UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner,

v.

MASIMO CORPORATION,

Patent Owner

IPR No. 2024-00241, 2024-00243, 2024-00244

U.S. Patent 10,687,743 and 10,722,159

DEPOSITION OF DR. BRIAN W. ANTHONY

October 28, 2024

12:00 p.m. PT

Reported by: Eileen Mulvenna, CSR/RMR/CRR

DIGITAL EVIDENCE GROUP

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MASIMO 2107
Apple v. Masimo
IPR2024-00243

1 REMOTE VIDEOTAPED DEPOSITION of
2 DR. BRIAN W. ANTHONY, Expert Witness on behalf of
3 Petitioner in the above-titled action, held on
4 Monday, October 28th, 2024, commencing at
5 approximately 12:00 p.m. (Pacific Time) before
6 Eileen Mulvenna, CSR/RMR/CRR, Certified Shorthand
7 Reporter, Registered Merit Reporter, Certified
8 Realtime Reporter, and Notary Public of the State of
9 New York.
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1 A P P E A R A N C E S:

2

3 ON BEHALF OF THE PETITIONER:

4 FISH & RICHARDSON

5 BY: USMAN KHAN, ESQ.

6 1000 Maine Avenue SW, Suite 1000

7 Washington, D.C. 20024

8 202.783.5070

9 khan@fr.com

10

11 -and-

12

13 ANDREW B. PATRICK, ESQUIRE

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15 Austin, Texas 78701

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18

19

20

21

22

1 A P P E A R A N C E S (Continued):

2

3 ON BEHALF OF PATENT OWNER:

4 KNOBBE, MARTENS, OLSON & BEAR, LLP

5 BY: DANIEL KIANG, ESQ.

6 2040 Main Street

7 Irvine, California 92614

8 949.760.0404

9 daniel.kiang@knobbe.com

10

11

12 ALSO PRESENT:

13 Henry Marte, Document Technician

14

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21

22

1 I N D E X

2 WITNESS EXAMINATION BY PAGE

3

4 DR. BRIAN W. ANTHONY

5 MR. KIANG 6

6

7 E X H I B I T S

8 PAGE

9

10 Exhibit 1 No Bates Numbers, Press 91

11 Release September 15, 2020

12 Exhibit 1003 Previously marked 12

13 Exhibit 1003 Previously marked 14

14 Exhibit 1003 Previously marked 16

15 Exhibit 2037 Previously marked 67

16 Exhibit 2038 Previously marked 53

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1 THE REPORTER: Counsel, before I swear
2 in the witness, do all counsel stipulate to
3 the witness being sworn in remotely?
4 MR. KHAN: Yes.
5 MR. KIANG: Yes.
6 THE REPORTER: Counsel, please state
7 your appearances for the record.
8 MR. KIANG: This is Daniel Kiang from
9 Knobbe Martens representing the Patent Owner,
10 Masimo Corporation.
11 MR. KHAN: This is Usman Khan
12 representing petitioner, Apple, from Fish &
13 Richardson.
14 DR. BRIAN W. ANTHONY,
15 having been duly sworn by Eileen Mulvenna,
16 a Notary Public of the State of New York,
17 was examined and testified as follows:
18 EXAMINATION
19 BY MR. KIANG
20 Q. Good morning, Dr. Anthony. Nice to
21 see you again.
22 A. Good morning.

1 Q. Could you please state your full name
2 for the record?
3 A. Brian Warren [ph] Anthony.
4 Q. And you've been deposed before?
5 A. Yes, I have.
6 Q. Do you know how many times?
7 A. Approximately eight, nine or so.
8 Q. And you've been deposed in relation to
9 the other IPRs that Masimo filed against Apple; is
10 that correct?
11 A. Yes.
12 Q. Sorry, I think I got that wrong.
13 You've been deposed in other IPRs that
14 Apple filed against Masimo; correct?
15 A. Yes.
16 Q. Is there any reason why you would not
17 be able to provide truthful and accurate testimony
18 today?
19 A. No.
20 Q. Are you currently on any medications
21 that could affect your ability to provide truthful
22 and accurate testimony?

