

1 UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD 2 3 APPLE, INC.,)) 4 Petitioner,)) 5 vs.) Case No. IPR2024-00399) U.S. Patent No. 11,350,246 6 THL HOLDING COMPANY, LLC,)) 7 Patent Holder.) 8 9 10 11 12 13 VIDEOCONFERENCE DEPOSITION OF MARTIN J. FEUERSTEIN, PH.D. TAKEN ON BEHALF OF THE PETITIONER DECEMBER 11, 2024 14 VIDEOCONFERENCE DEPOSITION OF MARTIN J. 15 FEUERSTEIN, PH.D., produced, sworn, and examined on 16 the 11th day of December 2024, between the hours of 17 9:00 o'clock in the forenoon and 6:00 o'clock in the 18 evening of that date via Zoom videoconference, before 19 KARA D. INCE, a Certified Court Reporter within and 20 for the State of Missouri, in a certain cause now 21 pending UNITED STATES PATENT AND TRADEMARK OFFICE, 22 BEFORE THE PATENT TRIAL AND APPEAL BOARD, wherein 23 APPLE, INC., is the Petitioner and THL HOLDING 24 COMPANY, LLC, is the Patent Holder. 25	Page 1 1 APPEARANCES 2 For the Petitioner: 3 MS. JENNIFER C. BAILEY (via Zoom) ERISE IP, P.A. 4 7015 College Boulevard, Suite 700 Overland Park, Kansas 66211 5 jennifer.bailey@eriseip.com (913) 777-5600 6 For the Patent Holder: 7 MR. JOHN LEROY (via Zoom) 8 BROOKS KUSHMAN 150 West Second Street, Suite 400N 9 Royal Oak, Michigan 47067 jleroy@brookskushman.com 10 (248) 226-2754 11 The Court Reporter: 12 Ms. Kara D. Ince, RPR, CCR (via Zoom) Missouri CCR No. 1348 13 Lexitas Legal 1608 Locust Street 14 Kansas City, Missouri 64108 (816) 221-1160 15 16 17 18 19 20 21 22 23 24 25 Page 3
1 TABLE OF CONTENTS 2 EXAMINATION 3 Questions by Ms. Bailey 4 4 Questions by Mr. LeRoy 117 5 Questions by Ms. Bailey 121 6 7 EXHIBITS: 8 Exhibit No. 2002 Dr. Martin Feuerstein 9 Declaration 9 Exhibit No. 1001 U.S. Patent 11,350,246 14 10 Exhibit No. 1013 THL's Disclosure of Asserted 56 11 Claims and Infringement Contentions 12 13 CERTIFICATE OF REPORTER 126 14 ERRATA SHEET 127 15 SIGNATURE PAGE 128 16 17 18 19 20 21 22 23 24 25 Page 2	1 * * * * * 2 (The deposition commenced at 11:00 a.m.) 3 MARTIN J. FEUERSTEIN, PH.D., 4 of lawful age, being produced, sworn, and examined 5 on behalf of the Petitioner, deposes and says: 6 EXAMINATION 7 BY MS. BAILEY: 8 Q. Good morning, Dr. Feuerstein. 9 A. Good morning. 10 Q. Do you -- please, state your name and the 11 location where you currently are? 12 A. My name is Martin J. Feuerstein, and I'm 13 in Woodinville, Washington. 14 Q. Dr. Feuerstein, have you been previously 15 deposed? 16 A. Yes. 17 Q. Could you give me an approximation of how 18 many times you have been deposed? 19 A. I don't have an exact count. More than 20 10. 21 Q. Have you been deposed in an IPR before? 22 A. I was deposed yesterday for an IPR. 23 Q. Have you -- prior to yesterday, have you 24 been deposed for an IPR? 25 A. I've written IPR declarations before, but Page 4

Page 5 1 I don't believe I've been deposed on those from 2 my -- from my memory today. 3 Q. So your prior depositions were for a 4 litigation matter? 5 A. Yes. For a -- a civil litigation matters. 6 Q. And were they for patent matters? 7 A. I -- yes. Let me -- let me think back to 8 be sure. I think they were all patent matters. 9 Most, as an expert witness. I think I was a fact 10 witness for one case. 11 Q. So, as you know, we have a court reporter 12 today who is taking down everything that we say, so 13 we ask that you give verbal answers, as opposed to 14 nodding your head or shaking your head. 15 And do you agree with that? 16 A. Yes, I understand. 17 Q. Okay. I'm going to probably take a break 18 every hour just because I like to take a break, but 19 if at any point you would like to take a break, 20 please, just let me know. I'm happy to do so. I do 21 ask that you finish answering any question that has 22 been asked of you, and then we can take the break. 23 Does that work for you? 24 A. Yes, that sounds great. Thank you. 25 Q. And today, I'm probably going to ask some	Page 7 1 Both for the hard copies and the digital 2 electronic copies that you have, are they clean 3 copies without any notes, comments, or any other 4 type of matter on it, other than what's in the 5 original native file? 6 A. Yes, they're the original native files. 7 Q. Okay. Are there any email, chat services 8 open on your computer? 9 A. No. I closed my email when I -- once I 10 got out of the Zoom Bridge. So the only thing on my 11 computer is the Zoom and the file directory with the 12 binder material. 13 Q. So the PDF viewer? 14 A. Yeah, PDF -- well, I don't have the PDF 15 viewer up, but I have the -- the -- what -- 16 Explorer -- Windows Explorer with those files ready 17 to open. 18 Q. Okay. I understand. 19 And no paper notes, no Post-it's 20 surrounding you; is that correct? 21 A. No. No. 22 Q. So this matter that we are discussing 23 today is for IPR 2024-00399 regarding U.S. Patent 24 No. 11350246. 25 Is that also your understanding?
Page 6 1 poorly worded questions. If you at any point don't 2 understand my question, just let me know, and I'm 3 happy to rephrase. 4 A. Okay. I will do that. 5 Q. So if you answer my question, I'll assume 6 that you understand my question. 7 Is that also good for you? 8 A. Yes, that's fair. 9 Q. And is there any reason today why you 10 cannot provide truthful and accurate testimony in 11 this proceeding? 12 A. No. 13 Q. So your counsel and I arranged, prior to 14 this proceeding, for you to have a copy of all of 15 the materials for this particular matter. 16 Do you have a hard copy of all those 17 materials with you today? 18 A. Yes. I have on the floor next to me, two 19 binders with hard copy. On my laptop, I also have 20 PDF copies, and I've got a directory open with what 21 is -- I believe is, essentially, the same material 22 in the binder as PDF. My preference is to work from 23 the PDFs, if that is amenable. 24 Q. That works for me. I'm fine if you use 25 the PDF electronic copies.	Page 8 1 A. Yes, that agrees with my understanding. 2 Q. Okay. And we -- 3 MS. BAILEY: Actually, John, I haven't 4 discussed this with you, but are you comfortable 5 that when we identify an exhibit number, we use the 6 exhibit number from the IPR proceeding, and then we 7 identify the papers, for example, by saying: "The 8 petition" or the "Patent Owner Responds"? Are you 9 good with that nomenclature? 10 MR. LeROY: Yeah, that's fine. 11 MS. BAILEY: Okay. Thank you, John. 12 BY MS. BAILEY: 13 Q. So, Dr. Feuerstein, same question to you, 14 I'm going to refer to different exhibits today and, 15 possibly, different papers in the IPR. I will 16 identify them by the exhibit number that is used in 17 the IPR or the paper number that is used in the IPR, 18 and, of course, give you time to pull it up on your 19 computer. 20 Is that fair and work for you? 21 A. Yes, it does. 22 Q. Thank you. 23 Could you go ahead and pull out 24 Exhibit 2002, which is your declaration that you 25 submitted in this proceeding, and let me know once

Page 9 1 you have it out. 2 (Deposition Exhibit No. 2002 was marked 3 for identification.) 4 A. Okay. I have my -- my declaration from 5 the 399 IPR. 6 BY MS. BAILEY: 7 Q. Okay. So just to confirm, this is the 8 declaration that you submitted in this IPR for the 9 '246 Patent; is that correct? 10 A. Yes. 11 Q. So if I refer to this as "your 12 declaration" or "Exhibit 2002," do you understand it 13 to be this Exhibit 2002 document that we are 14 discussing? 15 A. Yes, I do. I'm aware that I've done 16 another declaration in the -- in the district court 17 case, so if you refer to that, I'll assume you 18 refer -- you'll refer to that under separate naming. 19 Q. Agreed. If I refer to a different 20 declaration, other than this Exhibit 2002 in this 21 399 IPR, I'll make sure that I clearly identify, 22 but, again, of course, if you have any questions, 23 let me know. 24 A. I will. 25 Q. Are the opinions in your declaration still	Page 11 1 deposition? 2 A. Yes. 3 Q. Can you give me an approximation of how 4 much time you spent? 5 A. Roughly, about 15 hours rereading material 6 and preparing. 7 Q. Did you review any documents in preparing 8 for this deposition? 9 A. Yes, I re- -- reviewed the main documents 10 relative to 399, so my declaration, Dr. Beuhrer's 11 report, Apple's petition, the participants both the 12 Howard Patent '246, and the Dr. Beuhrer's report, 13 Apple's petition, the patents that -- both the 14 Howard Patent '246 and asserted prior art. 15 Q. Could you, please, pull out the petition, 16 pa- -- which is Paper 1 in this proceeding. 17 A. Okay. I have Apple's petition in 399. 18 Q. If you turn to towards the end of the 19 petition, approximately six pages from the end -- 20 unfortunately, there's not a page number on it -- 21 but I want you to turn to the Appendix of Exhibits 22 at the end of the petition. 23 A. Okay. I'm at a section titled, Appendix 24 of Exhibits with a table. 25 Q. So do you see that there are exhibits
Page 10 1 the opinions you have today? 2 A. Yes. 3 Q. There are no errors or changes that you 4 would like to make in your declaration? 5 A. No, I'm not aware of any errors, and there 6 are no changes that I would make. 7 Q. Did you prepare this declaration? 8 A. Yes, I did. I have a fairly customary 9 process when I pick -- prepare -- prepare reports or 10 declarations. I'll, initially, put together notes, 11 I may augment those several times, create a first 12 draft of the declaration, and then work through, for 13 example, with the legal team getting the legal 14 aspects included. 15 Q. How many hours did you prepare -- or how 16 many hours did you spend in preparing this 17 declaration? 18 A. I don't have an exact number in -- in 19 front of me, but I -- I was working on two 20 declarations in IPRs, so 398 and 399, over the same 21 general time period. My recollection is 70- to 22 80 hours combined for those two IPRs, and I -- 23 declarations -- and I did not kind of break out 24 between the two. I mean, roughly, split equally. 25 Q. You spend any time preparing for this	Page 12 1 coming from 1001 to Exhibit 1045? 2 A. Yes, I see the table is over that range. 3 Q. Have -- at any point, have you reviewed 4 all of the Exhibits 1001 through 1045? 5 A. I have looked at the exhibits in the 6 table. I have not reviewed all of them in detail 7 because they weren't as directly relevant to my 8 declaration, and -- so I reviewed them in different 9 levels of detail. 10 Q. I believe earlier, you said you had 11 reviewed the petition, which is the document you're 12 currently looking at; is that correct? 13 A. Yes, that's correct. 14 Q. Are you aware that THL filed what's called 15 Patent Owner Preliminary Response to this 16 proceeding? 17 A. I believe I do have that in my records. 18 Q. Okay. Have you reviewed the Patent Owner 19 Preliminary Response? 20 A. I have reviewed that, not recently in 21 preparation for this deposition. 22 Q. Are you aware that the board issued what's 23 called an institution decision in this proceeding? 24 A. Yes, I am. 25 Q. Have you reviewed the institution

1 decision? 2 A. Yes, I reviewed the institution decision. 3 Q. Did you review the institution decision in 4 preparation for your deposition today? 5 A. I reviewed it in detail when preparing my 6 declaration. I did take a quick look at it in 7 preparation for this deposition. 8 Q. And are you aware that THL has filed a 9 Patent Owner's Response to the petition in this 10 proceeding? 11 A. Yes, I am aware of that. That's in the -- 12 the binder of materials that I have, and I have 13 looked at that. 14 Q. So just to confirm, you have reviewed the 15 Patent Owner's Response to petition? 16 A. Yes. 17 Q. Do you agree with all of the statements 18 and arguments in the Patent Owner's Response to 19 petition? 20 A. I would have to take a -- a detailed look 21 at that sort of line by line. You're asking a broad 22 general question, so I can't say today that I agree 23 with every single statement in there without 24 reviewing it in detail. 25 Q. Could you pull out what is identified as	1 question? 2 Q. Sure. 3 Is the claim directed to a mobile 4 communication device? 5 A. Yes. The claim starts with the wording, A 6 mobile communication device comprising. 7 Q. And does the mobile communication device 8 include a plurality of wireless transceivers? 9 A. Yes. That's the -- the next -- part of 10 the next limitation of the claim. 11 Q. And you agree that Claim 11 recites that 12 the mobile communication device includes a memory? 13 A. Yes, subsequent limitations as a memory. 14 Q. And you agree that Claim 11 recites that 15 the mobile communication device includes a 16 touchscreen? 17 A. Yes, the subsequent limitation is a 18 touchscreen. 19 Q. And do you agree that Claim 11 recites 20 that the mobile communication device includes an 21 orientation sensor? 22 A. Yes, next limitation is an orientation 23 sensor to detect rotation of the mobile 24 communication device. 25 Q. Do you agree that the mobile communication
1 Exhibit 1001, which is the '246 Patent. 2 (Deposition Exhibit No. 1001 was marked 3 for identification.) 4 A. Okay. I have the '246 Howard Patent. 5 BY MS. BAILEY: 6 Q. So just so that we're clear, this is U.S. 7 Patent No. 11350246? Is that your understanding? 8 A. Yes, that's how it's labeled. 9 Q. And if I refer to this document, 10 Exhibit 1001, as the "'246 Patent," are you good 11 with that nomenclature and -- 12 A. Yes, I am. Yes. 13 Q. Sorry. I spoke over you there. 14 A. Yes. 15 Q. And are you aware that this '246 Patent is 16 the subject of this IPR proceeding? 17 A. Yes. 18 Q. And you have reviewed the '246 Patent? 19 A. Yes. 20 Q. Could you, please, turn to Claim 11 of the 21 '246 Patent? It's on Column 39. 22 A. Okay. I'm at Claim 11. 23 Q. Can you tell me what Claim 11 is reciting? 24 A. Are you asking for a summary of the claim 25 and all of the limitations? Could you clarify the	1 device recites processor? 2 A. Yes, the next limitation is a processor. 3 Q. And do you agree that that processor 4 causes a series of steps to be performed, per the 5 claim? 6 A. Yes, the limitation says, A Processor 2, 7 colon, and then there's a subsequent list of actions 8 that are performed. 9 Q. Let's go back up to the top of Claim 11, 10 do you see the first limitation that begins, A 11 plurality of wireless transceivers? 12 A. Yes. 13 Q. Could you, please, read that limitation to 14 yourself? 15 A. Okay. 16 Q. This is -- does this limitation recite a 17 housing of the mobile communication device? 18 MR. LeROY: Objection to the form of the 19 question. 20 A. What do you mean by "housing"? I mean, an 21 electronic's products or devices, there can be 22 different meanings for housing and enclosure. 23 Can you clarify the question? 24 BY MS. BAILEY: 25 Q. You just used the term "enclosure."

