	blocks
205:22	215:19,22	174:15 176:9	240:5	178:19
asserted	217:5,10	189:14 191:17	begin	Blood
230:19	218:20	201:25 202:3	177:14	191:2
assume	219:17,25	208:10 225:5,	beginning	blue
179:14 180:5,	220:4,9,11,17	10,18 237:15	173:4,19	181:15,20,25
18 181:2,11	221:16,24	238:8	begins	182:6,11,12,
185:1,5	222:5,15	background	177:16	17
188:25 221:7,	224:20,22	228:11	behalf	
	225:2,6,12,15,		173:10,14,24	
	17 226:23			
	227:3,5,6,8,9,			

Bluetooth 221:21 223:5, 6 237:1,3	California 173:15 174:4	casing 238:1	18 226:25 227:6,16 230:4	180:12,16 181:23 185:9 188:20,24 189:7,12,14, 17,19 190:1,4, 14,18 191:9, 11,15 202:4,5, 10,12,14,21 203:16,18,19, 25 204:2,5,7, 8,11,13,14,15, 17,24,25 205:11,15 206:3,5,9 209:10,11 213:24 217:3, 12,14,16,20 218:4 219:21
board 173:9 202:16, 17 204:17 205:12,18 209:21,25 218:7 229:12, 13,14 231:2 239:21,24	call 230:1	cavity 203:4 204:19 205:14	chemical 232:10,16,19 233:8 235:4,7, 10,13,16 236:5,23 237:6,13	claim-by-claim 203:2,14
boards 209:12 238:7 240:2	called 174:9	Center 231:13,22,25	chip 209:25 229:13	claimed 179:23 224:4
body 190:22	capabilities 233:2	certainty 238:19	chips 209:21	claims 177:15 178:9 184:24 189:1 200:16,18 202:6 203:10 204:14,22,23 205:2,5 206:5, 10 213:3,10 214:23,25 215:3,5,6,11 216:5,6,7,12, 16,21 217:2,7, 8 218:1 222:16,18 224:10,12 239:17
bottom 195:14 209:19	capacities 221:21	certified 174:3,4 175:13,21 177:4 182:1 183:14 187:19 190:13 195:16 198:24 201:10,20 211:6 218:19 219:14 220:10 224:19 228:17,23 231:23 234:4 240:10,14	circuit 202:16,17 204:17 205:12,18 209:12,20,25 218:7 229:12, 13,14 238:7 239:21,24 240:2	clarification 175:13,21 177:4 182:1 183:6,14
box 226:25 230:4	capillary 191:6,21,24 192:6,8,13 200:4,5,12,24 201:2,5,12	cetera 181:18 193:20 218:21	circuitry 199:13 204:3	
break 199:20 201:17,19 225:3	capture 199:25 200:4, 5,12 219:1	challenges 199:17 233:6	circular 233:22,24	
broad 182:17,18,20	captured 196:4 208:13 215:11	chance 187:16 227:9 234:23	cited 194:12 204:8	
broader 182:22	captures 195:21 218:10,24	change 229:25	cites 204:25 218:5	
broadly 191:11	care 175:8	changed 230:1	citing 233:5,13	
brown 173:23 240:3	carrier 199:13	characterize 239:7	Ciulla 173:25	
build 215:10	case 173:7 175:2 180:5,7 184:14,18 189:6 205:9 221:23 224:24 225:1 228:12 230:24	chat 175:4,11,16,	claim 177:16,21,22 178:6 179:24	
C	cases 214:9			
C.C.P. 174:6,10				

187:19 190:13 195:16 198:24 201:10,20 211:6 218:19 219:14 220:10 224:19 228:17,23 231:23 234:4	207:12 219:5 235:19 comfort 216:4,7,9 comfortable 215:8 216:13, 20,24 comments 226:8 commercializa tion 237:10 commercialize d 237:5 communicates 224:11 communicatio n 182:4 205:16 209:22 217:12,15,17, 19,22 218:21 222:19,22,23 223:3,7,18 224:6,10 communicativ ely 222:22 compact 233:3 compared 202:19 239:24 comparing 212:19 comparison 237:4 complete	239:1 completely 178:19 233:9 completeness 228:7 complicated 199:4 209:3 210:23 component 177:24 178:1 180:2 181:24 189:23 190:1, 17 204:15 218:9,11,16, 24 219:1 233:24 234:17 237:1,2,20 components 183:18 204:11 205:11,13,15, 16 206:13 211:25 224:3 233:8,19,25 234:1,7 236:15,18,21, 24 237:2 238:22 239:25 compose 197:1 comprise 239:20 comprises 177:24 computer 223:6,12 computing 192:10 concede 197:3 199:21	concludes 240:20 conduct 211:5,15 conducted 208:16 conducting 208:20,24 210:16,25 conference 230:1 configured 190:6 204:18 218:8 222:24 confirm 220:18 conform 204:18 conforms 205:13 connected 229:12 connecting 219:11 connection 175:5 176:23 192:20 226:20 232:21 considerations 208:12 considered 220:14 construction 178:6 202:22 205:10,22 construe 178:8	construing 180:25 consumer 220:16,24 221:10,13,18 contact 232:23 context 179:13 180:17 181:4 182:8 183:5 186:3, 18,19,22 187:3,5,10,17 194:11,15 continuation 224:15 CONTINUED 174:13 continues 199:24 contrast 214:3 control 186:12 cool 222:14 copies 175:22 176:14,16,17 copy 175:7,25 177:10 240:12 correct 174:19 180:12,13 185:20 186:17 188:17,18 189:13 190:23,24
---	---	---	--	--