1 A. No.
2 Q. Do you have any documents with you?
3 A. I've printed out my declarations, the
4 clean versions from counsel, from Fish. And also
5 the primary references that I relied on.
6 Q. For the record, could you please
7 identify all the different documents that you have
8 with you?
9 A. Certainly. My declarations, so
10 they're Apple's Exhibit 1003. There are three of
11 them. Do you want me to read the attorney docket
12 numbers or --
13 Q. Sure, go ahead.
14 A. Okay. Well, the first one is Attorney
15 Docket No. 50095-0133IP1.
16 The next is also Exhibit 1003, but
17 that's Attorney Docket No. 50095-0134IP1.
18 And then the third declaration, also
19 Exhibit 1003, Attorney Docket No. 50095-0134IP2.
20 I then printed out the two patents
21 that I call the '743 and the '159. Those are
22 Exhibits 1001. The patent number is

1 U.S. 10,687,743 B1. And then the other one is the
2 '159, or U.S. 10,722,159.
3 Then I've also printed out the primary
4 exhibits. So Iwamiya, which is Exhibit 1004.
5 That's Patent No. U.S. 8,670,819 B2.
6 The Sarantos patent, which is Apple
7 Exhibit 1005. And that's U.S. Patent
8 No. 9,392,946 B1.
9 The Utter, which is Exhibit 1006.
10 It's Patent No. U.S. 8,446,275 B2.
11 The Han, which is Apple 1008, Patent
12 Publication Number U.S. 2016/0058312 A1.
13 And then the Shie, which is Apple
14 Exhibit 1007, U.S. 6,483,976 B2.
15 Q. Thank you, Dr. Anthony.
16 And other than those documents, do you
17 have anything else with you --
18 A. No.
19 Q. -- besides those documents?
20 Do you have any notes with you?
21 A. No.
22 Q. So all the documents that you just

1 listed were clean copies; is that right?
2 A. That is correct.
3 Q. And other than through this
4 videoconference that I'm talking to you with -- to
5 you right now, are you in communication with anyone
6 else --
7 A. No.
8 Q. -- outside of this videoconference?
9 A. No.
10 Q. And other than through this
11 videoconference, do you presently have any means of
12 communicating with counsel for Apple?
13 A. No.
14 Q. I'll be asking you a series of
15 questions today. I would ask that you please wait
16 until I've completed the question before answering.
17 If you don't understand a question, please let me
18 know, and I will try to explain or rephrase the
19 question.
20 Does that sound fair?
21 A. Yes.
22 Q. If you do not ask me to clarify a

1 question, I'll assume that you understood the
2 question.
3 Is that also fair?
4 A. Yes.
5 Q. You can take a break at any time
6 today, but I ask that if there's a question pending,
7 that you please answer the question before taking a
8 break.
9 Is that okay?
10 A. Yes.
11 Q. And do you understand that you're
12 being deposed today in connection with three
13 declarations that you provided?
14 A. Yes.
15 Q. And those declarations are one for
16 IPR 2024-00241?
17 A. Sorry, they're the numbers that are
18 consistent with the three -- the three that I read
19 to you.
20 Q. Okay. So I guess you don't have a way
21 of identifying them by the IPR number. Is that what
22 you're saying?

1 A. I have the attorney docket numbers on
2 them. Let's see. Is there -- let's see. I don't
3 know where the other numbers might be.
4 Q. Okay. That's fine.
5 Why don't we get some naming
6 convention out of the way first then.
7 MR. KIANG: Could I please have the
8 hot seater please pull up Tab 1.
9 And this document has been previously
10 marked as Exhibit 1003 in IPR 2024-00241.
11 (Exhibit 1003, Previously marked.)
12 BY MR. KIANG:
13 Q. Dr. Anthony, do you recognize this
14 document?
15 A. Yes, I do.
16 Q. Okay. I believe this document was
17 also the first document that you had listed earlier
18 today. So if that helps, I'm going to be going in
19 the same order that you had listed your declarations
20 earlier.
21 A. Yes.
22 Q. Okay. Is this your signature on the

1 cover of Exhibit 1003?
2 A. Yes.
3 Q. You signed this on December 9, 2023?
4 A. Yes.
5 Q. And this declaration concerns
6 U.S. Patent No. 10,687,743; is that correct?
7 A. Correct.
8 Q. And will you understand if I refer to
9 that patent as the '743 patent today?
10 A. Yes.
11 Q. And will you understand if I refer to
12 this particular declaration as the '241 declaration?
13 A. The '241? So I will need to write
14 that down to remember that number because that
15 number does not pop into my head, but...
16 Q. Okay. If you want to make a marking
17 on your clean copy, that's fine.
18 A. Okay.
19 Q. I might call it Tab 1 or '241
20 declaration. I'll be referring to those numbers
21 throughout today.
22 A. So '241?