Page 17 1 What do you mean by "enclosure"? 2 A. In electronic devices, it may be common to 3 have some- -- something that surrounds the 4 electronics, the circuit boards, those can be an 5 enclosure. There could be internal or external 6 enclosures. 7 Q. What would you consider an internal 8 enclosure? 9 A. You're asking a very general question, so 10 not in the context of the '246 Patent in Claim 11. 11 There are many different types of electronics 12 devices that a POSITA would understand at the time 13 of the invention. Some are complex enough or have 14 requirements that might have an electronic's circuit 15 board or an electronic component enclosed in some 16 kind of a enclosure. It could be, for example, 17 metal or plastic or some other material. And, then, 18 there might be multiple, perhaps, of those 19 enclosures inside. They may be a larger enclosure 20 that holds the -- the complete device. 21 MR. LeROY: Objection. Scope. 22 BY MS. BAILEY: 23 Q. What would you call an enclosure that 24 holds the complete device? 25 MR. LeROY: Same objection.	Page 19 1 a mobile communication device. 2 Do you still agree with that statement? 3 A. Yes, Claim 11 says, A mobile 4 communications device -- or "communication," so 5 singular device. 6 Q. For a mobile communication device, such as 7 recited in Claim 11, what would you describe an 8 enclosure that holds the complete device? 9 MR. LeROY: Objection. Scope. 10 A. Again, I don't have a particular name. 11 You know, I've been in the wireless 12 communications/mobile communications industry for 13 many years. There are many different kind of names 14 that could be used, depending on the -- the context 15 or the preferences of the industry segment or the 16 parties involved. 17 BY MS. BAILEY: 18 Q. So you don't know what a mobile 19 communication device is recited in Claim 11, the 20 enclosure that holds the complete device, would be 21 called; is that correct? 22 A. No -- no, I don't agree with that 23 statement. There -- I said there are many different 24 possible naming conventions, depending on the -- 25 maybe the industry segment, the parties involved in
Page 18 1 A. There might be many names for an enclosure 2 that holds a complete device. If you're asking a 3 general question, so in different forms of products 4 or electronics, there could be a -- could be many 5 different names for that. 6 BY MS. BAILEY: 7 Q. For a mobile communication device, what 8 would you call an enclosure that holds the complete 9 device? 10 A. Could you ask the question again? 11 Q. Sure. 12 For a mobile communication device, what 13 would you call an enclosure that holds the complete 14 device? 15 MR. LeROY: Same objection. 16 A. There are a broad range of mobile 17 communications devices of many, many different 18 types, from phone-type devices to Internet of 19 Things-type devices -- to much larger devices. 20 Those -- those might have a variety of different 21 names, depending on the particular, for example, 22 industry segment or particular preferences for how 23 to name things in a particular setting or scenario. 24 BY MS. BAILEY: 25 Q. Earlier, you agreed that Claim 11 recites	Page 20 1 developing or producing a mobile communication 2 device. 3 Q. What would be one example of a naming 4 convention to call the mobile communication device 5 of Claim 11, and, specifically, the enclosure that 6 holds the complete device? 7 MR. LeROY: Objection to the form of the 8 question, and scope. 9 A. You're asking a -- a broad, general 10 question about naming. I don't recall in my 11 declaration providing any opinions related to that. 12 I don't recall in Dr. Beuhrer's report or Apple's 13 petition. 14 Is there something in particular that you 15 can point me to? And I'm glad to take a look at it. 16 BY MS. BAILEY: 17 Q. Previously, you said that you were 18 familiar with the '246 Patent; is that correct? 19 A. Yes. 20 Q. Have you read the entirety of the '246 21 Patent? 22 A. I have. If there's a particular 23 section -- I've read a lot of material in this 24 matter -- if there's a particular paragraph or 25 section that you'd like me to take a look at, I'm

Page 21 1 happy to do that. 2 Q. Could you, please, turn to Column 30 of 3 the '246 Patent. 4 A. Okay. I'm at Column 30. 5 Q. Please, read the paragraph that includes 6 Column 30, Line 7 through 14. So the paragraph 7 actually begins on Column 29. Feel free to read the 8 entirety of that paragraph to yourself, please. 9 (Witness is reviewing document.) 10 A. I'm referring to Figure 33 that's 11 referenced in that paragraph. 12 Okay. I've reviewed that paragraph and 13 looked at the referenced figure. 14 BY MS. BAILEY: 15 Q. Do you see that that paragraph refers to 16 Wireless Communication Device 300? 17 A. I see that the paragraph starts 18 referencing Figure 33, and then pre- -- it says, It 19 presents a schematic block diagram of a Handheld 20 Wireless Communication Device 300. 21 Q. Is Wireless Communication Device 300 an 22 example of the mobile communication device recited 23 in Claim 11? 24 MR. LeROY: Objection to the form of the 25 question.	Page 23 1 Device, that will list 100 -- 100 Prime, 101, 103, 2 comma, within a single housing. 3 Q. Would you call an enclosure that holds the 4 complete device -- the complete mobile communication 5 device a housing? 6 MR. LeROY: Same objection. 7 A. As I said in answering some of your 8 previous questions, housing can have different 9 meanings in various electronics, products, devices. 10 So, you know, there might be various names, various 11 sort of configurations of products that -- that 12 could -- that could apply. 13 MR. LeROY: And I'm sorry, I was on mute. 14 I had objected to the form of the question. Scope. 15 BY MS. BAILEY: 16 Q. I'm using the language of the '246 Patent 17 that were -- sorry -- or that describes a housing at 18 Column 30, Line 11. 19 Do you understand that's what I'm 20 referring to when I referred to "a housing"? 21 A. Yes, I understand that you're referring to 22 this '246 Patent, Column 30, Line -- approximately, 23 Line 11. I see what the specification says, within 24 a single housing. Yeah, that I haven't rendered an 25 opinion in my declaration.
Page 22 1 A. It's possible that it could be. I don't 2 recall presenting an opinion on that in my 3 declaration. I would have to look at -- again, I've 4 reviewed in detail the '246 Patent. It's a long 5 patent specification. I've reviewed a lot of 6 material for this. To render a specific opinion, 7 I'd want to look at the -- the complete context of 8 the patent specification, the claims, the file 9 history to give an informed answer to that. 10 BY MS. BAILEY: 11 Q. Referring to the '246 Patent, Column 30, 12 Line 11, do you see that that sentence that 13 surrounds that column and line number I just gave 14 you, refers to a wireless communication device 15 within a single housing? 16 A. I see that those lines say, Wireless 17 Communication Device 110, an Adjunct Device 100. 18 "100," with a prime, like, asterisk -- not asterisk, 19 but a apo- -- single apostrophe -- '101 and '103 20 within a single housing, yes, I see that. 21 Q. Do you understand this to describe that 22 the Wireless Communication Device 300 is within a 23 single housing? 24 A. I see that the specification says, 25 Wireless Communication Device 110 and Adjunct	Page 24 1 If there's something in Dr. Beuhrer's 2 report or Apple's petition that you'd like to point 3 me to, but to -- I mean, anything beyond that, I'd 4 want to kind of research and understand the full 5 context. And as I said, there are -- in some cases, 6 you're asking general questions about specific 7 terminology, so I'd want to give an informed answer. 8 Q. What would you understand the structure of 9 the housing being as described in Column 30, 10 Line 11? 11 MR. LeROY: Same objection. 12 A. As I've answered some of your previous 13 questions, now, you're asking about structure of 14 housing, there are many different types of housing, 15 structures of housing, for various different 16 electronic products that could be wireless 17 communications devices, so I need to understand more 18 about the context and what you mean by -- by 19 "structure." 20 BY MS. BAILEY: 21 Q. So mobile communication device, as recited 22 in Claim 11, come in various different 23 configurations. 24 Would you agree with that? 25 A. What do you mean by "configurations"?

Page 25 1 There -- in -- in the electronics industry, wireless 2 communications, in particular, the word 3 "configurations" means many different things; 4 software configurations, electronics hardware 5 circuit configurations. 6 What is -- what does the question mean -- 7 or mean to ask? 8 Q. Dr. Feuerstein, my question used the word 9 "configuration" because that's what your answer 10 used. You used the word "configuration," so what do 11 you think "configuration" means in your prior 12 answer? 13 A. Uh-huh. My prior answer, I was talking 14 about the products having many different possible 15 implementations that could include, you know, 16 configurations, which might be, if your -- I believe 17 your prior question was about -- related to 18 housings -- there might be many different 19 implementations that could have various types of -- 20 of housings, inner and outer, they could be composed 21 of different things, and, perhaps, interconnected in 22 different ways. 23 Q. Can you give me an example of a 24 configuration of a housing for a mobile 25 communication device, as recited in Claim 11?	Page 27 1 housing for the mobile communication device? 2 A. When I read Claim 11, you asked, Does it 3 recite housing? I do not see the word "housing" in 4 Claim 11. Whether that's implied directly or 5 indirectly by some elements of the claim, I would 6 have to research that. That's not something that I 7 provided an opinion on in my declaration. 8 And, again, if you -- if you wanted to 9 point me something -- to point me to something in 10 Dr. Beuhrer's report or elsewhere, I'd be happy to 11 look at it. 12 Q. Can you turn to Claim 11 of the '246 13 Patent? 14 A. Yes, I'm at Claim 11. 15 Q. Do you see the limitation that recites an 16 orientation sensor to direct rotation of the mobile 17 communication device? It's at Column 39, Lines 13 18 through 14. 19 A. Yes, I see that limitation. 20 Q. Can you give me an example of an 21 orientation sensor, as recited in Claim 11 of the 22 '246 Patent? 23 MR. LeROY: Objection to form. 24 A. In one example from the '246 Patent 25 specification, is that Column 28, Lines 33
Page 26 1 MR. LeROY: Objection to the form of the 2 question. 3 A. As I've said in my declaration in this 4 IPR, I didn't render an opinion related to housings 5 or single housing. 6 If there's something that you'd like to 7 point me to in Dr. Beuhrer's declaration or the 8 Apple petition or some of the other material in the 9 record, I'd -- I'd be happy to take a look at that. 10 BY MS. BAILEY: 11 Q. So you cannot provide me a single example 12 of a mobile communication device's housing, as 13 recited in Claim 11, and, specifically, the 14 configuration of that housing? Is that correct? 15 MR. LeROY: Objection to the form of the 16 question. Scope. 17 A. I certainly could provide specific 18 examples, but, again, I didn't provide an opinion on 19 that in my declaration. I would want to provide an 20 informed answer and review the relevant material, 21 certainly, in the '246 Patent in detail, in relation 22 to the question that -- that you asked, to give an 23 appropriate answer. 24 BY MS. BAILEY: 25 Q. Does Claims 11 of the '246 Patent recite a	Page 28 1 through -- actually, 32 through 34, where the 2 specification says, It should be noted that the 3 Handheld Wireless Communication Device 110 can 4 include an internal compass that generates an 5 indication of its own orientation. 6 BY MS. BAILEY: 7 Q. Is a compass the only example of an 8 orientation sensor that is covered by Claim 11? 9 MR. LeROY: Objection to the form of the 10 question, and scope. 11 A. In my declaration, I don't recall 12 rendering an opinion on that. If there's something 13 in Dr. Beuhrer's report or elsewhere that you'd like 14 to point me to. But, in general, the claim -- 15 claims are the claim -- the claim is the claim, and 16 there can be other possible embodiments based on 17 the -- the claim language. 18 BY MS. BAILEY: 19 Q. What's an example of another possible 20 embodiment, based on the claim language, for the 21 recited orientation sensor in Claim 11? 22 MR. LeROY: Objection to the form of the 23 question. 24 A. In my declaration, I don't recall 25 rendering an opinion on other possible orientation

Page 29 1 sensors. There are many, many different types of 2 sensors that are used in electronic devices that may 3 be able to -- to be categorized as orientation 4 sensors. 5 If there's something you'd like to point 6 me to, again, in Dr. Beuhrer's report or Apple's 7 petition, I'd be happy to take a look at that. 8 BY MS. BAILEY: 9 Q. You just answered that the orientation 10 sensor recited in Claim 11, that there were other 11 possible embodiments based on the claim language of 12 the orientation sensor. I'm trying to understand 13 what those other possible embodiments are that you 14 referenced. 15 So can you, please, tell me another 16 possible embodiment of the orientation sensor, as 17 recited in Claim 11? 18 MR. LeROY: Objection to the form of the 19 question. Scope. 20 A. As I said, I don't recall providing an 21 opinion on that in my declaration. It -- if there's 22 something specific in Dr. Beuhrer's report or 23 Apple's petition that you want to point me to, but 24 I'm aware that -- an POSITA that would be aware that 25 there are different types in the industry of	Page 31 1 petition, otherwise, you know, I'm aware and a 2 POSITA would be aware at the time of the invention, 3 that that there are many different types of sensors, 4 some of which would -- could be categorized as 5 orientation sensors. 6 BY MS. BAILEY: 7 Q. Could you give me an example of an 8 orientation sensor of which you are aware or a 9 POSITA would be aware at the time of the invention? 10 MR. LeROY: Same objection. 11 A. Could you ask the question again? 12 BY MS. BAILEY: 13 Q. Could you give me an example of an 14 orientation sensor that you are aware of or that a 15 POSITA would be aware of at the time of the 16 invention? 17 A. I believe I answered that previously when 18 I referenced the sections of the -- or the passages 19 from the '246 specification regarding a compass. 20 Q. So is it -- is it your opinion that a -- 21 you are only aware of -- and a POSITA would only be 22 aware of -- a compass that is an example of an 23 orientation sensor? 24 A. No, that is not my opinion. As I said, I 25 don't believe I provided opinion on, for example,
Page 30 1 sensors, and some of those could be categorized as 2 orientation sensors. 3 BY MS. BAILEY: 4 Q. So your opinion today is that you have no 5 example of an orientation sensor, as recited in 6 Claim 11, except for a compass; is that correct? 7 MR. LeROY: Objection to form. 8 A. As I said, I don't recall having an 9 opinion on that in my declaration. 10 If there's something specific that you 11 want to point me to, Dr. Beuhrer's report or Apple's 12 petition or elsewhere, I'm glad to take a look at 13 that. Yeah, so that would be my -- my answer. 14 BY MS. BAILEY: 15 Q. And you can't formulate an opinion today 16 regarding an example of a type of orientation 17 sensor, as recited in Claim 11, except for the 18 compass that we have already discussed? 19 MR. LeROY: Same objection. 20 A. No, that -- yeah, no, I -- that's not what 21 I said. 22 I said I don't recall having an opinion -- 23 stating an opinion on that in my declaration. 24 If you want to point me to something in -- 25 specific in Dr. Beuhrer's declaration or Apple's	Page 32 1 other orientation sensors in my declaration. 2 If there's something you want to point me 3 to in Dr. Beuhrer's declaration or Apple's petition, 4 I'm happy to take a look at that. But a POSITA -- 5 POSITA, at the time of the invention, would be aware 6 that there are many different types of sensors, some 7 of which could be categorized as orientation 8 sensors. 9 Q. What is an example of a sensor -- of an 10 orientation sensor, as recited in Claim 11? 11 A. I believe I answered that earlier when I 12 quoted the passage from '246 in relation to a 13 internal compass, and I've mentioned that there are 14 many -- at the time of the invention, there are many 15 different types of sensors, some of which could be 16 categorized as orientation sensors, and a POSITA, at 17 the time of the invention, would understand that. 18 I did not, in my declaration, render an 19 opinion about specific other orientation sensors. 20 If there's something you'd like to point me to in 21 Dr. Beuhrer's declaration or Apple's petition, I'm 22 happy to take a look at that. 23 Q. Dr. Feuerstein, it sounds to me like you 24 can't give me a single example, beyond a compass, of 25 a type of sensor that could be categorized as an