191:9,10,14, 15 192:21,24 193:5,6,8 194:3 195:5 196:2,23 198:11,16,17 200:10,19 203:7,8 204:4 205:4,7 207:14,15,17, 20,21,24,25 208:17,18 210:11,12 211:15,25 213:17 215:1, 2,4,18 216:17, 20 217:4,12, 13 219:10,13, 20 220:19 224:18,21 227:5 235:5 236:3,4,7,12, 24 237:14,18 238:11,12,15 239:4,5,8,17	court 173:13 174:1, 19 cover 183:12 creating 192:6 creation 192:12 233:8 creativity 198:10 cross 209:5,8,9,15, 18,24 210:2,3, 5,7,16,20,24 211:1,3,4,12, 14,16,17,22, 23 212:1,4,17, 18,21 213:4, 11,13,15 crown 234:12 curious 221:9 current 226:9 curvature 212:10 curved 203:19,20 205:3,6,21 206:6,11 219:24 220:8, 15,19,23 221:8,12,15 222:10,13 226:3 cut 209:4,13	220:18,24 221:2,10 D daily 233:11 Daniel 173:14 data 190:7,11,16 191:12 218:8, 11,24 219:1 222:24 223:2, 4,9,11,20,23 224:6 233:2 date 173:11 deal 205:21 223:22 decide 209:9 decided 184:14 221:10 declaration 175:5 176:23, 24 203:23 208:10 229:25 230:16 declarations 229:17 define 215:16,20 defines 180:15 definition 178:8,14 180:10 181:19 182:18	degree 233:4 degrees 178:16 212:5 demonstrating 213:5 densities 221:20 depends 204:23 depict 211:13,19 212:8 depicted 207:6 212:17 229:16,21 237:20 238:13,21 239:3,6,11 depiction 229:20 deposition 173:5,10,16 174:23 228:11 240:20 Depositions 173:15 describe 184:13,14 185:10 187:17 192:5 207:13 208:25 209:15 214:8 215:10 229:6 235:4,9 describes 191:5 207:19 209:11 220:23 232:9	describing 183:23 184:3 185:13 189:11 199:23 219:11 233:15,20 description 185:23 188:13 193:23 214:4, 10 224:12 descriptions 213:21,25 descriptive 212:11 213:20 design 199:3,4,17 215:12,15,18, 20,24 216:1,2, 13 223:22 224:2,9 229:8, 21 239:1 designing 216:23 designs 220:14 detail 209:20 224:13 detailed 213:21 214:5, 10 239:22 details 212:19 224:9 detecting 232:10 235:12,16 236:5 determine 211:24 221:11 develop 206:1
--	---	---	---	--

developing 235:12	disabled 175:18	discussing 177:14 205:21	driver 199:13	175:25 176:14,16,17 233:1,25 234:1,7 236:19
device 177:17 192:11 204:17 205:20 207:6 212:20 216:14 217:1, 9 221:7 223:11,15 238:1,4,5,6,9, 23 239:11,16	disagree 231:7	discussion 176:8 193:7 194:20 199:24 224:5 237:17	drop 175:11,16 186:22	electronics 173:6 234:16 237:25
devices 209:16 210:17,24 217:21,22 219:23 232:22 235:23 237:6 239:2,4	disagreement 213:8 214:15	discussions 184:17 194:12 202:22 215:14 224:9	dropped 230:4	element 177:21,22 190:4 207:13
difficultly 210:13	disappointed 221:13 222:4, 13 225:23	display 223:1,23	dropping 226:24	elements 189:17 204:8, 13 207:9 209:11 216:15,16
difficult 199:1 210:21, 23 212:9 215:16 237:3	disassemble 238:5	displaying 194:17	due 233:6	email 227:7,8
difficulties 176:13	disassembled 238:4,20 239:4	disposed 205:12	earlier 184:17 236:9, 11	emailed 206:19 230:8
diode 196:5 200:9	disclose 193:14 196:25 197:21,23	diving 204:11	easily 233:9	embodiment 189:2,4,10 191:18 194:22 200:15,16
diodes 197:4,23	disclosed 205:18	doctor 191:4	easy 214:2,17	emergency 221:4
direct 232:14 237:4	discloses 197:22 205:15	doctor's 230:14	ECG 219:8	emitted 189:20
directed 194:20 215:25 224:16 235:15	disclosure 196:24 197:7, 17	document 175:16,23 177:1 228:14 230:12,13,17, 18,20,22 235:3,11,18	economist 220:1	employs 194:24
direction 198:2,3,7	discuss 178:6 193:3 196:24 222:19 240:14	documents 176:23 234:24	efforts 237:10	enable 180:6 216:13
directly 192:15	discussed 187:14 193:11 205:8 211:2	download 227:13	EKG 219:8	enables 177:25 179:17 180:1 181:23
	discusses 190:14 192:25 193:4 218:22	Downloading 227:21	elaborate 208:21	encapsulates 183:17
		drag 175:11,16	electrically 218:6	encompass
		drawings 213:22	electrocardiog ram 219:8	
			electronic	