1 Q. Yes.
2 A. Okay.
3 MR. KIANG: We can take that down.
4 And could I have the hot seater please
5 pull up Tab 2. And this document was
6 previously marked as Exhibit 1003 in
7 IPR 2024-00243.
8 (Exhibit 1003, Previously marked.)
9 BY MR. KIANG:
10 Q. And, Dr. Anthony, do you recognize
11 this document?
12 A. Yes, it's the cover to my second
13 declaration that I listed previously.
14 Q. And can we -- and by the way,
15 Dr. Anthony, I believe all of these exhibits are
16 available for download on the marked exhibits
17 download link in the chat. So if you need to take a
18 look at these, feel free to do so.
19 A. I'm sorry, let me click on that.
20 Okay, I have them.
21 MR. KIANG: Okay. Can we quickly turn
22 to page 150 of this document.

1 BY MR. KIANG:
2 Q. Are you there?
3 A. Yes, I am.
4 Q. Is this your signature on page 150?
5 A. Yes.
6 Q. You signed this on November 30, 2023?
7 A. Yes.
8 Q. And this declaration concerns
9 U.S. Patent No. 10,722,159; is that correct?
10 A. Correct.
11 Q. And will you understand if I refer to
12 that patent as the '159 patent?
13 A. Yes.
14 Q. Will you understand if I refer to this
15 particular declaration as the '243?
16 A. I will, if I also can write that on my
17 sheet.
18 Q. Yes, go ahead.
19 A. Okay. '243. Okay.
20 MR. KIANG: Okay. You can take that
21 down.
22 Can we pull up Tab 3. And this has

1 been previously marked as Exhibit 1003 in
2 IPR 2024-00244.
3 (Exhibit 1003, Previously marked.)
4 BY MR. KIANG:
5 Q. Dr. Anthony, do you recognize this
6 document?
7 A. Yes, it's the cover to my
8 third declaration.
9 Q. If we turn to page 163. And let me
10 know when you're there.
11 A. Yes.
12 Q. Okay. Is this your signature on
13 page 163?
14 A. Yes.
15 Q. And you signed this on November 30,
16 2023?
17 A. Yes.
18 Q. This declaration also concerns the
19 '159 patent; is that right?
20 A. Correct.
21 Q. And will you understand if I refer to
22 this particular declaration as the '244 declaration?

1 A. '244. I will write that down, as
2 well.
3 Q. Got it.
4 MR. KIANG: And we can take down Tab 3
5 for now.
6 BY MR. KIANG:
7 Q. What did you do to prepare for today's
8 deposition?
9 A. I reviewed the documents that I just
10 described as having been printed out and also had
11 conversations with counsel.
12 Q. When did you meet with counsel?
13 A. Over the last couple of weeks.
14 Q. Do you know how long those sessions
15 were?
16 A. Where I was reviewing or --
17 Q. Your meetings with counsel.
18 A. Couple of hours.
19 Q. Couple of hours each or couple of
20 hours total?
21 A. Couple of hours total each -- I don't
22 remember the exact duration of the meetings.

1 Q. Did you review any documents in
2 preparation for today's deposition?
3 A. My declarations and the documents that
4 I described as -- that I printed out, and other
5 relevant documents to the case, but I didn't print
6 out all of them.
7 Q. What other documents did you review
8 other than the ones that you printed out?
9 A. So, for example, in the '159, or your
10 '243, for example, I give a list on -- for example,
11 on page 86 of my '159 declaration, what you called
12 the '243, on page 86 and 87, there are a list of
13 relevant references that talk about wrist-worn pulse
14 oximetry.
15 And then before that page, there are a
16 number of exhibits, for example, 1014 and 1015 and
17 1042, that are -- that I reference in my
18 declarations. So I also refamiliarized myself with
19 those.
20 Q. Did you review any documents or
21 materials in preparation for today's deposition that
22 you did not review before signing the three