Page 33 1 orientation sensor. 2 Is that a fair understanding of your 3 answer? 4 MR. LeROY: Objection to the form of the 5 question, and scope. 6 A. No -- no, I don't believe that's a -- at 7 all, a fair characterization of my answer. 8 At various times, you've asked for an 9 example, I've provided an example from the 10 specification. I've said that in my declaration, I 11 didn't provide opinions on other specific 12 orientation sensors, but a POSITA, at the time of 13 the invention, would be aware -- there are many, 14 many different types of sensors, some of which could 15 be categorized as orientation sensors. 16 BY MS. BAILEY: 17 Q. What is an example of a sensor that could 18 be categorized as an orientation sensor at the time 19 of the invention, beyond the compass that we have 20 already discussed? 21 MR. LeROY: Objection to the form of the 22 question. Out of scope. 23 A. I believe I've answered that question. 24 I've -- I've described that in my declaration, I 25 didn't provide an opinion on specific other	Page 35 1 an indication of its own orientation, you know, as 2 being one -- one embodiment among what could be 3 other embodiments as well. 4 BY MS. BAILEY: 5 Q. Dr. Feuerstein, you just referenced "other 6 embodiments as well." 7 Can you give me one example, beyond the 8 compass, of another embodiment that would satisfy 9 the orientation sensor recited in Claim 11? 10 A. I believe I've answered that, that by my 11 declaration, I didn't provide a specific opinion 12 about orientation sensors, other than compass, that 13 would -- would meet the limitation of Claim 11. But 14 a POSITA would understand, at the time of the 15 invention, that there are many different possible 16 sensors, many different products, for example, off 17 the shelf, chips or other components that are 18 sensors, some of which that could be -- could be 19 categorized as orientation sensors in the context 20 of -- of Claim 11. 21 Q. So you understand my question regarding 22 orientation sensors to be within the context of 23 Claim 11 and it's recitation of an orientation 24 sensor; is that correct? 25 A. Could you help me clarify? You've asked a
Page 34 1 orientation sensors, but a POSITA, at the time of 2 the invention, would be aware that there are many 3 different types of sensors, which under various 4 context, could be categorized as orientation 5 sensors. 6 BY MS. BAILEY: 7 Q. So you have no opinion as to whether any 8 other orientation sensor, except for a compass, 9 satisfies the orientation sensor recited in 10 Claim 11; is that correct? 11 MR. LeROY: Objection to the form of the 12 question. 13 A. No, that's not correct. You've asked a -- 14 a general question about other sensors, whether a 15 particular sensor meets the claim limitation of 16 Claim 11, for an orientation sensor to detect 17 rotation of the mobile communication device. It 18 depends on the -- on the context and the use of that 19 sensor. 20 Let me refer to something in the 21 specifications. Just a second. 22 And, you know, the example from the 23 specification that I cited at Column 28, Lines 32 24 through 34, talks about one example, and gives a bit 25 of context about the internal compass that generates	Page 36 1 whole series of questions; some in specific relation 2 to Claim 11, some that seem to be more general 3 questions. 4 Can you provide a specific -- specific 5 question in relation to the question -- or the claim 6 or not? 7 Q. Within the context of an orientation 8 sensor, as recited in Claim 11, can you give me an 9 example of an orientation sensor, again, as recited 10 in Claim 11, other than a compass? 11 MR. LeROY: Objection to the form of the 12 question. Scope. 13 A. As I've answered several times, I didn't 14 provide a specific opinion about other orientation 15 sensor components or products that would -- that 16 would meet Claim 11, this particular limitation, but 17 a POSITA, at the time of the invention, would 18 understand that there are many different sensors 19 that are available, various components that -- that 20 could be -- could be used and under certain 21 conditions, could be categorized as orientation 22 sensors in the context of Claim 11. 23 BY MS. BAILEY: 24 Q. So, as we sit here today, you have only 25 provided an example of a compass that is an

Page 37 1 orientation sensor, as recited in Claim 11. 2 Do you agree with that statement? 3 MR. LeROY: Objection to the form of 4 the -- 5 A. I provi- -- I provided an example from the 6 specification of '246 in relation to a compass, and 7 I've stated that a POSITA, at the time of the 8 invention, would understand that there are many 9 different types of sensors that are available, many 10 different components, some of which could be 11 categorized as orientation sensors in the context of 12 Claim 11, the particular limitation that -- that 13 we're discussing. 14 BY MS. BAILEY: 15 Q. Are there any other sensors described in 16 the '246 Patent that would meet the orientation 17 sensor limitation recited in Claim 11, other than 18 the compass that we have been discussing? 19 A. I would want to take a look through the 20 specification, so just give me a moment. 21 (Witness is reviewing document.) 22 A. The '246 specification that I find here 23 today provides, in addition to the description of 24 the internal compass, descriptions of the 25 orientation sensor and how it's used, what it	Page 39 1 Sensor 264? 2 A. Yes, I do. 3 Q. Can you give me an example of 4 Position/Orientation Sensor 264? 5 MR. LeROY: Objection to the form of the 6 question. 7 A. I didn't provide an opinion or particular 8 example in my declaration related to 9 Position/Orientation Sensor 264. I didn't need to 10 to support my opinions in the declaration. I'm -- 11 I'm happy to -- to look at something in 12 Dr. Beuhrer's declaration or Apple's petition or 13 elsewhere to review that. Otherwise, to provide an 14 example of that particular Position/Orientation 15 Sensor 264, I'd want to -- to research that and 16 provide an -- an informed example and opinion. 17 BY MS. BAILEY: 18 Q. Dr. Feuerstein, do you agree that your 19 declaration sets forth opinions regarding the 20 patentability or unpatentability of certain claims 21 of the '246 Patent? 22 A. Is there a particular paragraph or section 23 of my declaration that you could point me to? 24 Q. Do you understand that this IPR proceeding 25 addresses the patentability or unpatentability of
Page 38 1 provides. For example, at Column 26, Lines 23 2 through about 28, the specification says, for 3 example, Position/Orientation Sensor 264 generates 4 position and/or orientation signals corresponding 5 to, for instance, x, y, and z-axis translations and 6 roll, pitch, and yaw axis orientations of the 7 Handheld Device 256. 8 Another example would be at Column 25, 9 Lines 34 through 37, the specification teaches 10 further changes of orientation, such as rotation of 11 the Handheld Device 256, about roll, pitch, or yaw 12 axis can be detected and used to adjust the 13 orientation of the screen pointer. 14 So the specification teaches about the 15 orientation sensors, and, for example, what types of 16 detection that they do -- can do, what types of -- 17 of outputs that they might have. 18 So in addition to the example of the 19 compass, there may be other examples in the 20 specification, but I don't find those right here 21 today. 22 BY MS. BAILEY: 23 Q. Referring to the '246 Patent, Column 26, 24 Lines 23 through 27 that you just referenced, do you 25 see there that it refers to, Positions/Orientation	Page 40 1 certain claims of the '246 Patent? 2 A. Yes. As I stated in Paragraph 3 of my 3 report, I studied and provided opinions on the 4 technology claim and the patentability of certain 5 claims of the '246 Patent. 6 Q. Could you, please, turn to your 7 declaration, Exhibit 2002, Paragraph 18. 8 A. Yes, I'm at Paragraph 18. 9 Q. Do you see the second sentence begins, In 10 particular, I have been asked to consider what a 11 person of ordinary skill in the art would have 12 understood from the claims and specifications of the 13 '246 Patent? 14 A. Yes, I see that. 15 Q. Do you understand the scope of Claim 11 of 16 the '246 Patent? 17 A. Yes. As I said in Paragraph 28 of my 18 declaration, I understand that, for example, 19 Obviousness is based on the scope and context of the 20 prior art, differences between the prior art and the 21 claim, the level of ordinary skill in the art, just 22 to paraphrase that -- so, yes, I understand the 23 scope of Claim 11 and the prior art. 24 Q. And you understand what a person of 25 ordinary skill in the art would have understood from

Page 41 1 the claims of the '246 Patent, including Claim 11; 2 is that correct? 3 A. Yes, I understand, and provided opinions 4 about what a POSITA, at the time of the invention, 5 would understand as the scope. 6 Q. And you understand what a person of 7 ordinary skill in the art would have understood from 8 the specifications of the '246 Patent -- and, 9 actually, before you answer that, let me rephrase my 10 question, please. 11 You have provided opinions on what a 12 person of ordinary skill in the art would have 13 understood from the specifications of the '246 14 Patent; is that correct? 15 MR. LeROY: Objection to form. 16 A. In my declaration, for example, at 17 Paragraph 22, I provided the level of skill for a 18 POSITA where I adopted Dr. Buehrer's definition for 19 that, and my opinions are based on what a POSITA 20 would understand from the '246 specification, from 21 the claims, from the file history at the time of the 22 invention. 23 THE WITNESS: And we've been going for 24 about an hour. 25 Would -- it would be a good time for a	Page 43 1 with linear motion. 2 I didn't render a specific opinion in my 3 declaration related to displacement over time. If 4 there's something in my declaration or Dr. Buehrer's 5 declaration or elsewhere that you'd like to point me 6 to for specifics, I'd be glad to take a look at it. 7 BY MS. BAILEY: 8 Q. How would you define displacement over 9 time in the context of linear motion? 10 A. Again, you've asked -- 11 MR. LeROY: Same objection. Sorry. 12 A. Again, you've asked a very general 13 question. There's a lot of context related to 14 physics that can -- could affect how you interpret 15 or measure linear motion or displacement. 16 You know, one possible definition, if you 17 will, of "displacement" would be, you know, for 18 example, the distance between a starting location 19 and an ending location. There -- other possible 20 measurements or definitions, depending on the 21 context in physics. Again, physics is a extremely 22 broad topic. 23 I don't think I rendered an opinion on 24 that in my declaration, but if you want to point to 25 something there or Dr. Buehrer's declaration or
Page 42 1 break, if that's okay with you. 2 MS. BAILEY: Sure. Let's go off the 3 record. 4 (A recess was taken from 12:17 p.m. to 5 12:27 p.m.) 6 BY MS. BAILEY: 7 Q. Dr. Feuerstein, are you familiar with the 8 concept of linear motion in physics? 9 A. Yes, in general, I'm familiar with the 10 concept of linear motion in relation to physics. 11 Q. What is linear motion in physics? 12 A. At the highest level, it would be general 13 movement along a line or axis. 14 Q. So in linear motion, if we assume a 15 starting point of an object, is the linear motion 16 the displacement of that object from the starting 17 point over a given time interval? 18 MR. LeROY: Objection to form. 19 A. You've asked a very general question 20 about -- about physics, and there can be a lot of 21 context to it. You know, one example related to 22 linear motion could be a -- the displacement or 23 movement over time. So, for example, you know, 24 meters per second, like a velocity. There could be 25 other -- you know, other metrics associated with --	Page 44 1 elsewhere, I'm happy to take a look at it. 2 BY MS. BAILEY: 3 Q. Are you familiar with the concept of 4 rotational motion in physics? 5 A. Yes, in general, I'm familiar with the 6 concept of rotational motion in relation to physics. 7 Q. What is rotational motion in relation to 8 physics? 9 MR. LeROY: Objection to form. 10 A. You've asked a very general question. 11 Physics is a broad topic that includes many 12 different things, from mechanics to quantum physics. 13 But, you know, one example of rotational motion 14 might be an angular movement of something, for 15 example, about an axis or rotation about an axis 16 that, you know, might be measured in various ways. 17 BY MS. BAILEY: 18 Q. Are you familiar with the concept of 19 angular velocity in physics? 20 A. Yes, I'm familiar with the general concept 21 of angular velocity in relation to -- to physics. 22 Q. Do you know how you mathematically 23 calculate angular velocity in physics? 24 MR. LeROY: Same objection. 25 A. You've asked an extremely broad question.

Page 45 1 There -- you know, physics encompasses an enormous 2 range of topics from, you know, solid mechanics to 3 quantum physics. I'm aware that there are multiple 4 different ways to measure angular velocity based on 5 what you're talking about; you know, electrons 6 versus, say, solid objects. 7 You know, angular velocity itself, angle 8 could be measured in multiple different ways. 9 Radians, degrees might -- or degrees might be two 10 examples. Velocity, you know, you could look at an 11 angular change over some period of time. So, I 12 mean, one -- one example of many might be, you know, 13 radians per second, something like that, but there 14 are other -- other examples in other context. 15 BY MS. BAILEY: 16 Q. Would you agree that angular velocity is 17 equal to the angular displacement of an object 18 around a fixed axis divided by the change in time? 19 MR. LeROY: Objection to the form of the 20 question. Scope. 21 A. I just provided an answer to your question 22 about an example -- or I provided an example of a 23 way to calculate angular velocity in relation to 24 physics as a very general topic. 25 You just asked a very specific question	Page 47 1 things as well. In, for example, radians, in 2 dividing that by some unit of time, which I believe 3 I gave an example of, like, radians per second, I 4 think that conforms to the high school physics -- or 5 high-school-book definition that you stated in the 6 question. 7 BY MS. BAILEY: 8 Q. What is an example of a type of sensor 9 that measures angular velocity? 10 MR. LeROY: Objection to form. 11 A. You've asked a very general question about 12 sensors that measure angular velocity. There are a 13 wide range of sensors that can measure or could 14 measure angular velocity. Many sensors have 15 combinations of different components in them that 16 may, for example, combine, you know, the angular 17 measurement with a time measurement, various other 18 measurements. So an example of that might be what's 19 called an IMU. I believe it's inertial measurement 20 unit, if I recall the acronym correctly. It could 21 have different components in it, accelerometer or 22 compass, things like that, that may be combined to 23 produce a measurement of angular velocity. And 24 there are other examples of sensors that -- that can 25 provide that as well.
Page 46 1 as -- like, as a definition from a dictionary. If 2 you want to point me to some dictionary, I'd be glad 3 to take a look at it, or Dr. Buehrer's declaration 4 or elsewhere to -- based on the specific sort of 5 detailed definition that you just gave. 6 BY MS. BAILEY: 7 Q. The definition I gave you is from a high 8 school physics textbook that angular velocity is 9 equal to the angular displacement of the object 10 around a fixed axis divided by the change in time. 11 Does that definition sound familiar to 12 you, given your degrees -- your academic degrees? 13 MR. LeROY: Objection to the form of the 14 question. Scope. 15 A. As I said, you've asked a very general, 16 broad question. There are many different areas of 17 physics. Many different contexts. The example you 18 gave from a high school physics book is certainly 19 one. There are other much more -- maybe esoteric, 20 if you want to call it that. You know, quantum 21 physics, electromagnetic -- there are other ways of 22 defining or describing angular velocity. 23 In answer to a prior question, I gave an 24 example of measuring angular rotation, which you 25 could call "displacement." I could call it other	Page 48 1 BY MS. BAILEY: 2 Q. Does an inertial measurement unit include 3 a gyroscope? 4 A. It could. As I mentioned, you know, there 5 are -- many sensors include multiple different 6 components. A -- you've asked a very, very broad, 7 general question. IMUs can include many different 8 components as well. Could be a gyroscope. Might 9 not be a gyroscope, depends on the particular 10 implementation or product. 11 Q. What does the gyroscope measure in an 12 inertial measurement unit? 13 MR. LeROY: Objection to the form of the 14 question. 15 A. Gyroscopes -- again, you've asked a 16 completely broad and general question -- can be used 17 for many different -- different things, for many 18 different types of measurements. They can be 19 included and combined with other -- other sensors. 20 So it really just depends on the context of a -- 21 like, an implementation for an IMU, for example, 22 gyroscopes -- or gyroscopes can be used to measure 23 things like general motion, potentially, angular 24 velocity, other things. Could also be used for 25 things like stabilization.