180:20	EXAMINATION	explain	192:25 197:24	figures
encompassed	174:13 225:16	193:17 210:21	198:5 206:7	191:18 192:20
180:22	235:1	explains	207:18 218:25	207:4,6,9,13
encompasses	examined	208:1	fairly	213:21 214:4,
185:1	174:11	explicitly	182:16	5,11 229:17
encountered	examples	184:14	falls	file
222:7 225:25	180:24 183:24	expressive	188:20	175:11
end	exclude	184:12	familiar	227:22,23
175:12,16	182:20 234:21	extend	200:23,25	fill
177:16,22	240:7	181:3	215:12,15	197:20
225:3	exclusively	extensively	familiarity	filter
energy	194:10	217:18	216:2	181:15 208:4
221:20 233:1	execute	extent	family	filtered
engineer	199:11	228:4,9	224:17,20	181:16
198:10,16	exercise	230:22	fashion	filters
226:17 229:1	214:17	external	233:11	208:2,7
230:1 237:17	exhibit	194:8,9,17,23	feature	finally
engineering	177:3,5,7	205:11,12	194:6	238:22
186:15 198:14	206:25 207:1	222:17 238:8	features	find
enter	226:24 227:1,	extremely	193:16 199:11	212:1
186:3	4,13 228:4,12,	199:4 212:9	206:9 209:14	fine
envisioned	19 229:4,6,16		223:15 224:2,	176:16 216:3
236:2 237:11	230:5,6,10		17 233:24	finger
epidermal	231:10 232:3,	F	feel	187:21,23
232:21	5 235:4	fabrication	175:7 178:8	194:24 195:3,
ER	237:15	233:7	214:17	5,7,11,22,23
221:2	239:11,20	facilitate	felt	196:1,11
error	exhibits	233:12	211:5,14	200:1 233:22
211:10	176:15 231:7	fact	field	finger-ring
everyday	234:21	195:13 204:2	218:21	195:20,23
221:5	exist	221:11,14	figure	finger-worn
evidence	220:15	factor	187:14 189:11	177:16
220:20	expect	194:10 226:3,	197:20 200:17	fit
230:20,23,25	220:6,24	10,11	207:10 210:20	204:16
231:1 240:7	experience	factors	211:4,13,17,	fix
exact	220:5	222:10	21 212:4,11,	175:12,15
236:18 238:1	expert	fair	17,19 229:22	176:4
	201:4	179:5,24	233:21	

flat 221:8,12 222:2 225:22 229:11 233:24 234:15 239:7, 15	free 175:7 frequencies 208:5 front 175:7 183:8 228:19 full 203:13 239:18 fully 178:17 238:16 function 190:12 191:14 196:22 199:23 222:1 225:21 functional 238:23 functionality 189:11,15 192:18,23 238:24 functioned 222:1 225:20 functions 190:22 191:1, 8,13	217:22 226:14,17,20 228:22 229:2 238:16 239:4, 16 general 178:14 192:13 193:2,4 198:14 210:7 214:22 236:19 generally 194:1,9 200:25 201:5 202:11,21 208:25 215:1 237:8 generate 192:8 generated 223:2 generating 223:11 generation 209:18 213:1, 2 229:8,21 237:24 generations 213:23 geometric 210:15 geometrically 210:8 give 180:24 193:1 202:15 203:23 228:1 glass 181:14	glucose 235:9 goals 215:11 good 174:3 201:16 granted 231:3 great 205:21 223:22 green 181:17 240:1 grounds 228:7 230:17 group 236:10 guards 232:22 guess 203:24 214:14 222:8 226:1 guidance 198:7 H Haber 173:20 174:14 175:10,15,22 176:3,11 177:9 179:1 182:13 183:7, 15 187:24 189:9 190:2, 19 195:24 199:22 200:22 201:11,18 202:2 203:15 204:1 206:23	207:3 211:9 214:21 215:22 217:10 218:20 219:17 220:4, 17 221:24 222:15 224:20 225:2,12 227:3,6,9,16, 21 228:1 229:18 230:9 231:18 233:16 234:3,9,19 235:2 240:6, 17 half 220:18,25 221:10 hand 223:13 224:8 handful 214:4 happen 196:22 199:12 happened 236:19 Harry 236:10 headband 232:25 health 191:1 hearsay 230:18 held 173:6,8 176:8 helped 232:8 helps 193:11
---	---	---	---	--