1 declarations?
2 A. No.
3 Q. Before today, have you reviewed any of
4 the petitions in the three IPRs that -- in IPRs --
5 in the IPRs -- let me rephrase that question.
6 You understand that the three I --
7 that the three declarations that you submitted were
8 in support of Apple's petitions for IPRs; is that
9 correct?
10 A. Correct.
11 Q. And before today, have you ever
12 reviewed Apple's petitions for those IPRs?
13 A. I believe I have, but I didn't --
14 didn't read those as detailed as my declaration.
15 Q. Did you review those petitions before
16 or after you signed your declaration?
17 A. Before.
18 Q. Before today, have you ever reviewed
19 any of the institution decisions on these IPRs?
20 A. I believe I've skimmed through them.
21 Q. Before today, did you review any of
22 the Patent Owner preliminary responses in these

1 IPRs?
2 A. Again, I believe I skimmed through
3 those, as well.
4 Q. Before today, did you review any of
5 the Petitioner preliminary replies in these IPRs?
6 A. I guess I'm getting confused as to
7 what those documents are relative to -- if you have
8 a particular document -- so I reviewed the relevant
9 documents, as I described in my declarations, prior
10 to signing it.
11 Is there a particular document --
12 Q. This would have been a document that
13 Apple filed after your declarations were submitted.
14 A. I do not recall skimming that over the
15 last couple of weeks, no.
16 Q. Before today, did you review any
17 expert declarations filed by Masimo in these IPRs?
18 A. I believe I had -- as I describe --
19 Q. If it helps, Dr. Anthony, the
20 declarations I was referring to would have been
21 filed approximately three -- more than three months
22 after your declarations were signed and filed.

1 A. And I'm sorry, what is the document
2 that you're asking about, again?
3 Q. Yes, I was asking if you had reviewed
4 any of the expert declarations that were filed by
5 Masimo in these IPRs?
6 A. I do not recall. I didn't review them
7 over the last couple of days for -- mainly
8 refamiliarized with my declaration and the
9 references that I cited here.
10 Q. In preparation for today's deposition,
11 did you review any of Masimo's other exhibits filed
12 in this IPR? That would have been any exhibit
13 starting with -- in the 2000 range.
14 A. I've reviewed them in the past -- the
15 documents that have been part of the case, prior to
16 my signing it, were the documents that I would have
17 mainly been familiar with. But, again, my main
18 focus was on my declaration and the relevant
19 documents that I described that I had printed out.
20 Q. I think you just mentioned the case
21 prior; is that right?
22 A. Case prior, no.

1 Q. In your previous answer, I thought you
2 had mentioned something about a previous case.
3 A. I'm not sure what it is that you heard
4 that I said, but no.
5 Q. You were previously retained by Apple
6 in other IPRs regarding a related patent to the '743
7 and '159 patents; is that right?
8 A. I've been on a number of cases like
9 this.
10 Q. Now, do you recall being involved in
11 the IPRs involving U.S. Patent No. 10,687,445 or, as
12 we've probably called it, the '745 patent?
13 MR. KHAN: Objection, outside the
14 scope.
15 THE WITNESS: The '745 does ring a
16 bell, yes, that number.
17 BY MR. KIANG:
18 Q. And you provided testimony in those
19 other IPRs about the '745 patent; correct?
20 MR. KHAN: Objection, scope.
21 THE WITNESS: I believe I did.
22

1 BY MR. KIANG:
2 Q. And in those IPRs about the '745
3 patent, you also provided opinions regarding the
4 prior art reference Iwamiya; correct?
5 MR. KHAN: Objection, scope.
6 Counsel, the questions today should be
7 directed to the two patents that we are here
8 for.
9 MR. KIANG: No speaking objections,
10 please.
11 MR. KHAN: So if we could keep those
12 questions limited to the patents at play
13 today, that would be great.
14 MR. KIANG: I would like to remind
15 counsel that speaking objections are not
16 permitted in IPRs.
17 MR. KHAN: I can object.
18 MR. KIANG: If you want to do
19 objection to scope, that's fine, but I think
20 the rest of what you just said was not
21 appropriate.
22 MR. KHAN: Well, I think you're

1 entitled to your opinion. I was clarifying
2 what my objection is, because objection to
3 scope may not be entirely clear to you.
4 Because I've objected a few times, and you've
5 persisted in this line of questioning.
6 But, Dr. Anthony, you can answer the
7 question over my objection.
8 THE WITNESS: I'm sorry, Mr. Kiang.
9 Could you repeat the question?
10 BY MR. KIANG:
11 Q. Sure.
12 In those previous IPRs about the '745
13 patent, you provided opinions about the prior art
14 reference Iwamiya; is that correct?
15 MR. KHAN: Same objection.
16 THE WITNESS: I'd have to look at the
17 '745 declaration to confirm that fully, but I
18 believe that the Iwamiya was part of that.
19 BY MR. KIANG:
20 Q. And those IPRs about the '745 patent,
21 you also provided opinions about Sarantos; correct?
22 MR. KHAN: Objection, scope.