Page 49 1 Q. In the answer you just gave, what do you 2 mean by "general motion"? 3 A. General motion, for example, could be an 4 object moving or not moving, could be more smaller 5 scale movement, like a vibration. So sensing things 6 like that would be examples of general motion. 7 Q. And you would opine that a gyroscope can 8 be used to determine general motion, and you opine 9 that general motion can be an object moving, not 10 moving. 11 How does the gyroscope determine that the 12 object is moving or not moving? 13 A. As I mentioned in answering prior 14 question -- you've asked a very general question -- 15 there are many different types of gyroscopes that 16 may be used in different applications, in different 17 use scenarios, different combinations with other 18 sensors or other components. Gyroscopes can be used 19 in the context of detecting general motion. They 20 can be used to detect angular velocity. They could 21 be used for stabilization, many different examples. 22 I didn't provide an opinion in my 23 declaration about specific mechanisms or mathematics 24 behind using gyroscopes or other -- other sensors in 25 particular motion calculations.	Page 51 1 A. You've asked a very general question. As 2 I've said, there are many different types of 3 gyroscopes; 2D, 3D, MEMS, semiconductor chips, 4 hardware -- other kind of hardware modules. 5 Gyroscope might use angular velocity to -- to 6 measure or estimate movement. It might use other -- 7 other techniques. I'd have to research that. 8 If you have a specific example; 9 Dr. Buehrer's declaration or otherwise, I'm happy 10 to -- to take a look at it. 11 BY MS. BAILEY: 12 Q. What type of motion does a semiconductor 13 gyroscope chip measure? 14 MR. LeROY: Objection to form. Scope. 15 A. You've asked a very broad, general 16 question. Out of the context of -- of the '246 17 Patent or the IPR, you know, if I were to search 18 right now on Google or Alibaba, thousands of 19 semiconductor chips that do various types of 20 detection would come up. Some of those might use 21 gyroscopes, and they might provide different 22 measurement -- both measurement outputs and sort of 23 internal techniques of making the measurement and 24 doing the -- the calculation. They might include 25 various combinations of different sensors or
Page 50 1 If there's something that you want to 2 point me to in Dr. Buehrer's declaration or 3 elsewhere, I'd be happy to -- to -- to comment on 4 that or review it. 5 Q. Do you know how a gyroscope determines or 6 detects that an object is moving or not moving? 7 A. As I mentioned, gyroscopes -- there are 8 many, many different types of gyroscopes used in 9 many different context. In general, a gyroscope 10 might be a -- some kind of a rotating or spinning 11 body. It could use measurements like angular 12 velocity. It could be complemented with other 13 components or other sensors to make various 14 measurements that might include things like 15 estimations of whether some- -- something is moving 16 or not, that really just depends on the -- the 17 context of the application, their particular sort of 18 sensor configuration. I mean, in general, 19 gyroscopes might be complemented with -- with other 20 things, whether it's, you know, time measurement 21 and -- or other types of sensing. 22 Q. Does a gyroscope determine the angular 23 velocity of an object to determine if that object is 24 moving or not moving? 25 MR. LeROY: Objection to form.	Page 52 1 different components to produce the measurement. 2 So there's a -- I'd say a plethora of 3 different types of semiconductor chips that -- that 4 exist. 5 BY MS. BAILEY: 6 Q. What kind of measurement output would a 7 semiconductor gyroscope chip make or determine? 8 MR. LeROY: Same objection. 9 A. You've asked an extremely broad question. 10 It totally depends on the -- the context of the -- 11 the scenario, the application, the particular chip. 12 As I just answered the prior question, if I were to 13 search right now on Google or DigiKey, a parts 14 supplier, hundreds or maybe thousands of different 15 semiconductor chips would come up with many 16 different types of outputs, depending on the 17 application that they're -- they're being applied 18 to, and the manufacturer and their design techniques 19 that -- cost, trade-offs, things like that. 20 BY MS. BAILEY: 21 Q. You understand my question isn't to any 22 semiconductor chip. My question is to a 23 semiconductor gyroscope chip. 24 Do you understand the difference? 25 A. Yes, and my answer would be the same;

Page 53 1 if -- there are many, many -- if I were to search on 2 semiconductor gyroscope chip to maybe narrow it, 3 many hundreds or thousands would come up from many 4 different manufacturers for many, many different use 5 cases, and many different kind of implementations 6 for the semiconductor part of it, MEMS or other. 7 And, in general, the outputs from a chip, 8 what might come out on the -- you know, the pins, 9 the -- typically, digital lines that -- that come 10 out of the chip would depend greatly on the 11 application that it's being used for. So they're -- 12 you know, in the broad, general context, there -- it 13 could be many different kinds of -- kinds of 14 outputs. 15 Q. Do you agree that a semiconductor 16 gyroscope chip measures the motion of an object? 17 A. I mean, you've asked an extremely general 18 question. There are many, many different types of 19 semiconductor gyroscope chips. They might be used 20 for many different purposes. Gyroscope might just 21 be used internally within the chip for -- for other 22 functions. So it might measure motion. It might be 23 used for other things -- I don't know -- 24 stabilization, things like that. That really just 25 depends on their -- on the context and use case and	Page 55 1 might not contain sort of the internal logic of 2 what's going on in the chip, and the mathematics 3 behind the -- the calculations going on inside 4 the -- the chip. 5 BY MS. BAILEY: 6 Q. When a semiconductor gyroscope chip is 7 measuring motion, is it measuring rotational motion? 8 MR. LeROY: Objection to the form of the 9 question. 10 A. As I've said, there are many, many 11 different types of semiconductor gyroscope chips. 12 They may be implemented in -- in various ways. They 13 could use various metrics. The gyroscope may be 14 used to do different things. It could measure -- or 15 use angular rotation. You know, there are other -- 16 other potential metrics that it could use. 17 You know, I'd have to research that. 18 That's not something I gave an opinion on in my 19 declaration. But, again, if there's something you 20 want to point me to in Dr. Buehrer's declaration or 21 elsewhere, I'm happy to -- to review it. 22 BY MS. BAILEY: 23 Q. Dr. Feuerstein, we took a break a few 24 minutes ago. 25 During that break, did you communicate
Page 54 1 manufacturer of the chip. 2 Q. We discussed earlier, linear motion; is 3 that correct? 4 A. Yes, I recall you asked one or several 5 questions about linear motion. 6 Q. And you just opined that a semiconductor 7 gyroscope chip measures motion; is that correct? 8 MR. LeROY: Objection to form. 9 A. I don't believe I -- yeah, I don't believe 10 I worded it that way. You said it could, it might, 11 it might not. Semiconductor gyroscope chip could -- 12 could mean a broad range of things. It could be 13 used for many different applications. It could have 14 an enormous range of implementations from vendors 15 that make semiconductor chips. 16 I believe I said that it could measure 17 motion. It could do other -- or it could detect 18 motion, it could measure motion. There are various 19 things that it -- it might or might not do, 20 depending on the use case for the chip. 21 I mean, in general, you'd have to take a 22 look at -- well, like, an engineer might take a look 23 at the data sheet for the chip, and they'd see 24 what -- what the purpose of the chip is, what it's 25 used for or what it's outputs might be. All of that	Page 56 1 with your counsel in any form? 2 A. No. 3 Q. Did you communicate with anyone else? 4 A. I got a glass of water and spoke briefly 5 with my wife about when the deposition might end. 6 Q. Dr. Feuerstein, could you, please, pull 7 out Exhibit 1013? 8 (Deposition Exhibit No. 1013 was marked 9 for identification.) 10 A. Okay. I have that in front of me. 11 BY MS. BAILEY: 12 Q. So I'm going to ask you questions 13 regarding Exhibit 1013, and also regarding the '246 14 Patent, which is Exhibit 1001. So it might be 15 helpful to have both of those up, if possible. 16 A. Okay. Give me a second. 17 Okay. I have them both on PDF. 18 Q. Have you reviewed Exhibit 1013? 19 A. Yes, I have in the past reviewed that 20 exhibit. Not recently, as in -- in preparation for 21 this deposition. 22 Q. Please, review the title of the document, 23 which is on the first page, and I'm referring to 24 Exhibit 1013. 25 (Witness is reviewing document.)

Page 57 1 A. Okay. By that, you mean if -- the title I 2 see is, THL's Disclosure of Asserted Claims and 3 Infringement Contentions. 4 BY MS. BAILEY: 5 Q. Did you assist in the preparation of this 6 document in any way? 7 A. Yes, I believe I did assist in preparation 8 of parts of the -- the document. 9 Q. And, as we sit here today, can you recall 10 what parts of the document that you assisted in 11 preparation with? 12 A. I don't recall exactly. This -- I don't 13 know what the date on this document is -- but it was 14 probably quite -- quite a while ago. Perhaps, more 15 than a year ago. So I don't recall exactly. I do, 16 for example -- it -- just a quick look through the 17 document -- I see, FCC filing excerpts, I guess, 18 from this -- it's a different website not directly 19 the FCC website, but -- so I see some excerpts from 20 FCC filings, so I recall -- the best of my 21 knowledge, I was probably the one who pulled the FCC 22 filing excerpts that are in here. 23 Q. Have you ever gave testimony in a 24 litigation or IPR proceeding opining on 25 infringement?	Page 59 1 I read the title as it -- as it says. 2 BY MS. BAILEY: 3 Q. Do you understand that an infringement 4 contention is an explanation of how a particular 5 product allegedly infringes a patent claim? 6 MR. LeROY: Objection to the form of the 7 question. 8 A. Could you ask the question again? 9 BY MS. BAILEY: 10 Q. Do you understand that an infringement 11 contention is an explanation of how a particular 12 product infringes a patent claim? 13 MR. LeROY: Objection to form, and, 14 Counsel, just in case I missed a question, I just 15 want to object to the entire line of questioning 16 concerning their -- the Plaintiff's Preliminary 17 Infringement Contentions. 18 A. I'm not a lawyer, so I -- what you stated 19 seems like a reasonable definition, but I read 20 THL -- the title, THL's Disclosure of Asserted 21 Claims and Infringement Contentions. I -- as I 22 said, probably read this document around a year ago, 23 somewhere in that time frame, so it's been a long 24 time ago. I did not provide any opinions in my IPR 25 declaration related to this. This seems like
Page 58 1 A. Yes, I've had cases -- infringement cases, 2 and have opined on infringement in the past. 3 Q. Would it be fair to say that you have a 4 general understanding of what constitutes patent 5 infringement? 6 MR. LeROY: Objection to the form of the 7 question. 8 A. Yes, in general, I have an understanding 9 of patent infringement. Typically, for specific 10 examples, I would rely on a legal team to -- to 11 provide what I might call a specific framework, 12 what's applicable to specific scenarios, cases, 13 patents, claims, that kind of thing. 14 BY MS. BAILEY: 15 Q. Do you understand that Exhibit 1013 is 16 THL's disclosure of its infringement contentions? 17 MR. LeROY: Objection to the form of the 18 question. 19 A. I understand that the title of the 20 document is, THL's Disclosure of Asserted Claims and 21 Infringement Contentions. Beyond that, you know, 22 I'm not a lawyer, so I have limited visibility, if 23 any, to what the process is for infringement 24 contentions or modifications of those or what steps 25 they might -- they might go through. So, yes, I --	Page 60 1 documents from a district -- the district court 2 case. I don't see how those are relevant to the IPR 3 in my declaration, that's the subject of this 4 deposition. 5 If there's something in Dr. Buehrer's 6 declaration, Apple's petition, specifics like that 7 that you'd like me to take a look at, I'm happy to 8 do so. 9 BY MS. BAILEY: 10 Q. Do you understand that claim limitations 11 must be interpreted the same way for purposes of 12 validity and infringement? 13 MR. LeROY: Objection to form. 14 A. I'm not a lawyer, so I would preface any 15 answer that I give that the specific legal 16 definitions, the particular scenarios, the 17 precedence are not something that I have knowledge 18 of. 19 The definition that you gave seems, in 20 general, to comport with what I've been told from 21 lawyers in the past about infringement versus 22 validity, but I -- I'm not familiar with the 23 specifics, case law, other things that the lawyers 24 usually would advise me about, if I'm, for example, 25 involved in a validity or infringement engagement.

1 BY MS. BAILEY: 2 Q. Do you understand that you have given 3 opinions on claim construction today of certain 4 terms in the '246 Patent? 5 MR. LeROY: Objection to form. 6 A. I understand that in my declaration, 7 Exhibit 2002, in Section 7 on Claim Construction, I 8 provided the basis for the claim construction that I 9 used in my analysis, including interpretations of 10 the [indiscernible]. 11 (Reporter clarification.) 12 A. I believe one of the claimed terms that 13 were around Paragraph 51 of my declaration, I 14 provided some interpretations of what a POSITA would 15 understand about that particular term. 16 If you could -- your question stated that 17 I -- you asserted that I provided new opinions, I 18 think, I understand it, today on claim construction. 19 If you could point me to the specific questions or 20 answers that I gave, I'd be happy to -- to look at 21 that or comment on it. 22 MR. LeROY: And, Kara, the -- the 23 conclusion of Dr. Feuerstein's statement was 24 Claim 11 -- was of Claim 11. 25 THE COURT REPORTER: Thank you.	Page 61 1 terms. 2 Q. And you understand that your opinions 3 regarding claim construction in your declaration or 4 provided with respect to this IPR that is 5 determining the patentability or unpatentability of 6 certain claims; is that correct? 7 A. Yes, my declaration and the Claim 8 Construction section and anything else in my 9 declaration regarding claim construction, my 10 understanding is in relation to this particular IPR. 11 Q. And do you understand that your opinions 12 regarding claim construction equally apply to claim 13 construction for purposes of analyzing infringement? 14 MR. LeROY: Objection to the form of the 15 question. 16 A. I'm not a lawyer, so in terms of the 17 specifics of case law or precedent, I -- if you 18 will, nuances of -- of the -- if there might be 19 differences between interpretations for validity and 20 infringement, that's not my -- I'm not a lawyer, so 21 that's not my expertise. 22 In general, what you stated is aligned 23 with what I've heard from lawyers in the past on 24 engagements I've had related to validity or 25 infringement, but I can't speak to the -- whether
Page 62 1 BY MS. BAILEY: 2 Q. So the record is clear here, 3 Dr. Feuerstein, my question is: Do you understand 4 that in your declaration, you provided opinions 5 regarding claim construction? 6 A. Okay. Just because I'm a bit confused, if 7 we could just clarify. The prior question that you 8 asked -- I thought maybe I misinterpreted -- implied 9 that, somehow, in the deposition today, I had 10 provided -- what I thought you were impl- -- saying, 11 it's like a different claim construction. 12 Could you just clarify for me that that 13 wasn't the intent of the prior question? 14 Q. You are correct. That was not the intent 15 of my prior question. 16 A. Thank you very -- thank you very much. 17 That -- that helps. 18 Okay. So for the current question, I 19 think the answer I just gave sort of covered it. 20 But I -- in my declaration at Section 7, I explained 21 the claim construction that I used. I think, you 22 know, in the end, I used what Apple proposed in 23 their petition and what Dr. Buehrer adopted, and 24 then I provided some explanations about how a POSITA 25 would interpret at least one of the specific claimed	Page 64 1 there might be differences in some scenarios or, you 2 know, legal precedence that might influence that. 3 BY MS. BAILEY: 4 Q. May we briefly go off the record, please. 5 (A recess was taken from 1:19 p.m. to 6 1:40 p.m.) 7 BY MS. BAILEY: 8 Q. Dr. Feuerstein, we just came back from a 9 very brief lunch break. 10 Did you speak with your counsel in any 11 form during the lunch break? 12 A. No. 13 Q. Could you, please, bring up Exhibit 1013 14 that we were briefly looking at prior to the break? 15 A. Okay. I have that exhibit. 16 Q. Could you, please, turn to page 33. 17 A. Okay. I'm at page 33. 18 Q. Do you see at the top right corner of 19 page 33 that it refers to U.S. Patent No. 11350246? 20 A. Yes, I see that in the heading. 21 Q. And do you understand that that is the 22 '246 Patent that we have been discussing in this 23 matter today? 24 A. Yes, that would -- it would be -- it would 25 make sense to be the case.