hey 182:4 198:19	173:18 192:9 239:24 240:1	included 207:9 234:14	223:7	223:13 233:1
high 185:13 233:4	illuminate 200:12	includes 193:7 238:21	ingredient 223:10	interior 188:3 199:8 211:24 219:12
hindsight 214:18	illumination 188:2 192:24	including 199:12 209:11,20 220:22 222:10 226:3 234:22 239:2	inks 193:19	internal 177:23 178:1 180:1 181:24 189:22,25 198:5 205:11, 13 218:9,11, 15,24
historical 229:7	illuminator 193:5	Incorporating 232:25	inserted 195:11 233:22	interpretation 182:7
Hold 227:17	illustrative 213:20	indented 177:21	inside 195:4 196:10, 19,25 197:1, 14 198:1,19 219:23 220:7 237:25 238:8	interpreting 184:16
holding 195:7	image 187:22 195:22 196:4 197:4,6 199:25 200:5 238:21 239:23	individual's 233:10	inspect 209:6	introduce 226:23
hologram 193:24 194:18	images 208:13 210:10 214:7,9 227:23 237:16,21 238:4,13 239:6	infer 214:12	inspection 237:25 239:14 240:4	introduced 227:4
holograms 193:17	imaging 193:23	inform 214:20	install 199:8	invention 183:13,23 185:10,14 194:23
housing 177:23 178:1 180:2 181:24 188:3 189:22, 25 205:11,13 218:9,11,15, 24 219:12 233:23 234:10,11,17	immediately 239:23	information 193:11 219:12 228:9	installed 222:17	inventions 216:10
humans 186:7	Implementatio ns 201:12	informed 202:24 215:14	instance 185:2	IR 178:22,25 179:2 180:9 188:2,7,11,19 189:3 192:24 193:4,8 196:12,18,20, 21 198:20,22 200:9,10,18 201:1,13
hypothetical 222:7 225:25	important 215:8 216:9 230:14	infrared 179:2,3,6,20 180:9 181:2,8, 9 183:19,25 184:19 185:15,20 186:2,5,11,14, 17,20,21,22, 25 187:1,3,5, 21 196:5,9 197:4,22,23 198:18 200:12 201:6	instances 186:9	isolating 199:2
I	improper 228:12 230:24	infrastructure	instruction 193:1	isolation 189:7 199:20
idea 184:11 219:23	include 179:17 189:5 191:12 207:20 208:2,7 220:20		integrate 199:15	
identification 192:15 227:2 230:7			integrated 195:19 233:10	
identify			integration 233:4,6	
			intending 227:24	
			interface	

J	L	209:21	18 197:2,5,8	logical 223:24
Jasjit 173:24	lack 214:9	Legal 173:14	198:19,22	long 173:14 176:17 213:21
Jason 173:21	language 185:9 188:20 190:1 191:15 192:14 209:10,11 213:24 215:5 216:7,21 217:4	lens 199:2 207:22	200:12,18 201:1,8,13,14 205:25 207:17,23 208:5 215:6 216:8,22 218:14 219:13,20 233:3	looked 209:10 210:8 228:14 238:6
Joseph 231:24 232:1, 6		lenses 207:20 232:23		loose 191:3
journal 232:9		level 185:14 198:10 216:4	light-based 219:2,9,10	Los 173:15
Julie 173:13 174:4	large 209:21 234:11,12,15, 17 236:23	lifestyle 233:10	light-emitting 205:15	lost 212:24
June 173:1,11	larger 236:6	light 177:25 178:17,18,19 179:7,10,12, 15,17,18 180:1,3,4,6,7, 8,9,12,15,18, 19,22 181:1,2, 4,8,9,10,15, 16,21,23,25 182:5,6,8,11, 12,16,17,19, 22 183:1,4,19, 20,24,25 184:15,19,20, 22,24,25 185:1,4,9,15, 16,20,23,24, 25 186:2,4,5, 7,8,10,11,12, 13,14,17,20, 21,25 187:1,2, 3,5,21,22 188:14,21,24, 25 189:3,5,13, 16,20,24 190:7,12,15, 16,17,22,23 193:8 196:9,	light-receiving 190:17 205:16	lot 186:5 193:1 197:19 199:17 214:13 224:13
K	largest 236:25		limitation 217:2 218:5	lots 206:16
key 223:10	late 230:14		limitations 189:7,20 206:3	M
kind 177:21 180:11 187:5,17 189:15,16 190:21,23 198:14 205:7 213:14 216:18 224:8 225:3 233:14 237:4 238:6	law 174:19 215:13,24		limited 191:13	maintain 234:20
Kinegrams 193:18	lawyer 215:13		limiting 181:4,12	Major 233:6
knowing 182:10 221:19	leading 211:20 229:18 231:18 233:16 234:3,9		lines 183:12 194:5	make 198:14 199:12 230:9
knowledge 235:21 237:7	leaving 197:18		located 173:15 197:21 205:17 234:10,11,16	makes 185:7 215:7
	Leboeuf 206:15,17,24 207:4,7,13,19 208:1,6		location 197:24	management 204:3,23
	LEDs		locations 209:13	manages 193:2
			lodge 231:4	manipulated 238:10