1 Objection, form.
2 THE WITNESS: I'm going to have to
3 look at my declaration for that '745, but I
4 believe they were part of that, as well.
5 MR. KIANG: Let's bring up Tab 2.
6 This is the '243 declaration.
7 THE WITNESS: '243 is --
8 MR. KIANG: If we go to page 76.
9 BY MR. KIANG:
10 Q. Do you see on the line that begins --
11 it's paragraph 100?
12 A. Yes.
13 Q. You stated, "Responsive to Patent
14 Owner's arguments raised in other IPR proceeding
15 involving a patent related to the '159 Patent, I
16 reviewed over a dozen references that antedate the
17 '159 Patent," et cetera, et cetera?
18 What was that other IPR proceeding
19 that you referred to in this paragraph?
20 A. I believe that would have been the --
21 what you described as the '745. Yeah, I'd have to
22 look at the '745 to fully confirm that, but I

1 believe that's the one that -- and then these -- the
2 relevant references here, the 1018, the 1016, for
3 example.
4 Q. So it is the '745 patent IPRs. Is
5 that what you were saying?
6 A. Yes, I believe so.
7 MR. KIANG: You can take that down.
8 BY MR. KIANG:
9 Q. In preparing your declarations for
10 these IPRs, did you rely on any of the opinions that
11 you provided in the '745 patent IPRs?
12 A. My opinions formed here are on the
13 '743 patent and the '159 patent. If there are
14 similar and overlapping claims to the '745, I'm sure
15 my opinions are consistent, but my opinions are on
16 the '743 and the '159.
17 Q. And in preparing your declarations for
18 these IPRs, did you consider any of the briefing or
19 expert declarations filed by Masimo in the '745
20 patent IPRs?
21 A. I'm sorry, can you repeat that
22 question?

1 Q. In preparing your declarations for
2 these IPRs that are against the '745 and '159
3 patents, did you consider any of the briefing or
4 expert declarations filed by Masimo in the '745
5 patent IPRs?
6 A. As I described, my opinions are on
7 the -- related to the '743 and the '159 and indeed
8 relevant to the -- as I say in paragraph 100, I
9 include the -- some other references here that talk
10 about pulse oximetry at the wrist.
11 Q. Before today, did you ever read -- let
12 me restart that.
13 Before today, have you ever reviewed
14 the board's final written decisions in either of the
15 IPRs about the '745 patent?
16 A. I do not recall doing so.
17 Q. Are you aware that there's an ongoing
18 appeal of the '745 patent IPRs?
19 MR. KHAN: Objection, out of scope.
20 THE WITNESS: I'm not aware of that at
21 the moment.
22

1 BY MR. KIANG:
2 Q. You've been retained by Apple in
3 related litigations against Masimo; is that correct?
4 A. I think you asked that already. Yes,
5 I've been in these IPRs previously.
6 Q. Are you aware of the litigation
7 between Apple and Masimo that's pending in the
8 district court for the District of Delaware?
9 MR. KHAN: Objection, relevance.
10 Objection, scope.
11 THE WITNESS: No, I'm not familiar
12 with that case.
13 BY MR. KIANG:
14 Q. So you're not retained as an expert in
15 any litigation between Apple and Masimo that's
16 pending in Delaware; is that correct?
17 A. No.
18 Q. Do you know who Dr. Majid Sarrafzadeh
19 is?
20 A. I do not know the name off the top of
21 my head.
22 Q. I'll represent to you that

1 Dr. Sarrafzadeh is an expert witness who's been
2 retained by Apple in the litigation between Masimo
3 and Apple in Delaware.
4 So you said you were not familiar with
5 Dr. Sarrafzadeh; is that correct?
6 MR. KHAN: Objection, asked and
7 answered.
8 THE WITNESS: As I said, I'm not
9 familiar with the name or the individual.
10 BY MR. KIANG:
11 Q. So you're not aware that
12 Dr. Sarrafzadeh has provided opinions about the '745
13 patent and the '159 patent --
14 MR. KHAN: Objection --
15 (Cross talk.)
16 MR. KHAN: -- asked and answered.
17 Sorry, I interrupted. I thought you
18 were done. If you could restate for the
19 record.
20 BY MR. KIANG:
21 Q. You're not aware that Dr. Sarrafzadeh
22 has provided opinions about the '745 patent and the