Page 65 1 Q. Do you see on the left of page 33, there's 2 11 -- the No. 11 -- it begins, A mobile 3 communication device comprising ... 4 A. Yes. 5 Q. Can you read this portion of Claim 11 6 that's provided to familiarize -- to -- just to 7 familiarize yourself with it. 8 A. Okay. I've read the -- that Claim 11 9 excerpt. 10 Q. Do you recall earlier that I'd mentioned 11 you may want to compare against Exhibit 1001, which 12 is the '246 Patent -- do you recognize the portion 13 of Claim 11 that you just read from Exhibit 1013, as 14 Claim 11 of the '246 Patent? 15 A. Okay. Let me go back and forth just to -- 16 to verify. 17 Q. Sure. 18 A. So, yes, just comparing here on the fly, 19 it appears to -- that the slide in Exhibit 1013 20 reiterates that the first portion, if you will, of 21 Claim 11. 22 Q. Okay. Thank you. 23 Could you, please, now, turn to page 38 of 24 Exhibit 1013? 25 A. Okay. I'm at page 38.	Page 67 1 claim excerpt. 2 Q. What do you understand this color coding 3 to indicate? 4 MR. LeROY: Objection to the form of the 5 question, and scope. 6 A. I didn't provide any opinions in my IPR 7 declaration about this particular district court 8 document. I mean, I see on slide -- or, yeah, 9 page 38 what looks like highlighting in different 10 colors of text, and then what roughly looks like a 11 table below with some of those -- or those words 12 excerpted with the colors. Otherwise, you know, to 13 interpret this in detail is not -- not something I 14 opined on in this -- in this matter. 15 BY MS. BAILEY: 16 Q. You testified earlier that you assisted in 17 preparation of Exhibit 1013; is that correct? 18 A. I said that I had participated in parts of 19 it, and I, specifically, mentioned some -- the FCC 20 filing pictures, but I -- first of all, this has 21 been, I believe, a year ago or maybe even longer, 22 and I was -- I -- you know, I can't even recall 23 today what parts that I was involved in to -- in 24 terms of preparation of the -- the document. 25 Q. Referring back -- I'm referring back to
Page 66 1 Q. And do you see at the top right corner, 2 the page, again, says, U.S. Patent No. 11350246? 3 A. Yes, I see that. 4 Q. And do you agree and understand that this 5 is the '246 Patent we have been discussing in this 6 matter? 7 A. Yes, that makes sense. 8 Q. Do you see the claim language on the left 9 that begins, A memory that stores operational 10 instructions? 11 A. Yes, I see that. 12 Q. So, once again, I'd like you to compare 13 this claim language to the text of Exhibit 1001, 14 Claim 11 of the '246 Patent, and make sure that you 15 understand that the text on Exhibit 1013 is the same 16 text from Claim 11. 17 A. Yes, page 38 of this Exhibit 1013, the 18 upper left seems to reiterate a part of the 19 Claim 11. 20 Q. On page 38 of Exhibit 1013, do you see 21 that certain text is colored, as in not in black 22 font? So, for example, "memory" is colored red? 23 Do you see that? 24 A. Yes, I see color -- what -- what I might 25 call color coding of phrases from the -- the patent	Page 68 1 Exhibit 1013, page 38. 2 Do you recognize portions of this page? 3 For example, the claim language set out with the 4 colors, and then the layout of the iPhone 11, 5 iPhone 12, iPhone 13, and iPhone 14 presented on the 6 page? Do you recognize this? 7 A. Yes. As I said, I had some involvement in 8 looking at and contributing some to this document -- 9 what I believe is this document -- probably a year 10 ago or more. I mean, I recall having gone -- seeing 11 the slides. Beyond that, I don't have any 12 recollection of it -- of particular involvement with 13 Slide 38. 14 Q. I want to look at the text of "memory" 15 that's in red, and then compare it to the text of 16 memory that's running down the left side of the 17 page. 18 Do you see that on the text to the left 19 side of the page, it has "memory," and then to the 20 right, it has, Four gigabytes of RAM/six gigabytes 21 of RAM, and so on? 22 A. Yes, I see "memory" and what looks like 23 maybe a row and a -- and a -- like, a virtual table. 24 So, yes, I see the -- the, Four gigabyte RAM, and 25 the other entries that are aligned with "memory."

Page 69 1 Q. Do you understand that this page sets 2 forth THL's position on how the iPhone 11 allegedly 3 includes a memory that meets the memory limitation 4 of Claim 11? 5 MR. LeROY: Objection to the form of the 6 question. 7 A. I'm not a lawyer, so I can't speak to the 8 legal nuances of how documents like this are used, 9 how they might be -- what the process might be for 10 them to be modified. 11 You know, in general, what you stated 12 would be consistent with what my non-legal 13 interpretation might be that -- yes, that, for 14 example, "memory" is -- is sort of mapped to what 15 seemed like different -- different products on the 16 slide. 17 BY MS. BAILEY: 18 Q. So you understand this page 38 of 19 Exhibit 1013 to set forth THL's position on how the 20 memory maps allegedly to the iPhone 11? 21 A. As I've said, I'm not a lawyer, so I can't 22 speak at all to the legal nuances and precedent, and 23 how, specifically, documents like this Exhibit 1013 24 are used in the legal process. 25 I didn't give an opinion in my IPR	Page 71 1 Do you see to the right of "orientation 2 sensor," it says, 3-axis gyro? 3 A. Yes, I see that for -- for -- three of the 4 sort of entries, if you will, in the row. 5 Q. In your opinion, does a 3-axis gyro 6 satisfy a limitation of an orientation sensor in the 7 '246 Patent? 8 MR. LeROY: Objection to the form of the 9 question, and scope. 10 A. In my IPR declaration, I didn't set forth 11 any opinions related to a 3-axis gyro. The 12 document, Exhibit 1013, appears to be -- I think 13 it's from a district court case, not the IPR 14 proceedings that -- that I provided my declaration 15 on. 16 I don't have any specific opinions today 17 about what's -- what's in this orientation sensor 18 row or the 3-axis gyro. You know, if there's 19 something specific from Dr. Buehrer's declaration or 20 Apple's petition or other things like that that 21 you'd like me to take a look at, I'm happy to do so. 22 BY MS. BAILEY: 23 Q. Do you have any opinion on whether a 24 gyroscope meets Claim 11's recitation of on 25 oriation -- orientation sensor? --
Page 70 1 declaration about anything related -- or anything, 2 you know, specific with this Exhibit 1013. This 3 seems to be involved with a district court case, not 4 the IPR, and, certainly, not the -- related to the 5 IPR declaration that I provided. 6 So beyond just a general cursory of 7 saying, yes, this seems to -- to align with a 8 color-coded tabular format, I don't have any 9 specific opinions today about interpreting page 38 10 of Exhibit 1013. 11 Q. Turning back to page 38 of Exhibit 1013 at 12 the top left, that is the recitation of a portion of 13 Claim 11's language, do you see the term, An 14 orientation sensor? 15 A. Yes, in the upper left, I see the 16 phrase -- or, Claim limitation and orientation 17 sensor to detect rotation of the mobile 18 communications device, with "orientation sensor" 19 highlighted in -- in blue. 20 Q. And do you see on the left side of the 21 page, kind of going down in a column format, the 22 term "orientation sensor" also highlighted in blue? 23 A. Yes, I see that. 24 Q. And we've been talking about the rows that 25 are kind of presented in this virtual table.	Page 72 1 A. As I've said, what's in answer to 2 Orientation Sensor row or this -- what's in this 3 orienta- -- 4 MR. LeROY: Objection -- 5 THE COURT REPORTER: So sorry about that. 6 THE WITNESS: Listening to myself. Okay. 7 So let me -- could you repeat the question, then? 8 (The record was read.) 9 MR. LeROY: Objection to the form of the 10 question. 11 A. In my declaration for this IPR, I didn't 12 provide any opinions on that. This question of -- 13 related to 3-axis gyro appears to be related to this 14 Exhibit 1013, page 38. I have answered your prior 15 questions. There are many, many different types of 16 gyroscopes, types of gyroscope's products, types of 17 semiconductor chips related to -- to gyroscopes. 18 Gyroscopes can be combined with other -- other 19 things, they can measure various quantities, they 20 can be used internal to chips, they can have outputs 21 that might be external to chips. 22 So it's possible that 3-axis gyros could, 23 but there -- it really depends on the 24 implementation, the use case, the type of gyroscope, 25 you know, the entire context related to that.

1 BY MS. BAILEY: 2 Q. For my next question, I'm referring to a 3 gyroscope, and not necessarily a 3-axis gyroscope. 4 Do you have any opinion as to whether a 5 gyroscope meets the orientation sensor requirement 6 of Claim 11? 7 MR. LeROY: Objection to the form of the 8 question. 9 A. I didn't provide any opinions related to 10 gyroscope in my -- all right. Related to gyroscope 11 specifically meeting the orientation sensor, 12 Claim 11 -- at least in the context of your 13 question -- in my IPR declaration. 14 As I have answered prior questions, there 15 are many different types of gyroscopes used for many 16 different purposes, from measuring things, to 17 stabilizing. There are many implementations of 18 gyroscopes in terms of hardware, semiconductor 19 chips, MEMS, other -- other examples. So many, 20 many products that might include gyroscopes, they 21 might combine them with other things. So it's 22 certainly possible that a gyroscope could meet the 23 orientation sensor of Claim 11. 24 In other scenarios, depending on how it's 25 used, what -- for example, what outputs there might	1 perform, what sort of things that they would -- you 2 could say measure or detect in order to meet the 3 claim limitation. 4 Q. In reviewing Paragraphs 50 through 51 of 5 your declaration that you just pointed to, I do not 6 see an answer to my question. 7 And let me just repeat the question: What 8 information needs to be outputted by a gyroscope to 9 meet Claim 11's recitation of an orientation sensor? 10 Could you point me to the answer to that question in 11 Paragraphs 50 through 51? 12 MR. LeROY: Objection to the form of the 13 question. 14 A. In my declaration, I believe, 15 Paragraphs 50 and 51, along with other material in 16 my declaration, does answer the question. 17 In the context of the claim limitation, An 18 orientation sensor to detect rotation of the mobile 19 communication's device, an orientation sensor, to 20 meet the claim, needs to preform that claim 21 limitation to detect rotation of the mobile 22 communication's device. So it would need to have 23 outputs and usage that conform to detecting the 24 rotation of the mobile communication's device. And 25 I've provided detail in my declaration -- those
1 be, things like that, it might not. Just depends on 2 the -- the specifics of its use in relation to 3 the -- the claim as a whole, and the claim 4 limitation. 5 BY MS. BAILEY: 6 Q. What information needs to be outputted by 7 a gyroscope in order to meet Claim 11's recitation 8 of an orientation sensor? 9 A. In my IPR declaration, I provide what I 10 think is significant detail about, for example, the 11 claim limitation and orientation sensor to detect 12 rotation of the mobile communication's -- 13 communication, singular -- device. 14 For example -- let me pull up my 15 declaration -- in Paragraphs 50 through 51, for 16 example, I talk about the -- An orientation sensor 17 to detect rotation of a mobile communication device 18 or rotation of the mobile communication device 19 detected by the orientation sensor, and, you know, 20 how a POSITA, at the time of the invention, would 21 interpret that. 22 And, then, in multiple other sections of 23 my declaration -- to save time, I won't point out 24 other paragraphs -- but I talk about orientation 25 sensors and what kinds of functions they would	1 paragraphs, in particular -- about how a POSITA 2 would interpret that -- that -- the phrasing in that 3 limitation. 4 BY MS. BAILEY: 5 Q. Let's turn back to Exhibit 1013, page 38. 6 A. Okay. I have that up. 7 Q. Do you agree that THL is mapping a 3-axis 8 gyro to Claim 11's recitation of an orientation 9 sensor? 10 MR. LeROY: Objection to the form of the 11 question. 12 A. Could you -- would you mind repeating the 13 question? 14 MS. BAILEY: Court Reporter, could you, 15 please, repeat my question? 16 (The record was read.) 17 THE WITNESS: Thank you. 18 A. I didn't provide any opinions in my IPR 19 declaration related to THL's mapping and, 20 specifically, to Exhibit 1013, page 38. That 21 seems -- it seems related to a district court case, 22 not to the IPR proceedings that I prepared my 23 declaration on. 24 If there's something specific in 25 Dr. Buehrer's declaration or Apple's petition that

1 you'd like me to -- to review, I'm glad to do that. 2 When I look at this slide on page 38, 3 there seems to be a row with Orientation Sensor, and 4 it does mention in sort of three of the entries in 5 that row, 3-axis gyro. I mean, that would be 6 consistent with a mapping. 7 Again, I'm not a lawyer. I don't know the 8 process and proceedings, documents like Exhibit 1013 9 and the -- the legal nuances associated with -- with 10 how they might evolve and particular 11 interpretations. 12 BY MS. BAILEY: 13 Q. My question did not ask what your opinion 14 was of the mapping in Exhibit 1013. 15 My question asked: Do you understand that 16 THL is mapping a 3-axis gyro -- gyro to the 17 orientation sensor recited in Claim 11? 18 MR. LeROY: Objection to the form of the 19 question. 20 A. Again, I didn't provide an opinion in my 21 IPR declaration related to this particular 22 Exhibit 1013 from the district court case. You 23 know, if there's particular passages or excerpts 24 from Dr. Buehrer's declaration or Apple's petition 25 in relation to the IPR, I'd be glad to look at	Page 77 1 would you understand THL's position to be that the 2 3-axis gyro detects rotation of the mobile device? 3 MR. LeROY: Objection to the form of the 4 question. 5 A. In my IPR declaration, I didn't provide 6 any opinions related to this Exhibit 1013 from the 7 district court case, and page 38, in particular. 8 Today, all I can do is look at the slide 9 and say that, you know, there's -- appears to be a 10 color coding and a tabular kind of format that has 11 what would be consistent with a mapping orientation 12 sensor to the 3-axis gyro. 13 So that would be consistent with your 14 question, but, again, I'm not a lawyer. I don't -- 15 don't know all the legal nuances of documents like 16 Exhibit 1013, and how they're -- how they evolve 17 in -- how they might be interpreted by -- for 18 example, by -- by courts. 19 BY MS. BAILEY: 20 Q. Could you, please, turn to page 48 of 21 Exhibit 1013? 22 A. I'm at page 48. 23 Q. Do you see in the top right-hand corner, 24 U.S. Patent No. 11350246 is referenced? 25 A. Yes.
Page 78 1 those. 2 I mean, in general, you know, looking at 3 the slide, it would be consistent with a -- sort of 4 a tabular presentation on the slide, that 5 orientation center -- sensor -- excuse me -- you 6 know, is aligned with the row for 3-axis gyro, that 7 would be consistent with a mapping, and since this 8 is THL's document, I would -- it would be consistent 9 with what you stated in the question. 10 BY MS. BAILEY: 11 Q. What information needs to be outputted by 12 the gyro to make Claim 11's recitation of an 13 orientation sensor? 14 A. As I previously answered -- and I reviewed 15 some sections of my IPR declaration, specifically, 16 Paragraphs 50 and 51 -- I -- in order for brevity, I 17 won't repeat any of that -- but, in general, the 18 orientation sensor of whatever type it is, 3-axis 19 gyro or otherwise, would need to meet the claim 20 limitation. It would need to have -- it would need 21 to detect rotation of the mobile communication 22 device, and it would need to have outputs and 23 operation that are consistent with performing that 24 detect rotation of the mobile communication device. 25 Q. So in reviewing page 38 of Exhibit 1013,	Page 80 1 Q. And you understand that to be the '246 2 Patent we have been discussing for this matter? 3 A. Yes. 4 Q. On the left-hand side, there's some 5 language that begins, Determine a direction? 6 A. I see that. 7 Q. Could you, please, compare that language 8 to Claim 11 of the '246 Patent, specifically, 9 beginning at Column 39 through 30- -- or Column 39, 10 Line 33? 11 A. I've compared Exhibit 1013 with the '246 12 Patent for that claim limitation, and the -- 13 Exhibit 1013 appears to recreate the -- the wording 14 in that limitation. 15 Q. And you see in the top left, there's color 16 coding in green for, And on rotation of the mobile 17 communication device detected by the orientation 18 sensor? 19 A. Yes, I see the highlighting in green. 20 Q. And you see down in the bottom, there is a 21 box around text of a, Patent Application, and the 22 box is also colored -- coded green? 23 A. Yes, I see highlight box. 24 Q. Feel free to review the text in green or 25 the entirety of that paragraph, if you would like.