manner 211:19	186:1,6 202:12,18,23 203:6	Mercier's 228:5 234:22	229:13	nexus 208:12 213:5
map 191:21,24 192:3,6,9,13 200:4,5 201:3	meaningfully 203:11	met all 217:7	moment 203:23 228:1	nice 220:20
mapping 191:6 200:15, 24 201:5,12	meanings 203:1	methods 215:10	monitor 173:12 176:7, 10 201:23 202:1 225:8, 11 240:21	nicely 213:2,10 214:1
maps 200:12	means 178:5 184:20	mic- 209:7	monitoring 232:20	Nicholas 173:24
marked 177:5,7 206:24 207:1 227:2 230:4,7	meant 181:1 226:9	microprints 193:18	morning 174:3,24 175:2	non- functioning 239:3
market 220:1	measurement 195:7	microscope 209:7	motivated 223:25	non-light- based 218:17
marketing 220:23	measuring 190:25	middle 235:19	mounted 229:13 233:25 234:16	non-right 211:18,23
marking 176:18	mechanical 213:22	miniaturization 233:4 236:19	mouth 232:22	non-visible 180:3,4
material 177:25 179:16 180:1,9 182:5 183:17 188:4 189:21,22,25 196:13,21 219:20 220:23	mechanisms 199:14	minimum 223:20	move 234:21	noninvasive 232:20 233:3
materials 197:1 218:1,3	media 173:4	minutes 225:5,18	moving 212:25	nontransparen t 178:19
matter 173:6 214:16 230:19	medical 191:3	Mischaracteriz ing 231:19	N	note 203:24
Mayer 173:23	meet 180:10 206:12 217:3,8	misrepresentat ion 183:3	narrow 181:24 182:20	notes 225:4
meaning 178:7,10,12 179:12 182:25 184:25 185:24	meets 206:2	module 210:1 217:12, 15,17,19,23 222:20,22,24 223:3,18 224:6,11 237:3	nearing 225:3	noticing 173:19
	mentioned 209:8 210:19 231:24 234:15	modules 205:17 209:22	necessarily 191:13	nuances 199:5
	Mercier 173:5 174:8, 15 225:14 227:14		needed 196:14 221:3 222:3 225:22	number 173:4,7 174:5 176:25 190:21 202:5 208:12 224:15 228:12 237:12
			needless 231:6	

O	230:19,23	order	194:7,16	181:23 188:2, 3 193:8 208:8
oath	offers	192:9 194:24	owner	passage
174:10,17	198:2,3,7	196:9,14,18	230:25 231:2	181:10 193:15
object	Office	197:20 204:9	oximeter	passes
178:24 182:2, 23 188:22	173:9	214:13 223:14	236:7	181:7 182:10 201:7
189:18 200:20	official	240:11	oximeters	passing
203:12,21	174:5	ordinary	235:22 236:1	189:4 196:11
211:7 212:8, 22,25 213:18	open	178:7,9,11	oxygenation	patch
215:19 217:5	176:1 228:19	179:11,12	190:25 191:2	232:25
219:25 220:9	231:10	180:17 181:5, 6,11 182:9,25	P	patent
221:16 222:5	operate	184:25 185:24	package	173:8,9 175:6
224:22 228:3, 6 230:13,17, 22	204:9	186:1,6,7,8,20	199:15	176:25 177:1, 10,11,15,20
objection	operating	197:19,25	paper	183:8,12
220:11 229:18	184:23	198:8,10,12	175:7 232:6,8, 12 236:15,24	187:9,14
231:18 233:16	opined	199:6,10,18, 19 202:23	paragraph	191:5 192:5, 14 200:3,9,17
234:3,9	213:9	205:25 220:5, 6,24	196:24 207:19	202:4,5,7,10, 16,17,19
objections	opinion	orientations	229:22	203:4,5,17,20
227:11 228:16	179:8,22	209:4	232:15,16	205:10 206:5, 23 214:24
231:5,7	186:1,24	Oura	235:19	215:15,20,24
234:20	189:12	173:6,24	paragraphs	217:11,14,18, 25 218:2,4,18, 22 219:4,18, 19 222:17,19
objective	197:10,15	208:14,16	194:19	223:21 224:4, 15,20 229:22, 23 230:25
198:15	199:18 200:8, 14 203:17,19	209:2,16,18	part	231:2 235:6, 15 237:12
objectives	206:4,5	210:17,24	187:8 190:7, 16,22 197:10	patent-to-
198:18 216:9	211:17 212:3, 5 219:22	211:4,15,25	209:25 229:13	patent
obligation	229:24 236:22	213:1,13,15, 23 217:21	partial	202:13
174:18	239:15,19	219:22 220:7, 22 221:7,11	195:22	patents
occurrence	opinions	222:10	238:11,14	184:12 202:25
221:5	214:20 228:5, 6 229:25	224:17,20	partially	203:3,7 213:3, 11,20,25
October	230:15	14,16,17,20	238:20 239:4	
232:13	optical	228:22 229:1, 2,8,21 230:1	parts	
offer	207:23 208:2, 4,7,8	237:17,24	197:9 239:19	
216:12	optically	Oura's	pass	
offered	193:18	220:22	177:25 179:17	
203:17	orange	outer	180:1,7,8,9	
	240:3			