1 '159 patent; is that correct?
2 MR. KHAN: Objection, form.
3 Objection, scope. Objection, asked and
4 answered.
5 THE WITNESS: I'm not familiar with
6 such opinions, no.
7 BY MR. KIANG:
8 Q. In forming the opinions for your
9 declarations in these three IPRs, have you ever
10 considered any expert reports filed by -- sorry, by
11 any other expert concerning the '743 patent?
12 MR. KHAN: Objection, vague.
13 THE WITNESS: I do not recall any
14 particular expert declaration that I've
15 reviewed. It doesn't mean that I've not, but
16 I just don't recall any that I've --
17 certainly not recently.
18 MR. KIANG: I just want to make a note
19 for the reporter that I think there's a typo
20 in the realtime. The last question was
21 concerning the '743 patent, not the '745
22 patent.

1 BY MR. KIANG:
2 Q. Dr. Anthony, in forming your opinions
3 for these declarations in these IPRs, did you ever
4 consider any expert reports submitted by anyone else
5 concerning the '159 patent?
6 MR. KHAN: Objection, asked and
7 answered.
8 THE WITNESS: Again, these are my --
9 the opinions that I've formed are based on
10 the patents in the literature that I've
11 cited.
12 BY MR. KIANG:
13 Q. In preparing your declarations for
14 these IPRs, did you consider any documents from any
15 litigations that are currently pending between Apple
16 and Masimo?
17 A. No. As I described, I reviewed my
18 declarations and the relevant references that I used
19 in support of my declaration.
20 Q. And so to clarify, in preparing your
21 declarations for these IPRs, you did not consider
22 any of Masimo's infringement contentions against

1 Apple concerning the '743 or '159 patents; is that
2 correct?
3 MR. KHAN: Objection to form.
4 Objection, asked and answered.
5 THE WITNESS: Is there a particular
6 place in the documents that I've described
7 that those would have been discussed?
8 BY MR. KIANG:
9 Q. Well, I'm simply asking you what you
10 considered in forming your opinions for these
11 declarations, and I want to know -- based on your
12 previous answer, it sounded like you did not
13 consider any of Masimo's infringement contentions,
14 which would have been from a related litigation,
15 concerning the '743 and '159 patents; is that right?
16 A. I do not recall reviewing those.
17 Q. In preparing your expert declarations
18 in -- sorry.
19 In preparing your declarations in
20 these IPRs, were you aware of any of Masimo's
21 infringement theories regarding '743 and '159
22 patents?

1 A. I'm going to look at my declarations
2 here, the digital versions.
3 (Document review.)
4 THE WITNESS: Searching on
5 infringement or theories in my declarations,
6 there's nothing that I've discussed there,
7 and I do not recall having reviewed any such
8 theories.
9 BY MR. KIANG:
10 Q. And counsel has not informed you of
11 any of Masimo's infringement theories concerning the
12 '743 or '159 patents; is that correct?
13 MR. KHAN: Objection. That's --
14 Dr. Anthony, I would advise you please do not
15 disclose any confidential information. Feel
16 free to answer the question, but do not
17 discuss any confidential information.
18 THE WITNESS: Mr. Kiang, can you
19 please repeat the question?
20 BY MR. KIANG:
21 Q. Counsel has not informed you of any of
22 Masimo's infringement theories concerning the '743

1 and '159 patents; is that correct?
2 A. Not that I'm aware of. I've been
3 focusing on my declaration and the opinions that I
4 expressed therein.
5 Q. You've never developed a device that
6 measures oxygen saturation from the wrist; is that
7 correct?
8 MR. KHAN: Objection, form.
9 THE WITNESS: Well, for example, in
10 the declaration on the -- that you've called
11 the '243, I described my experience and
12 expertise.
13 For example, starting in paragraph 4,
14 describing joining on my team 2006, the
15 courses and projects and papers involve
16 technologies relevant to the patent at issue,
17 including sensor devices for non-invasive
18 optical biosensors. I go in to describe, as
19 well, devices that I've made prior for rings
20 and on the hand.
21 In paragraph 5, I describe the various
22 types of devices and sensors that I make,