Page 81 1 I'm going to ask you a question. 2 A. Okay. I've read that excerpted paragraph. 3 I think it's 8- -- 869. 4 Q. Does an accelerometer detect rotation off 5 an object? 6 MR. LeROY: Objection to the form of the 7 question. 8 A. I didn't provide any opinions on my -- in 9 my IPR declaration relative to accelerometers. 10 If there's something in Dr. Buehrer's 11 declaration or Apple's petition that you want to 12 point me to, I'm glad to take a look at it. 13 You've -- you've asked a very general 14 question about "accelerometers." There are many 15 different types of accelerometers. They may be 16 included in chips or packages. They might detect 17 rotation, they -- they might not. It really just 18 depends on the -- the use case, the implementation, 19 you know, for that accelerometer. 20 BY MS. BAILEY: 21 Q. Can you identify a single accelerometer 22 that you have ever seen that detects rotation of an 23 object? 24 A. I didn't provide an opinion on 25 accelerometers in my IPR declaration. If you want	Page 83 1 declaration relative to magnetometers, and the -- 2 oh, and/or the -- the claim -- in relation to this 3 claim limitation. I'm aware, and a POSITA would be, 4 that there are many different types of magnetometers 5 that can be used to measure different things. 6 Magnetometers, in particular, I'm aware used in lots 7 sort of scientific realms to measure various 8 quantities. 9 So it's possible that magnetometers could 10 meet the claim limitation. It's possible they might 11 not. It depends on the -- the specific 12 implementation, what they might be complemented with 13 or combined with or packaged with, and things like 14 that. 15 Q. Turning back to page 48 of Exhibit 1013, 16 the green box surrounding the text of the Patent 17 Application on the bottom half of the page, it 18 lists, Accelerometers, magnetometers, gyroscopes, 19 GPS systems or the like. 20 Do you understand this to be a listing of 21 sensors that detect rotation of the mobile 22 communication device, as recited in Claim 11? 23 MR. LeROY: Objection to the form of the 24 question. 25 A. I didn't provide any opinions in my IPR
Page 82 1 to point me to something specific Dr. Buehrer's 2 declaration or Apple's petition, I'm glad to take a 3 look at it. 4 You've asked a very general question about 5 accelerometers. If you want to be more specific -- 6 but, then, there are accelerometer's chips. There 7 are packages that a vendor might call an 8 accelerometer that may have other things -- other 9 measurement. I mean, in general, there would be 10 other -- other components. If it's part of a chip, 11 they're almost always kind of multiple blocks in the 12 chip. 13 So if you're talking about an 14 accelerometer chip or an accelerometer package or 15 just, say, maybe the narrowest possible 16 interpretation of a accelerometer, you know, I'm 17 glad to -- to answer that question. But, in 18 general, you know, I can look up chips for 19 accelerometers on Google or DigiKey, and those chips 20 called "accelerometers" might -- might measure 21 multiple different things, depending on the 22 implementation and the use case. 23 Q. Do you understand that a magnetometer 24 detects rotation of the mobile communication device? 25 A. I didn't provide any opinions in my IPR	Page 84 1 declaration related to Exhibit 1013 from the 2 district court case, and, specifically, not this 3 slide at page 48. 4 In looking at this slide today, I don't 5 believe that I've ever seen and, certainly, not 6 reviewed this -- the -- what seems like an excerpt 7 from a patent here, U.S. 2- -- or maybe it's an 8 application -- U.S. 220/0337162. I don't bel- -- 9 I -- to the best of my knowledge today, I don't 10 believe I've ever seen that. 11 To interpret, you know, I believe you're 12 asking about the green highlighted sort of phrase -- 13 it looks mostly, like, a parenthetical -- to 14 interpret that, I would need to take a look at -- at 15 a minimum, thi- -- this patent application -- and 16 everything depends on context, so I'm sure this 17 Paragraph 869 has significant context. I'd want to 18 look at the patent specification, the claims, the 19 file history to kind of understand what's meant by 20 that phrase before I could give any opinions about 21 what -- what the phrase means. 22 BY MS. BAILEY: 23 Q. Dr. Feuerstein, could you pull out the 24 institution decision? 25 A. Okay. I have the PTAB decision on 399.

Page 85 1 Q. Can you turn to page 24, please? 2 A. Okay. I'm at page 24. 3 Q. Please, read the paragraph -- it's the 4 whole paragraph on the page. It's the only one on 5 the page -- beginning with, Caliola teaches a 6 difference, and I'm going to ask you some questions 7 about this paragraph. So feel free to read before 8 or after to the extent you would like. 9 (Witness is reviewing document.) 10 A. I've read the paragraph. Since it's 11 quoting Caliola, I'd like to go ahead and pull up 12 Caliola on my PDF, if that's okay. 13 BY MS. BAILEY: 14 Q. Feel free to; although, I will tell you 15 for the sake of time, that my question relates to 16 the board's claim construction, and not Caliola. 17 Your -- it's fine if you'd like to pull up Caliola, 18 but just for purposes of time ... 19 A. Okay. That's fine. I've got Caliola up, 20 so if you want to go ahead and ask the question. 21 Q. Do you see towards the bottom of that long 22 paragraph, it begins, On the present record where 23 neither party has requested construction? Do you 24 see that sentence? 25 A. Yes, I do. Page 86	Page 87 1 respect to Claim 11, do you understand that the 2 board's claim construction for the claim term, 3 quote, rotation of the mobile communication device, 4 is rotation of the device as a whole? 5 MR. LeROY: Objection to the form of the 6 question. 7 A. In my IPR declaration, I provided 8 significant detail on interpreting this -- these 9 passages -- this -- this passage relation -- related 10 to orientation sensor, and how I believe a POSITA, 11 at the time of the invention, would interpret it. I 12 didn't provide specific opinions on the -- the PTAB 13 decision, other than mentioning what -- what the 14 PTAB used. 15 I, reading this paragraph, would say that 16 this is -- seems how the PTAB board interpreted that 17 phrase. I'm not a lawyer, so I don't understand all 18 the nuances of a claim construction. And, for 19 example, in my declaration, I say this is how a 20 POSITA would have interpreted it. 21 So I'd say that this is how the board 22 interpreted that -- that phrase or those phrases in 23 its decision. 24 BY MS. BAILEY: 25 Q. Do you, as a POSITA, agree with the Page 88
1 Q. Okay. And if you continue on in that 2 sentence, it says that, We read that language in 3 Limitation 11E7, as requiring that the determination 4 of a direction to the remote device is based on 5 information about the rotation of the device as a 6 whole, which Caliola's orientation sensors do not 7 teach. 8 Do you understand this to be the board's 9 claim construction of the claim term regarding 10 rotation of the device -- and, actually, let me ask 11 a better question. I don't think that was a really 12 good question. 13 A. Okay. 14 Q. Please, look at the '246 Patent, 15 Column 39, Line 36. 16 A. Okay. I see that. 17 Q. This limitation is what is identified as 18 11E7, and it says, And on rotation of the mobile 19 communication device. 20 Do you see that? 21 A. Yes, I see that. I -- I don't have the 22 claim numbering in -- in the '246 Patent, but I -- I 23 trust that it's what you listed. 24 Q. So turning back to the board's institution 25 decision, now, that we kind of have a basis with	1 board's construction of the term "rotation of the 2 mobile communication device"? 3 A. In my IPR declaration, in the Claim 4 Construction section -- leading up to Paragraph 57, 5 but the prior paragraphs have significant detail -- 6 I state, specifically, that this claim construction, 7 meaning what I outlined in the prior paragraphs, is 8 consistent with the construction the board used in 9 its decision on institution. So, yes, my 10 interpretation is consistent with the board's. 11 Q. Could you tell me where you were just 12 quoting from in your declaration? 13 A. Yes, I quoted from Paragraph 57. I 14 believe it's this -- yeah, the second-to-the-last 15 sentence in that paragraph. 16 Q. Thank you. 17 What is your construction of the term, 18 quote, rotation of the mobile communication device, 19 as recited in Claim 11? 20 MR. LeROY: Objection to the form of the 21 question. 22 A. As I said earlier in that Paragraph 57 23 from my IPR declaration, my opinion is that a 24 POSITA, at the time of the invention, would have 25 interpreted the claim orientation sensor to detect

Page 89 1 rotation of the mobile communication device, and at 2 various places, I've emphasized that the mobile 3 communication device, prior to that, that that would 4 have been interpreted as referring to detecting the 5 rotation of the mobile communication device as a 6 whole. 7 BY MS. BAILEY: 8 Q. Please turn to Paragraph 50 of your 9 declaration. 10 So you agree that the board's construction 11 of, quote, rotation of the mobile device, is 12 rotation of the mobile device as a whole; correct? 13 And to be clear, I'm not, in this 14 question, asking your opinion on it. I'm just 15 making sure you understand that is the board's 16 construction. 17 MR. LeROY: Objection to the form of the 18 question. 19 A. In my IPR declaration, as I stated, at 20 Paragraph 57, I gave my interpretation of the 21 claimed orientation sensor to detect rotation of the 22 mobile communication device, and then how that would 23 be interpreted, and I concluded, basically, that 24 this claim construction, what I -- in an 25 interpretation I used in my analysis is consistent	Page 91 1 A. Okay. I'm at Paragraph 50. 2 Q. About the last five lines of that 3 paragraph -- maybe six, it begins, I believe that a 4 person of ordinary skill would have interpreted the 5 claim term, rotation of the mobile communication 6 device. I did not, quote, exactly there. 7 A. Yeah. 8 Q. But I'm just trying to orient you. 9 A. Okay. I see where it starts, I believe. 10 Q. And your opinion is, quote, To refer to 11 the rotation of the mobile communication device as a 12 whole, comma, as distinct from the rotation of one 13 component of the mobile communica- -- communication 14 device, relative to a different component of the 15 same device. 16 A. I see that. 17 Q. Do you agree with this opinion? 18 A. Yes, it's my opinion. 19 Q. I want to talk about the clause, as 20 distinct from -- the clause that begins, as distinct 21 from. 22 What is the basis for your opinion that 23 the construction requires the clause, as distinct 24 from the rotation of one component? 25 MR. LeROY: Objection to the form of the
Page 90 1 with the construction the board used in its decision 2 on institution. 3 I'm not a lawyer. I can't render an 4 opinion about the specifics of interpreting a 5 claim -- claim language versus a -- a new 6 construction. I know those are things that go on 7 in -- in various patent proceedings. Certainly, in 8 district cases that I'm aware of. So my 9 interpretation on construction is consistent with 10 what the board used. 11 BY MS. BAILEY: 12 Q. Dr. Feuerstein, I'm not trying to ask a 13 difficult or challenging question. I'm only 14 asking -- and I want to be very clear what I'm 15 asking -- 16 A. Okay. 17 Q. -- I'm only wanting to know: Do you 18 understand that the board interpreted this phrase as 19 rotation of the device as a whole? 20 A. Yes, that's my understanding of how the 21 board interpreted that phrase, and it's consistent 22 with what's in my declaration of what I used in my 23 analysis. 24 Q. Okay. So can we turn to Paragraph 50 of 25 your declaration?	Page 92 1 question. 2 A. In my IPR declaration, in the General 3 section that includes the Paragraph 50 that you've 4 asked me about an excerpt from, and in other 5 sections, I've provided significant detail on the 6 basis for my opinion, that that's how a POSITA would 7 interpret rotation of the mobile communication 8 device. 9 In general, my interpretation is on the 10 basis of the '246 Patent, the claims, the 11 specification, the file history, the -- you know, 12 how the '246 Patent, Howard, uses the orientation 13 sensor, describes it, talks about its functions. 14 So I provided detail in my declaration. 15 In order to be concise today, I'll stop there, but 16 I'd be glad to go through specific passages and 17 excerpts from '246 that justify that. I believe 18 that's how a POSITA, at the time of the invention, 19 would interpret that phrase. 20 THE WITNESS: And if you wouldn't mind, 21 like, a five-minute break would be good, just a 22 short break. 23 MS. BAILEY: Sure. Let's go off the 24 record. 25 (A recess was taken from 2:45 p.m. to

Page 93 1 2:50 p.m.) 2 BY MS. BAILEY: 3 Q. Dr. Feuerstein, we just took a break. 4 Before the break, we were talking about Paragraph 50 5 of your declaration. 6 Why did you feel the need, in your claim 7 construction in Paragraph 50, to add the clause, 8 quote, as distinct from the rotation of one 9 component of the mobile communication device, 10 relative to a different component of the same 11 device, where that clause was not included in the 12 board's construction? 13 A. In my IPR declaration, outside of 14 Paragraph 50, I provide significant detail about my 15 interpretation. And, I guess, in general, I would 16 say that there's several rationales for placing that 17 particular phrase in Paragraph 50, but, you know, 18 one is after reviewing Dr. Buehrer's declaration, I 19 believe that he misinterpreted that claim, and, 20 particularly, in applying Caliola as prior art. And 21 there's significant detail, like I said, elsewhere 22 in my declaration. And in the spirit of keeping 23 things concise and short today, I won't go into the 24 detail. I'd refer to other sections of my 25 declaration. But my disagreement with Dr. Buehrer,	Page 95 1 Paragraph 52, I explain a bit more about my 2 interpretation of the -- this particular language in 3 the -- in the claim. And I -- at the end of the 4 paragraph, talk about, My interpretation is evident 5 because the '246 Patent specification uses the 6 resulting rotation information, quote, to determine 7 a direction to the Wireless Device 120, end quote, 8 and feedback that direction to the user interface 9 via directional indicator, that- -- that's also -- 10 end quote. 11 So based on the '246 Patent specification, 12 you know, as well as the claim and claims -- 13 claims -- claim or claims, and the file history, a 14 POSITA would understand, at the time of the 15 invention, how '246 is using the direction 16 information to determine -- or use- -- using this to 17 determine a direction, and that that would be 18 consistent with my claim interpretation, and 19 consistent with my wording in the -- the sentence 20 that you're referring to, that '246 rotation of the 21 mobile communication device would refer to the 22 rotation of the mobile communication device as a 23 whole, and '246's use, description of the rotation 24 would not be consistent with rotation of one 25 component of the mobile communication device
Page 94 1 and then also with Apple's petition for the IPR 2 about that interpretation is one of the reasons that 3 I placed that phrase there. 4 Q. So is your construction based on the 5 Caliola reference? 6 MR. LeROY: Objection to the form of the 7 question. 8 A. No, my construction, as stated in my IPR 9 declaration, is not based on Caliola, and I think 10 I've been clear in this particular section of my 11 report, before and after Paragraph 50, about my 12 interpretation of the claim. And, you know, in 13 other parts of my report, I describe my 14 disagreements with Dr. Buehrer about his 15 interpretation of Caliola, but my claim construction 16 is not based on Caliola. 17 BY MS. BAILEY: 18 Q. Can you point me to a paragraph in your 19 declaration that explains why you feel the need to 20 add this clause, as distinct from the rotation of 21 one component, in addition to the board's 22 construction? 23 A. One example in my IPR declaration -- and 24 I -- there are others that, in the interest of time, 25 I won't discuss and answer your question -- but	Page 96 1 relative to a different component. So it seems 2 supported, logical to describe in that way, as I did 3 in Paragraph 50. 4 Q. Where does the '246 Patent describe 5 detecting rotation of the device as a whole, as 6 compared to detecting the orientation of one 7 component relative to another component? 8 A. One example of that is in my declaration, 9 Paragraph 53, where I excerpted from the '246 Patent 10 specification -- I think this is Column 11, Lines 43 11 to 52 -- where '246 Howard is talking about one or 12 more orientation sensors, and to determine direction 13 to the wireless device, and then, in particular -- 14 I'm just paraphrasing -- determine the particular 15 orientation of the device corresponding to the point 16 where the null of the antenna pattern is aligned 17 with the direction to the Wireless Device 120. 18 So that's one example among multiple in 19 the '246 Patent specification that describe how the 20 orientation sensor's used, how the information is 21 used that make it clear that -- to a POSITA, at the 22 time of the invention, that this is describing the 23 rotation of the wireless communication device as a 24 whole. The device, not one part of the device to 25 another. If it were instead to be how Dr. Buehrer