214:6,19,25 215:9,12,18, 24,25 216:2,5, 6 224:16,24, 25 235:9 236:2 Patrick 173:5 174:8 PDT 173:1 240:22 peak 206:10 peer-reviewed 232:6 people 175:24 186:7, 10,16 perform 190:22 239:18 performed 189:16 performs 192:23 person 179:14 180:17 181:5,11 182:9 186:20 197:19,25 198:8,12 199:6,10,18, 19 205:25 personally 221:22 personnel 231:22 perspective 238:24 Petitioner	173:10,20 PGR 176:24 177:2 PGR2024-00030 173:7 PGR2024-00039 173:8 175:6 176:24 Ph.d. 173:5 174:8 phone 222:18 223:12 photo 209:24 photodiodes 209:21 photographs 209:6 230:2 photos 209:4 physical 237:19,20 physically 237:21 238:9 picture 209:19 212:23 pictures 226:20 229:8, 10 piece 181:14 place 197:14,25 placement 193:24	plain 178:7,9,11 179:11,12 182:25 184:25 185:24 186:1, 6 202:22 planning 176:15 platform 232:10 platforms 233:3 235:12 pleasing 215:3 216:1 Pluta 173:23 176:2 178:24 182:2, 23 188:22 189:18 200:20 201:21 203:12,21 211:7 213:18 215:19 217:5 219:25 220:9, 11 221:16 222:5 224:22 225:6,15,17 226:23 227:5, 8,12,19,25 228:18,25 230:3,8 231:6, 9,20 232:2 233:18 234:5, 13,18 240:9, 12,18 point 196:15 222:8 226:1 pointless 197:3	portion 185:13 187:18 233:22,23 POSITA 184:7 193:21, 22 198:5 204:7 205:17, 19 206:8 214:12 221:20 223:25 POSITA's 205:9 position 197:6 possibility 179:6 possibly 180:23 181:2 potting 183:17 188:4 218:3 219:13 power 204:3,9,10,11, 23 205:20 206:10,11 221:21 222:3 225:22 practice 222:18 precise 178:14 prefer 175:25 preferred 201:7 prepared 208:11 preparing	201:2 present 173:18 203:25 206:9 presented 177:6,8 207:2 227:1 230:6 pretty 180:18 182:7 previously 177:2,5,7 206:24 207:1 227:4 primarily 232:20 principles 198:14 printed 202:16,17 204:17 205:12,18 209:12,20,25 218:7 229:12, 13,14 239:20, 24 240:2 printout 206:20 prior 206:14 214:20 217:1,7 222:8 226:1,10 230:23 problem 199:2,20 221:2 problems 237:11 procedure 208:19
--	---	--	--	---

procedures 209:1	232:8	purposes 192:13 213:5, 6 224:23	223:5,6	238:2
proceed 175:23 230:11 231:8	properties 207:23		range 179:21 180:15,20 181:16 184:22 188:11	receive 223:8,19
proceeding 177:2 206:25	protection 193:16	pursuant 174:6		received 189:17,24 190:17 223:4 227:22 238:10
proceedings 240:22	protocol 208:19	pushed 195:23,25	reached 239:15	
process 190:6 200:23 223:8	prototype 237:22,23	put 175:4	read 177:22 179:16 183:16 188:1 190:5 192:7 194:5,21 195:18 208:6 215:6 216:8, 22 217:16 218:5 222:21 232:15,18 235:20	receives 223:17
processed 222:24 224:7	provide 216:23 222:3	putting 196:1		receiving 187:22 190:15
processes 233:7	provided 188:3 222:3 225:22 228:9 234:23 237:16 238:16,20 239:12	Q		recess 201:24 225:9
processing 190:11,16 191:11,12	publicly 230:21	qualifier 185:2		recipe 198:2,3 216:23
processors 190:6 205:16 209:22 222:23,25	published 230:21 232:12 236:15	qualify 183:1	readily 201:8	recitation 180:12
produce 187:22 209:5	pull 175:7 177:13 193:9	question 182:18 190:20 194:14 199:1 202:9 208:22 211:10,11 212:14 213:16 225:19	reading 180:11 184:7 193:21,22 194:13 198:13 205:9	recite 193:15 195:15 204:2 205:2,5 214:25 215:3 216:7 217:14 222:20
product 238:22	pulse 190:25 235:22 236:1,6	questions 214:23 225:4, 13,15 226:14 227:10 228:22 234:18,24 240:9	real 212:22,23	recited 190:5 191:9 203:18 216:15 218:1 219:8
products 208:14,17 220:15	purchased 221:14	quick 225:2	real-life 229:20	recites 191:11 217:11
Professor 236:9,11,16	purchaser 220:6	quickly 228:2	reason 174:21 200:16 238:25	reciting 181:23
program 223:12	purchasers 219:22	R	reasonable 205:24 212:16	recognize 194:24 195:3, 4 199:7 206:9, 10
project 212:24	purpose 192:5 194:17 215:9 230:24	radio	recall 192:17 226:5, 13,19 228:21 231:12,21	record 173:3,17
projects				

174:5,6 175:19 176:4, 6,8,10 201:22, 25 216:3 225:5,7,11 226:24 228:3 230:12 240:11,15,16, 19	197:12,14 240:2,3 regular 179:14 relate 235:6 related 189:11 relating 235:11 Relevance 220:11 224:22 229:19 relevancy 228:6 230:17 relied 232:19 remote 186:12,21 remotely 174:10 Renia 173:21 report 220:21 222:11 226:4 reported 235:22 reporter 173:13 174:1, 4 represent 213:24 representing 212:22 214:7 require 179:9 189:20	204:5,22 206:6 219:20 222:17 required 204:12 206:1 216:5 requirement 218:2 requirements 206:10,11,12 216:19 221:21 requires 188:21 203:20 205:20 217:25 233:3 requiring 219:13 research 175:20 researcher 220:2 reserve 228:15 231:4 234:21 reserving 240:6 respect 189:13 response 219:7 223:17 230:25 restrictive 182:7 result 211:20 212:24 213:4 214:12 reveal 209:13	review 234:23 reviewing 199:1 226:8 RF-BASED 218:25 rights 240:7 ring 173:6,24 177:17 193:8 194:10 195:4, 5,7,11,25 196:1,10,11 197:1,2,13,15, 22 198:1,19 199:3,9,25 204:16 206:2 208:14,16 209:4,5,16,19 210:10,17,24 211:15,18,25 212:19 213:13,15 215:1,4,10 216:13 217:21 219:22 220:7, 14,18,22,25 221:2,3,7,10, 11,14,25 223:1,3,10 224:8 225:20 226:14,17,21 228:22 229:2, 8,16 233:17, 19,21,23 234:2,8,12,14, 17 238:16,20 ring-based 232:10 ring-shaped	207:5 ring-type 235:21 236:1 rings 213:1,2,23 222:9 226:2 Rob 173:23 Robert 240:10 room 186:4,6 rough 240:13 roughly 236:8 Rumsey 173:13 174:4 S safe 180:18 saliva 232:21 sample 192:4 Samsung 173:6,21 satisfied 217:1 Schroder 192:18,23,25 193:2,4,7,9, 14,15 194:4,5, 14 195:13 196:6,15,25 197:8,11,16,
---	--	--	---	--