1 including bioelectronic sensors,
2 microfluidics for health care.
3 And describe variously in paragraph 7
4 my expertise in computation, computer
5 science, simulation, optimization, symbol
6 processing, optical techniques.
7 In paragraph 9, I describe the
8 patents, the papers in paragraph 10. And so
9 I certainly am sort of -- have this person
10 skilled in the art and the technologies
11 related to the patents and more so, but
12 having advised and instructed people that
13 design these types of devices.
14 BY MR. KIANG:
15 Q. So the answer is no; correct?
16 MR. KHAN: Objection, form.
17 Objection, misstates testimony.
18 THE WITNESS: Mr. Kiang, could you
19 repeat the question, please?
20 BY MR. KIANG:
21 Q. Yes.
22 You've never developed a device that

1 measures oxygen saturation from the wrist; is that
2 right?
3 MR. KHAN: Objection, form.
4 THE WITNESS: Well, as I described in
5 both -- all three of my declarations, the
6 relevant types of technologies and sensors
7 that I've developed measuring pulse ox,
8 measuring heart rate, you know, wearable
9 sensors, handheld sensors, and instructed and
10 taught and did research with and advised
11 students that make many types of sensors,
12 including those that are wearable on the
13 body, on the head, on the hand.
14 BY MR. KIANG:
15 Q. Okay. But you have never developed a
16 device that measures oxygen saturation at the wrist;
17 is that correct?
18 MR. KHAN: Objection to form.
19 Objection, asked and answered.
20 THE REPORTER: Mr. Khan, you're
21 breaking up.
22 MR. KHAN: Sorry. I said objection,

1 form. Objection, asked and answered.
2 THE REPORTER: Thank you.
3 THE WITNESS: As I described, you
4 know, I have the -- my relevant expertise and
5 background. I've advised students that have
6 developed handheld sensors. I've built
7 sensors for both wearable and handheld use,
8 sort of combining optical techniques,
9 electronic techniques.
10 And certainly I'm a POSITA, as I
11 described in paragraph 20, for example, of
12 the declaration that is on the '159 that you
13 called the '243, relevant to the '159 patent.
14 Based on the foregoing and upon my
15 experience in this area, a person of ordinary
16 skill would have been a person with a working
17 knowledge of physiological monitoring. The
18 person would have had a Bachelor of Science
19 degree in electrical engineering, computer,
20 or software technologies, in combination with
21 training or one to two years of related
22 experience with capture and processing of

1 data. Alternatively, the person could have
2 had a master's in a relevant discipline with
3 less than a year of related experience.
4 So as I describe, I'm certainly a --
5 have the capabilities of a POSITA, have
6 advised many POSITAs, and am quite an expert
7 that these technologies.
8 BY MR. KIANG:
9 Q. Thank you, Dr. Anthony. None of that
10 was responsive to my question.
11 I've asked you at least two or three
12 times now. I'll give you one more chance. And I
13 think this is a question that can be answered with a
14 yes or no, either you've developed a device or not.
15 You've never developed a device that
16 measures oxygen saturation at the wrist; is that
17 correct?
18 MR. KHAN: Objection, asked and
19 answered. Objection -- you can ask the
20 question. You can't tell the declarant how
21 to answer the questions. That's absolutely
22 clear.

1 THE WITNESS: So as I've described,
2 with my expertise that I certainly have
3 the -- the -- meet what I would describe as a
4 POSITA and beyond a POSITA in my ability to
5 advise and mentor students and individuals
6 and companies that do these types of devices.
7 Have I ever needed to make a device
8 that only measured oxygenation at the wrist?
9 Knowing how to do it at the wrist, knowing
10 how to do it at the head, knowing how to do
11 it at the neck, it's all similar
12 technologies.
13 And so as I described, I'm
14 certainly -- meet the limitations that I've
15 described as a POSITA and exceeded such.
16 BY MR. KIANG:
17 Q. Can you identify for me a device that
18 you've developed that measures oxygen saturation at
19 the wrist?
20 MR. KHAN: Objection, scope.
21 THE WITNESS: So as I've described,
22 you know, I certainly have the expertise of