Page 97 1 interpreted it, then the orientation sensor wouldn't 2 perform the functions that the '246 specification 3 describes. 4 Q. What is "the mobile communication device" 5 to you? In your prior answer, you emphasized the 6 word "the," so can you explain to me what "the 7 mobile communication device" is to you? And I'm 8 emphasizing the word "the" there. 9 A. Okay. I explain I think explain in -- I 10 think great detail in my IPR declaration. One 11 example would be -- in answer to your previous 12 question -- I referred to Paragraph 53 of my IPR 13 declaration, which has an excerpt from the '246 14 Patent. And this is just one example, among others, 15 where '246 is talking about how this information is 16 used. It's used to, for example, point the null of 17 the antenna pattern aligned with the direction of 18 the wireless device, so determine a direction to the 19 wireless device. 20 The -- these particular passages from '246 21 and there are others and there are diagrams, fig -- 22 figures that show as well, are consistent with an 23 orientation or rotation of -- and I'm just going 24 to -- you can use various words -- you could say, 25 "the wireless device," I think a POSITA would	Page 99 1 that -- that Howard had in -- in the -- the use of 2 that orientation sensor and rotation. 3 BY MS. BAILEY: 4 Q. Please, look at Claim 11 of the '246 5 Patent. 6 A. Okay. I'm at Claim 11. 7 Q. Look at Column 39, Line 33, the limitation 8 beginning, Determine a direction. 9 A. Okay. I see that. 10 Q. This is the limitation that refers -- that 11 also recites, the rotation of the mobile 12 communication device. 13 Do you see that? 14 A. Yes, I see that. 15 Q. So this limitation requires determining a 16 direction to the at least one remote device; 17 correct? 18 A. Yes, I see the limitations says, Determine 19 a direction to at least one remote device. 20 Q. The determination of the direction has to 21 be based on signal delay. 22 Do you see that? 23 A. Yes. 24 Q. And on rotation of the mobile 25 communication device detected by the orientation
Page 98 1 understand that, particularly, in the context of the 2 '246 spec and the claims and the file history. But 3 if you wanted to add some other adjectives, you 4 know, the entire wireless device, the device as a 5 whole, is, you know, consistent with what the PTAB 6 board used, but it's the whole device. Rotation, as 7 opposed to Dr. Buehrer's interpretation, that it 8 could be one part of the device versus another. 9 As I said to the prior question, 10 Dr. Buehrer's interpretation, I don't believe would 11 be compatible with or conform with how Howard, in 12 the '246 spec and claims, I use the orientation 13 sensor information and related rotation. 14 Q. So do you really mean the entirety of the 15 housing of the device must be rotated? 16 MR. LeROY: Objection to the form of the 17 question. 18 A. I didn't give an opinion in my IPR 19 declaration about housing or the entirety of the 20 housing. My opinion is the wireless communication 21 device, the device as a whole, such that it would be 22 useable in the -- in the ways that the '246 23 specification describes. It would meet the 24 functions -- there are different embodiments in the 25 specification -- but that it would meet the purpose	Page 100 1 sensor. 2 Do you see that? 3 A. Yes. 4 Q. So do you agree that Claim 11 recites that 5 the -- the -- that the determination of a direction 6 to the at least one remote device is based on, one 7 signal delay, and, two, rotation of the mobile 8 communication device? 9 A. Yes, that reading would be, in general, 10 dire- -- in general, compatible with that claim 11 limitation. 12 Q. You referred earlier to Paragraph 53 of 13 your declaration, which quotes text from the '246 14 Patent. 15 A. Is that a question or you -- do you have 16 more? 17 Q. Do you recall -- thank you. Sorry, I did 18 not -- you're right, I did not actually ask a 19 question there. 20 A. Yes. You -- 21 Q. Do you recall -- 22 A. Oh, sorry, go ahead. 23 Q. Sorry. 24 Do you recall referring to Paragraph 53 25 just a few minutes ago?

Page 101 1 A. Yes, I recall referring to that, and then 2 also mentioning that there were other portions of 3 the '246 specification that I think provided 4 additional support. 5 Q. Does, rotation of the mobile communication 6 device, as recited in 39, have to be the same type 7 of rotation described in the text of the '246 Patent 8 quoted at Paragraph 53 of your declaration? 9 MR. LeROY: Objection to the form of the 10 question. 11 A. Could you repeat the question? 12 MS. BAILEY: Court Reporter, can you, 13 please, repeat the question? 14 (The record was read.) 15 A. No. The interpretation of the claim 16 language doesn't have to be, specifically, that 17 language that I excerpted from '246 at -- I think it 18 was Paragraph 53 -- is that the right paragraph? -- 19 of my -- yeah, 53 -- of my declaration. There could 20 be other embodiments in -- in the '246 Patent, and 21 the claim language is interpreted -- you know, claim 22 language is the claim language. There could be 23 other implementations that could meet the -- that 24 limitation of Claim 11. 25 But I guess let me -- let me add a little	Page 103 1 device would be the -- the device as a whole. If -- 2 if someone said: Can you move the car? "Move the 3 car would," I think, typically, be interpreted 4 moving the car as a whole, the complete vehicle from 5 one position to another versus opening the door, 6 moving the door, moving part of the car relative to 7 another part of the car. So that would, in general, 8 be my interpretation of explaining in greater detail 9 in my declaration. 10 Q. I have my phone here. It's just a -- kind 11 of a rectangle phone. It's not a flip phone or a 12 fold phone. It's just a good 'ole rectangle box. 13 Can you see it, Dr. Feuerstein? 14 A. Yes, I see your phone. 15 MR. LeROY: Objection to the form of the 16 question. 17 BY MS. BAILEY: 18 Q. Can you describe to me, using this 19 rectangular box, what you would consider as rotation 20 of the mobile communication device as a whole? 21 MR. LeROY: Same objection, and scope. 22 A. In my IPR declaration, I didn't provide an 23 opinion about a specific model of a mobile 24 communication device or a phone. If there is a 25 particular example from Dr. Buehrer's declaration or
Page 102 1 bit. But, you know, a POSITA, at the time of the 2 invention -- interpreting the claim language would 3 be informed by the patent specification, by the 4 claims -- well, first, by the claims, and then the 5 patent specification, and in the file history, and 6 in POSITA's interpretation of those claims. 7 BY MS. BAILEY: 8 Q. Is there anything in the file history that 9 informs your construction of rotation of the device? 10 A. For this particular patent, the '246 11 Patent, I don't recall anything specific in the file 12 history related to that. I don't have the file 13 history up right in front of me, but I -- my 14 declaration didn't refer to, quote, particular 15 things from the file history that I recall. 16 Q. In your construction, what do you mean by 17 "rotation of the device as a whole"? 18 A. As I've explained in my IPR declaration, 19 and I've answered similar questions in this -- prior 20 in this deposition, a POSITA, at the time of the 21 invention, would interpret the mobile communication 22 device as the device as a whole. I mentioned 23 another adjective that could be used is maybe its 24 entirety, and I think the plain and ordinary or the 25 customary interpretation of the mobile communication	Page 104 1 Apple's petition, I'd be glad to take a look at 2 that. 3 I provide, I think, detail in my IPR 4 declaration, for example -- just one example that 5 comes up very quickly -- Paragraph 51, toward, I 6 guess, the middle of the paragraph, I say, Indeed, 7 to a person skilled in the art, the plain meaning of 8 an object rotating involves the object, as a whole, 9 spinning around its own axis. 10 BY MS. BAILEY: 11 Q. Would you agree that this rectangular box, 12 my phone, is a known form factor for mobile 13 communication devices? 14 MR. LeROY: Objection to form. 15 A. I didn't provide any opinions in my IPR 16 declaration about specific form factors for phones 17 or mobile communication devices. If you want to 18 point me to something in Dr. Buehrer's declaration 19 or Apple's petition, I'm glad to take a look at 20 that. 21 I've, personally, been in the wireless 22 device phone industry for a long time. There are 23 many different form factors. Some are similar. You 24 know, as the form factor you're referring to, 25 it's -- it looks like a -- it could be similar to an

Page 105 1 old -- what they used call a candy bar phone. It 2 could be similar to, you know, a Blackberry-type. 3 You know, flat. Could be similar to a tap -- so 4 I -- you'd have to be more specific about what the 5 form factor -- there are so many -- so many 6 different devices, so many form factors, and so many 7 ways to sort of lump them into different categories. 8 BY MS. BAILEY: 9 Q. Let's go back to Paragraph 51 of your 10 declaration, which you just referred to. 11 In this paragraph, you have the sentence, 12 Indeed, to a person skilled in the art, the plain 13 meaning of an object rotating involves the object, 14 as a whole, spinning around its own axis. 15 Can you explain that sentence to me, in 16 your opinion? 17 A. One example would be in Paragraph 41 of my 18 declaration, where I -- I also excerpt part of the 19 '246 Patent. This particular excerpt is talking 20 about, Directional antennas, and it says, They can 21 be employed in both the xy and xz or yz planes to 22 distinguish a z-axis, as well as a x- and y-axis 23 coordinates. 24 So these would be examples of axes that 25 would apply or could apply to a mobile communication	Page 107 1 of the Handheld Device 256, about roll, pitch, or 2 yaw axes can be detected and used to adjust the 3 orientation of the screen pointer. So that's -- 4 this is analogous to x, y, and z. Another way to 5 define axes is roll, pitch, and yaw, more aligned 6 with aircraft kind of terminology. And, you know, 7 this is another excerpt from '246 that explains 8 rotation of the handheld device about those axes. 9 Q. In order for a mobile communication device 10 to satisfy your claim construction of, rotation of 11 the device as a whole, does the mobile communication 12 device need to spin around its own axis 360 degrees? 13 MR. LeROY: Objection to form. 14 A. I did not, in my IPR declaration, provide 15 any opinion that rotating 360 degrees would be 16 required. If there's something in Dr. Buehrer's 17 declaration or Apple's petition that you'd like me 18 to take a look at -- but, yeah, as my declaration, I 19 think, provides good detail on, and just looking 20 today at Claim 11, the relevant claim limitation, it 21 says, On rotation of the mobile communication device 22 detected by the orientation sensor. There's nothing 23 that a POSITA, at the time of the invention, would 24 read into that to require the detected rotation to 25 be any particular value, such as 360 degrees or
Page 106 1 device and rotation of the mobile communication 2 device about one or more of those axes that are 3 associated with that device. 4 Q. How does the discussion at Paragraph 41 of 5 your declaration explain, the object, as a whole, 6 spinning around its own axis, that you have in 7 Paragraph 51? 8 MR. LeROY: Objection to the form of the 9 question. 10 A. As I explained in my IPR declaration, in 11 the particular section that I just quoted and you 12 asked about -- you asked about axes and how rotation 13 about an axes might be interpreted. That particular 14 section from '246 talks about axes associated with a 15 device, and, I guess, in forms, you know, what those 16 axes might be. 17 BY MS. BAILEY: 18 Q. I'm confused -- 19 A. Now, I'm. 20 Q. Oh, I'm sorry. 21 A. No, no, I'm sorry. I'm not done. 22 And, you know, the -- other examples at 23 Paragraph 55, for example, I talk about '246 -- '246 24 specification explaining, and referring to 25 Figure 30, Changes of orientation, such as rotation	Page 108 1 greater. 2 BY MS. BAILEY: 3 Q. So would rotation of .5 degrees of the 4 mobile communication device around its own axis meet 5 the claim limitation, as you have construed it? 6 MR. LeROY: Objection to the form of the 7 question. 8 A. In my IPR declaration, I didn't provide 9 any opinion on the use of .5 degrees. You know, 10 I -- that would interpret that as sort of the lowest 11 permissible amount of rotation that would meet the 12 claim limitation. If there's something in 13 Dr. Buehrer's declaration or Apple's petition 14 related to .5 degrees or very small rotations -- as 15 an engineer or as a computer scientist, depending on 16 what degree the POSITA had, a POSITA, at the time of 17 the invention, would understand that any -- any 18 system -- in general -- but any electrical system in 19 particular, or any wireless system, any measurement 20 sensor system would have some practical resolution 21 constraints, maybe practical. 22 It -- so a POSITA would understand that 23 there might be some practical -- like, a limit such 24 that, you know, it -- if the sensor was red and it 25 was an extremely small value that was below the

Page 109 1 error level or the noise level of that sensor, such 2 that you could get ran- -- for example, random 3 errors larger than -- I think there prac- -- there 4 might be a practical lower limit -- but the -- the 5 POSITA would understand how to interpret on the 6 rotation of the mobile communication device detected 7 by the orientation sensor at the time of the 8 invention. 9 BY MS. BAILEY: 10 Q. So I gather from your answer, that the 11 rotation does not have to be a specific degree 12 amount to satisfy the claim applying your 13 construction? Is that correct? 14 A. Well, I haven't -- 15 MR. LeROY: Objection to the form of the 16 question. 17 A. Yeah, I haven't provided any opinion on 18 specific values, quantities, bounds on the rotation. 19 If, in my IPR declaration -- if there's something in 20 Dr. Buehrer's declaration or the Apple petition that 21 you'd like me to look at around specific values, the 22 claim limitation that we're talking about doesn't 23 recite any particular values, upper or lower bounds. 24 BY MS. BAILEY: 25 Q. Does rotation about a single axis satisfy	Page 111 1 Q. So if the orientation sensor detects 2 rotation of the device, the orientation sensor 3 satisfies the claim? Is that correct? 4 A. As interpreted in the context of the rest 5 of the claim, yeah, that's -- that's my answer. 6 Q. Let's go off the record, please. 7 (A recess was taken from 3:30 p.m. to 8 3:38 p.m.) 9 BY MS. BAILEY: 10 Q. Dr. Feuerstein, I'd like you to pull out 11 the Patent Owner Response. 12 A. There are -- I see a Preliminary Response 13 and a Response. I assume you want the -- the 14 Response. 15 Q. That's correct. 16 A. Okay. I have that document up. 17 Q. And could you, please, turn to page 17? 18 A. Okay. I'm at page 17. 19 Q. You've previously opined that you drafted 20 your declaration; is that correct? 21 A. Yes, I drafted my initial draft of the 22 declaration, and then I worked with the legal team 23 on, for example, the legal aspects, and edits to the 24 declaration. 25 Q. Could you, please, turn to your
Page 110 1 the claim limitation, as you have construed it? 2 MR. LeROY: Objection to the form of the 3 question. 4 A. In my IPR declaration, I didn't provide 5 any specific opinions about which specific axes, 6 whether it's one axes or three axes, whether they're 7 labeled, x, y, z, or yaw, pitch, and roll. It's 8 certainly possible that one axis rotation could meet 9 the claim. It's possible that multiple axis 10 rotation could meet the claim. 11 The claim limitation says, On rotation of 12 the mobile communication device detected by the 13 orientation sensor. That's what needs to be met to 14 meet the claim. 15 BY MS. BAILEY: 16 Q. Because the claim is broad and just simply 17 saying, rotation of the device; correct? 18 MR. LeROY: Objection to the form of the 19 question. 20 A. No. I wouldn't categorize the claim as 21 broad. I'd say the claim reads as the claim reads. 22 The claim reads, on rotation of the mobile 23 communication device detected by the orientation 24 sensor. It says what it says. 25 BY MS. BAILEY:	Page 112 1 declaration at Paragraph 54? 2 A. Okay. I have my declaration open to that 3 paragraph. 4 Q. Can you, please, compare Paragraph 54 of 5 your declaration to the first paragraph on the 6 Patent Owner Response, and can you, please, confirm 7 that these are verbatim paragraphs? 8 A. Yes, they appear to be verbatim 9 paragraphs, and then I notice in the Patent Owner's 10 Response, there's a reference to Exhibit 2002, 11 Paragraph 54. 12 Okay. See that? That's my declaration at 13 this particular paragraph. 14 Q. Did you draft this paragraph of the Patent 15 Owner Response? 16 MR. LeROY: Objection to the form of the 17 question. 18 A. As I've said previously, I wrote the 19 initial draft of my declaration. I worked with the 20 legal team to get legal inputs and edits. I don't 21 remember, today, remember exactly which sentence was 22 edited or written by whom, but I stand behind 23 everything in my declaration. 24 BY MS. BAILEY: 25 Q. Can you move to Paragraph 55 of your