18,21,22,23 198:1,3,6,19 199:23 200:8, 14 210:20 212:7 213:9, 12 214:3,13, 14	secure 194:8,9,16,23 security 192:13,16 193:16 194:6 selectively 208:8 sense 185:7 200:11 sensing 209:25 210:1 218:15 235:9, 10,12,23 237:2 sensor 194:24 195:3, 19,21 196:5 218:10 219:7, 8 233:13,14, 25 235:4,7 236:5,7 sensors 197:4,23 209:12 218:6, 17,25 219:9, 10 220:13 221:22 231:14,22,25 232:9,16,19, 24 233:9 236:2 sentence 187:25 235:20 sentences 196:7 sequence 221:8,12 set 208:23	setting 175:12,15 176:5 shape 204:6 shaping 204:16 shine 198:18 shining 187:21 190:22 196:10 short 214:4 Shorthand 174:4 show 175:18 223:20 229:10 showing 209:18,24 212:9 shown 210:2 222:11 226:4 239:20 shows 233:21 similar 192:24 203:1 212:18 213:12 222:9 226:2 229:16 236:8 238:7 similarly 238:13 simple 199:20 212:9 213:4,14	simply 199:2 single 183:2 217:1 Sitting 203:9 situated 234:1,7 situation 221:4 222:7 225:25 size 204:6 236:9 skill 181:6,11 182:9 186:8, 16,20,25 196:17 197:11,19,25 198:8,12,21 199:6,10,18, 19 205:25 skin 187:22 219:7 small 214:4 215:7 smaller 182:22 236:16,22 237:2 smart 222:9 223:14 226:2 smartphone 223:5 software 224:17 solutions	216:12 sort 186:12 188:13 196:20 204:3, 16 208:23 210:15 212:18 235:6 sorts 236:1 source 200:10 204:9, 10,11 205:20 233:1 sources 218:14 space 237:8 speak 174:23 175:1 220:12 specialist 220:2 specific 178:14 181:9 190:20 191:12 199:2 219:3 specifically 179:25 181:6 182:12 184:18 185:23 205:2, 22 215:25 216:19 217:11 219:19 specification 185:10 187:18,20 202:24 205:20 206:1 213:25 215:7 216:8,
---	---	--	--	---

11,22 217:18 218:12,22 223:21 224:3, 12 235:8 specifies 204:18 spectra 201:14 speculate 221:18 spends 223:21 spent 205:20 spoke 226:16 229:1 stage 230:14 standard 198:15 208:23 start 176:22 177:11 227:10 starting 193:15 state 201:4 205:8 230:23 238:7, 11,14 stated 187:6 196:23 states 173:8 177:22 196:16 229:9 stenographer 174:3 175:13, 21 177:4 182:1 183:14	187:19 190:13 195:16 198:24 201:10,20 211:6 218:19 219:14 220:10 224:19 228:17,23 231:23 234:4 240:10,14 stenographic 174:5 strike 210:13 234:22 237:19,22 structure 192:4 196:19, 20 214:8 students 232:7 stuff 215:14 subject 228:11 subjective 216:18 submit 230:25 submitted 175:5 177:2 228:5,6 230:13,15 231:1 subsequent 196:7 subsequently 216:12 227:1 230:6 subset 182:18	subsets 182:21 substantial 188:21 substantially 177:24 178:5, 12,15,20,23 179:4,5,8,16, 22,25 180:6 181:18,20,22 182:5,11,16, 17,19,21 183:1,2,4,18 184:3,8 185:5, 15,18 188:10, 24 189:21,22, 25 192:19 200:6 207:17 236:6,16 substantive 230:24 successful 237:9 sufficient 213:4 suggest 179:6 187:6 200:11 suggestion 198:4 summary 229:15 supervise 232:8 suppose 202:20 229:24 supposed 222:1,2 225:21	surface 193:22 198:5 surprise 220:21 surprised 221:19,22,25 222:4,12 225:23 swear 174:2 sweat 232:20 system 206:2 233:8 237:1 T takes 198:13 239:16 taking 182:25 212:23 talked 200:4 217:25 talking 179:14 185:3 187:9,21 189:2 191:18 192:17 200:5, 14 202:4 203:16 210:19 223:22 talks 183:12 189:3 190:18 tattoo 232:22 teaches 198:13	teaching 194:2 197:11 teachings 214:19 teardown 208:16,20,25 222:11 226:4 teardowns 209:2 tears 232:21 technical 176:12 216:16 217:1 technician 175:10 technique 192:24 208:23 techniques 201:5 215:10 technology 233:13 television 186:12 tend 186:7 term 178:4 179:8, 25 180:22 182:19 184:4 187:1 202:16, 17,18 203:1,4, 6 215:15 terms 178:7,9 179:11 191:4 192:16 202:5, 6,11,23
--	---	--	--	--