Page 113 1 declaration, and compare it to the next paragraph on 2 page 17 of the Patent Owner Response? 3 A. Yes. Those paragraphs look to be the same 4 or substantially the same. And, then, I see the 5 reference to -- in the Patent Owner's Response -- to 6 my declaration, Exhibit 2002, at Paragraph 55. 7 Q. So did you draft this paragraph of the 8 Patent Owner Response? 9 MR. LeROY: Objection to the form of the 10 question. 11 A. Again, in terms of my IPR declaration, I 12 compare several realms of my own notes into an 13 initial draft that I work with the legal team on 14 adding legal input and edits. I don't remember, you 15 know, which particular sentences or phrases might 16 have been edited at various times. Certainly, this 17 particular paragraph is technical material related 18 to the -- the '246 Patent, so I would assume, 19 sitting here today, that I was heavily involved in 20 writing this paragraph. There might have been edits 21 or changes, and I stand behind everything in my 22 declaration. 23 BY MS. BAILEY: 24 Q. Well, we've just looked at two paragraphs 25 in your declaration that are verbatim to paragraphs	Page 115 1 Q. There were many times in today's questions 2 that you started out your answer saying that you did 3 not opine in your declaration on a particular 4 subject matter, yet, you just said that you were 5 meticulous in preparing your declaration. 6 So should I assume that every time you 7 said you did not opine, that that means that you do 8 not have an opinion? 9 A. No, not at all. In fact, I think the -- 10 the opposite might be true. As I said, I prepare 11 copious notes. I spent many hours, which I -- I 12 normally do in my engagements, but this one in 13 particular, I think, 70 or 80 hours between the two 14 IPRs. I have opinions on a number of other items. 15 I have disagreements with Dr. Buehrer and Apple's 16 petition. In other areas in preparing my 17 declaration and consultation with the legal team, in 18 order to keep things concise, I put in what I would 19 say are a subset of my analyses and notes. So, no, 20 you cannot assume that I don't have opinions on 21 things that are not specifically in my IPR 22 declaration. 23 Q. Then why did you continue to answer a 24 question that you have not opined on it, and then 25 not provide an answer, if you have opinions?
Page 114 1 in the Patent Owner Response, but for the citation 2 to your declaration. 3 For purposes of time, would you agree that 4 there were several paragraphs in your declaration 5 that are verbatim to paragraphs in the Patent Owner 6 Response? Otherwise, we can walk through additional 7 paragraphs. 8 MR. LeROY: Objection to the form of the 9 question. 10 A. You've -- prior questions pointed out one 11 small, what I might call an introductory paragraph, 12 and then Paragraph 55, as being the same or 13 substantially similar between my declaration and the 14 Patent Owner's Response. As I've said before, I -- 15 I am meticulous about providing detailed analysis 16 and notes that I evolve into a draft for my reports 17 or declaration, in this case, and then work with the 18 legal team on legal input and edits. 19 To the extent there are similarities or 20 even the same paragraphs or phrases -- you know, 21 I'm -- I'm not involved in writing the Patent 22 Owner's Response -- to the extent there are 23 similarities or as in verbatim, they took what I 24 wrote -- or they took from my declaration. 25 BY MS. BAILEY:	Page 116 1 A. I mean, if there's a particular question 2 that -- I mean, you didn't ask -- do you have some 3 other opinion from your notes -- if -- if I had 4 particular -- like, a -- when I do analyses, some of 5 those analyses are complete opinions, some are -- 6 might be formative, they might be informed by legal 7 aspects of things. So there are many reasons 8 that -- and some of the questions that you asked, I 9 may not -- I -- I don't have opinions on every 10 single aspect of every question that you asked. So 11 on a case-by-case basis, I -- I provided opinion. 12 If I did analysis on that, if it was something that 13 was in my report -- declaration, I comment in that 14 fashion. So it's really case by case, I answer 15 questions. 16 MS. BAILEY: I have no further questions. 17 MR. LeROY: Okay. I need to briefly 18 confer with the witness, and then, potentially, come 19 back on the record, so I would like a few minutes to 20 do that. 21 So if you can all hang tight, and I'll -- 22 then I'll come back on. 23 MS. BAILEY: What is your basis for 24 conferring with the witness? Is that allowed under 25 board rules?

Page 117 1 MR. LeROY: Yes, as a precedential 2 opinion, it says I can confer with my witness after 3 your cross-examination is complete, when those 4 communications are privileged. 5 MS. BAILEY: We can go off the record. 6 (A recess was taken from 3:51 p.m. to 7 4:03 p.m.) 8 EXAMINATION 9 BY MR. LeROY: 10 Q. All right. Dr. Feuerstein, just -- I have 11 a couple of follow-up questions to ask you. The 12 first one is more of a housekeeping question. 13 Earlier today, there was some questions 14 about a gyroscope in the context of Exhibit 1013, 15 and that was, specifically, THL's Preliminary 16 Infringement Contentions. 17 Do you recall that? 18 A. Yes. 19 Q. And I -- I could be wrong. I don't have 20 the transcript in front of me, but I recall you made 21 a statement to the effect of you not providing 22 opinions relating to a gyroscope in the context of 23 Claim 11. That's my recollection. I guess the 24 record will reflect it. 25 But to the extent you've made that	Page 119 1 let me check and see if there's dates on here. 2 Okay. So I do see on page 3, that this 3 Exhibit 1013 is dated May 30, 2023. So, yes, it's 4 well over a year ago. 5 Q. And are you aware of the extent of Apple's 6 technical document production, as of the time those 7 contentions were served? 8 MS. BAILEY: Objection. Scope. And 9 foundation. 10 A. My recollection from that time period was 11 that there was not any or not much production from 12 Apple. My recollection was that this was more 13 publicly available information. 14 BY MR. LeROY: 15 Q. And are you aware that since Exhibit 1013 16 was served, that Apple has, in fact, provided 17 technical documents describing, for example, its 18 implementation of a gyroscope? 19 A. Yes, I'm aware of additional document 20 productions from Apple since the time of the 1013 21 exhibit. 22 Q. And are you aware of a deposition of Apple 23 that took place regarding its specific 24 implementation of the gyroscope? 25 MS. BAILEY: Objection. Scope.
Page 118 1 statement, was that with respect to Exhibit 1013 or 2 more broadly? 3 MS. BAILEY: Objection. Foundation. 4 A. That -- if I made that statement in that 5 line of questioning relative to that Exhibit 1013, 6 it was in relation to THL's Infringement 7 Contentions. In my IPR declaration, I do provide 8 opinions about gyroscopes in relation to 9 infringement, and, for example, Caliola. So my -- 10 the context with which I gave those answers was 11 relative to the 1013 exhibit. 12 BY MR. LeROY: 13 Q. You just -- I think you just indicated 14 that you gave opinions relative to infringement. 15 Did you mean invalidity or in -- 16 A. Oh, I'm sorry. Yeah, I'm sorry, validity. 17 I'm sorry, I meant validity -- 18 Q. Okay. 19 A. -- as a -- 20 Q. And are you aware of the date of THL's 21 Preliminary Infringement Contentions that are 22 Exhibit 1013? 23 A. Let me look at Exhibit 1013. I certainly, 24 during that questioning, felt like this was a very 25 old document. I think I said at least a year. And	Page 120 1 A. Yes, I am aware and have reviewed the 2 deposition of -- I believe it was Mr. Brumley from 3 Apple. 4 BY MR. LeROY: 5 Q. And I don't think we need to get into the 6 details here, outside of the scope of the actual 7 claim language, but -- but did Mr. Brumley's 8 deposition testimony provide the context, if you 9 will, at least in terms of Apple's documentation of 10 the implementation of the gyroscope? 11 MS. BAILEY: Objection. Scope and 12 foundation. 13 A. Yes. Yes. The Brumley deposition 14 transcript makes clear in much more context and 15 detail that Apple makes use of gyroscopes in -- 16 specifically, for rotation in direction finding, and 17 that it's used in a manner that's consistent with 18 the -- the Claim 11. 19 It also makes clear in more detail that 20 Brumley's transcript deposition and the documents 21 from Apple are used differently and distinctly from 22 Caliola. Caliola prior art does only motion 23 detection, and, potentially, even just binary 24 moving, not moving. For Caliola, the gyroscope -- I 25 believe he says, Semiconductor gyroscope chip in

Page 121 1 Caliola is not used for rotation detection. 2 BY MR. LeROY: 3 Q. And is that consistent with the opinions 4 you've already expressed in your declaration in this 5 IPR proceeding? 6 A. Yes, that is consistent. 7 MR. LeROY: Thank you, Dr. Feuerstein. I 8 have no further questions. 9 MS. BAILEY: Let's go off the record. 10 (A recess was taken from 4:09 p.m. to 11 4:13 p.m.) 12 EXAMINATION 13 BY MS. BAILEY: 14 Q. Dr. Feuerstein, during redirect from your 15 counsel, I believe that you opined that the 16 semiconductor gyro sensor in Caliola is not used for 17 rotation detection. 18 Am I recalling correctly? 19 A. Yes, I think that's consistent with my IPR 20 declaration, and the Caliola, and my excerpts from 21 that. 22 Q. Is this a new opinion from you or is it in 23 your declaration? 24 A. No, it's not a new opinion. It's stated 25 in my declaration. For example, at Paragraph 66, I	Page 123 1 parenthetical sort of in the middle of that 2 paragraph, it says, e.g., in the form of a 3 semiconductor gyroscope chip, comma, micro motion 4 sensor, et cetera. 5 And a POSITA, at the time of the 6 invention, would be able to read Caliola as a whole, 7 but this paragraph in particular talks about -- as I 8 said in my report, managing or conserving battery 9 life, and, basically, turning on and off the 10 tracking, and this is based on -- give me a second 11 to highlight the right portions -- what Caliola 12 describes later in Paragraph 84, in relation to the 13 motion sensing -- or motion sensors, is that 14 Caliola's motion sensor is what I would call a 15 binary sensor. It's detecting what's described in 16 the paragraph as the -- the, WCD100 being moved, and 17 then later in the paragraph he describes it, 18 analogously, WCD100 -- a position of the WCD100 19 changes. 20 So it's moving is one state, and then 21 another state that's detected is if WCD100 is 22 motionless, and then later in the paragraph, 23 analogously, he says, WCD100 is stationary. 24 So this is a -- a -- a motion sensor 25 that's binary. I would -- I think a POSITA would
Page 122 1 talk about the gyroscope in the context of Caliola, 2 specifically, in his Paragraph 84, and that this 3 disclosure pertains to managing or conserving 4 battery life by suspending, and then resuming -- I'm 5 just paraphrasing -- tracking applications based on 6 the Caliola's WCD being moving or -- I think he also 7 refers to it -- something to the effect of changing 8 position or being -- say versus stationary or 9 motionless, I think, is another term that Caliola 10 uses in that paragraph. 11 So this, among other parts of my 12 declaration, talked about the gyroscope in the 13 context of Caliola, and I do think that Caliola, in 14 his -- he has a list of different things that could 15 be used for this motion sensor. I believe he says, 16 Semiconductor gyroscope chip, if I recall Caliola 17 correctly. And I'd be glad to pull that up and 18 provide more context, if you'd like. 19 Q. What is your factual basis for your 20 opinion that Caliola's semiconductor gyroscope chip 21 does not detect rotation? 22 A. As I described in my IPR declaration, for 23 example, in Caliola Exhibit 104, at Paragraph 84, I 24 believe, this particular paragraph is the only place 25 that Caliola mentions "gyroscope." So it's in a	Page 124 1 understand is a very simple motion sensor that's 2 just detecting stationary versus moving, and that's 3 confirmed -- let me -- give me a second to pull up 4 the right figure in Caliola -- okay. It's -- 5 Figure 12 is a -- a very specific kind of flow-chart 6 diagram of what's going on with Caliola. And when 7 you look at Figure 12, a POSITA, at the time of the 8 invention, would understand that the -- the box -- 9 or just the -- the Diamond 1230 in Figure 12 where 10 it says, Motion Detected, it's just doing "yes" or 11 "no," stationary or moving, but that's a very simple 12 motion detector that is not detecting rotation. 13 And, in fact, I think that's a large part 14 of the reason that Caliola never mentions a rotation 15 because the motion sensor here is not used to detect 16 rotation, and a POSITA, at the time of the 17 invention, would understand that. 18 MS. BAILEY: No further questions. 19 MR. LeROY: No further questions. Thank 20 you for your time, Dr. Feuerstein. 21 THE WITNESS: You're welcome. Thank you. 22 THE COURT REPORTER: Read and sign? 23 MR. LeROY: Yes. And just the e-trans, 24 that's all we need. 25 THE COURT REPORTER: A standing order?

1 MS. BAILEY: Yes. Because I am not 2 allowed to give orders. 3 (The deposition concluded at 4:23 p.m.) 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 125 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 127 1 ERRATA SHEET 2 Witness: Martin J. Feuerstein, PH.D. 3 APPLE, INC. v. THL HOLDING COMPANY, LLC 4 Date Taken: December 11, 2024 5 Page #____ Line #____ 6 Should read: 7 _____ 8 Reason for change: 9 _____ 10 11 Page #____ Line #____ 12 Should read: 13 _____ 14 Reason for change: 15 _____ 16 17 Page #____ Line #____ 18 Should read: 19 _____ 20 Reason for change: 21 _____ 22 23 Witness Signature: _____ 24 25
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 126 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 128 1 STATE OF) 2) 3 COUNTY OF) 4 I, Martin J. Feuerstein, PH.D., do hereby certify: 5 That I have read the foregoing deposition; 6 That I have made such changes in form and/or 7 substance to the within deposition as might 8 be necessary to render the same true and 9 correct; 10 That having made such changes thereon, I 11 hereby subscribe my name to the deposition. 12 I declare, under penalty of perjury, that 13 the foregoing is true and correct. 14 Executed this ____ day of _____, 15 20____, at _____. 16 17 _____ 18 Notary Public 19 20 My commission expires: _____ 21 22 _____ 23 Martin J. Feuerstein, PH.D. 24 25

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