test 238:24	232:11 235:13,16 236:6	translation 212:25	17,19,21 183:1,2,4,18 184:4,8,9 185:5,15,19 187:4 188:4, 11,24 189:22, 25 193:19 194:2 197:2, 12,13 207:17 218:13	ultraviolet 179:21 181:3, 17 183:20,25 184:19 185:16 188:16
testified 174:11 226:16 229:1 231:16	three-dimensional 212:8,22,23 214:7	transmission 233:2		unappealing 217:3
testify 174:18	throw 175:24 206:20	transmissive 178:22,25 179:3,20,21 188:8,19 189:21 196:12,13,20, 21 197:7 198:20,22 218:1,3 219:13,20		unclear 212:7 214:9
testimony 174:24 226:5, 19 231:12,21 234:22 240:8	time 173:11 176:6, 10 201:16,23 202:1 205:21 223:22 225:7, 11,13 238:17 240:20	transmissivity 188:21	Trial 173:9	understand 174:17 176:15 182:15 184:8 185:9 186:16 187:1 193:23 198:6,8,21 204:8 205:10, 17,19,25 213:15 214:13
text 214:4			truth 230:19	
textile 232:22			truthfully 174:18	
texts 214:8	times 173:16	transmit 198:22 222:24	turn 187:8,10 206:14 207:4	
textual 213:21	tissue 189:23 190:15 201:7	transmits 207:23	two-dimensional 211:19 212:25 214:7	understanding 178:4,15 191:24 201:6 203:11 205:9 206:8 212:13 213:17 215:13 229:7 236:25
thing 197:5 200:6	today 173:13 174:21 176:22 177:1 203:9 217:25 225:14 229:4	transmitted 189:16 196:10,18 198:23	type 191:12	understands 213:13
things 184:9,10,13 185:19 190:25 191:1 193:17, 18 197:18,20 199:15 203:11 212:10,24 218:23 234:19	today's 173:11 240:20	transmitter 237:1	types 183:24 184:15 218:14 223:6	understood 186:2,23 196:18
thought 211:24 217:2	top 209:24 233:23,25 234:12,16,17	transmitting 190:15 223:4	U	unit 194:8,9,17,23
threat-detecting 236:23	trade-offs 198:15 199:4	transparency 178:17 179:9 188:14 198:4	U.S. 176:25 206:23	United 173:8
threat-monitoring 237:7	Trademark 173:9	transparent 177:24 178:5, 12,15,17,20, 23 179:4,6,9, 16,22,25 180:6 181:15, 18,20,22 182:5,11,16,	Uh-huh 202:8	universe 182:22
threats	transcript 240:11,13		ultimately 216:13	untimely 228:4 230:14
			ultra 184:19	upset

221:13 222:4	240:19,20	warfare 237:13	window 178:23 179:4, 20 181:7 182:4 188:2,7, 20 193:7,12, 14 196:12,21 198:22 199:7, 8	writing 184:11
user 189:23 190:15 192:8,10,15, 16 196:1 216:4,20 218:8,11 223:2,7,14,20, 23	video- recorded 173:5	wavelength 180:15 181:17,24 182:22 183:3 185:3,6 201:7		written 229:24
user's 222:17	Vidwan 173:24	wavelengths 179:7,9 180:19,21 181:3,9,12 185:23 188:14 189:5 200:19 201:1,8,14 208:5,8	windows 193:19 194:3, 15,16 196:25 197:12,14,21 198:20 207:14,16,20 208:2,7 218:3, 13 219:13	Y
utility 223:14	view 180:22 223:2, 8	ways 206:16 223:23 224:1	wireless 223:7 233:2	yesterday 174:24 175:2 192:17 203:16 205:8 210:19 226:13 228:21 231:12
V	viewed 230:10	WCD 192:10	word 180:18 181:1, 3 182:7 186:22 203:24 217:19	Z
variable 193:19	viewing 230:2	wearability 216:9	words 178:15 184:13 185:10,21 203:9 219:19	Zervos 173:21
varying 178:16	visible 179:15,17,21 180:7,19 181:2,12,16 183:19,24 184:18 185:1, 15,25 186:8 188:16,25 189:5 201:14	wearable 177:16 192:10 199:3 204:17 220:13 231:13,22,25 232:10,16,19, 24 233:12,14 235:12,22 237:5	work 220:13 236:9, 11,25	
vascular 192:3	visual 217:8 239:14	wearing 195:8	worked 231:17	
vein 195:22 199:25 200:4,15,24 201:2,12	visualize 210:22	WEDNESDAY 173:1	working 227:6 236:16, 21	
vein-mapping 192:18	visually 216:19	white 238:1	worn 216:14 232:24	
veins 194:25 195:3, 4	W	widespread 233:12	wristband 232:25	
verify 217:16	Wang 231:24 232:1, 7 233:14,20			
versus 173:6	Wang's 234:2,8,14			
video 173:17 176:9 201:22 221:1 225:10	wanted 177:14 209:9			