1 understanding how to measure pulse ox at the
2 wrist, at the neck, at the earlobe, at the
3 finger, have advised students that have made
4 many types of devices.
5 I cannot point to a commercial device
6 where I've dealt with the manufacturing
7 issues of creating a wearable sensor at the
8 wrist, but certainly have the relevant
9 expertise and knowledge of how to do it and
10 where it can be done.
11 BY MR. KIANG:
12 Q. I think you qualify your previous
13 answer with the phrase "commercial device."
14 Can you identify any noncommercial
15 device that you've ever developed that measures
16 oxygen saturation at the wrist?
17 MR. KHAN: Objection, scope.
18 THE WITNESS: I would opine that
19 the -- these -- you know, long ago, '90 --
20 '94, '95, maybe it was, yeah, was when I
21 first started teaching a class on
22 bioelectronics. And in the class in the lab,

1 we would create prototype devices for EEG,
2 for EKG, for pulse ox.
3 And I'm certain that in the lab in
4 those experimentations, you know, as
5 students, we -- well, as educators, we
6 encourage students to test the limits and
7 functionality. So I would be surprised if
8 some of those tests had been done at the
9 wrist.
10 BY MR. KIANG:
11 Q. In forming your opinions for the three
12 declarations on these IPRs, did you perform any
13 testing?
14 A. It was not necessary to perform any
15 testing in order to form my opinions.
16 Q. Did you rely on any testing performed
17 by somebody else in forming your opinions for these
18 declarations?
19 A. Well, I certainly highlight the
20 various references that I discussed, and those are
21 both patent literature and nonpatent literature.
22 And there are tests that I represented in those

1 documents. So certainly, I mean, those are -- that
2 literature captures the tests and the things that
3 people have done, and I cite those references
4 implicitly. I guess I'm pointing to their results.
5 Q. You're not aware of any testing that's
6 been performed by somebody else specifically for the
7 purposes of this IPR or these three IPRs; is that
8 correct?
9 A. No.
10 Q. You understand that some of the patent
11 claims at issue in these IPRs, from the '743 and
12 '159 patents, discuss changing the shape of light
13 from a, quote-unquote, first shape to a, quote,
14 second shape, unquote? Let me rephrase that. I
15 think I got the quotes wrong.
16 You understand that some of the patent
17 claims at issue in these IPRs from the '743 and the
18 '159 patents discuss changing the shape of light
19 from a first shape to a second shape; is that
20 correct?
21 MR. KHAN: Objection, form.
22 Objection, scope.

1 THE WITNESS: Well, for example, in
2 the '743 patent, in Column 15 in Claim 1, a
3 physiological measurement device comprising
4 one or more emitters configured to emit light
5 in an initial light pattern.
6 And then there's an optical
7 transmission material configured to be
8 positioned between the one or more emitters
9 and the tissue measurement site, wherein the
10 optical transmission materials configured to
11 alter a direction of at least a portion of
12 the light emitted from the one or more
13 emitters to shape an output light pattern by
14 which the emitted light is directed towards a
15 surface.
16 So, you know, for example, in the
17 '743, you know, that is certainly the --
18 relevant to the Claim 1 and throughout.
19 BY MR. KIANG:
20 Q. Okay. And why don't you take a look
21 at Claim 1 from the '159 patent.
22 A. The '159?

1 Q. Yeah.
2 MR. KIANG: And I guess while we're at
3 it, can I please have the hot seater pull up
4 Tab -- let me see where you got it -- it
5 would have been --
6 THE VIDEOGRAPHER: Is it Tab 8?
7 MR. KIANG: -- Tab 8, yeah.
8 Exhibit 1001 in IPR2024-00243 and in 00244.
9 Claim 1 is on Column 15 towards the middle.
10 BY MR. KIANG:
11 Q. And do you see that paragraph that
12 kind of begins "a material positioned"?
13 A. Yes.
14 Q. So Claim 1, if you -- so this claim
15 mentions a material that's configured to change the
16 first shape into a second shape by which the light
17 emitted from one or more of the plurality emitters
18 is projected towards the surface of the tissue
19 measurement site; is that correct?
20 A. That is correct.
21 MR. KIANG: You can take that down for
22 now.

1 BY MR. KIANG:
2 Q. So you did not perform any testing to
3 support any of your opinions regarding the first
4 shape and the second shape; is that correct?
5 MR. KHAN: Objection, asked and
6 answered.
7 THE WITNESS: So as I describe on
8 paragraph 47, it's quite clear that
9 Iwamiya -- Iwamiya's physiological monitoring
10 device includes light emitting units that are
11 composed of light emitting diodes, and LEDs
12 are identified as the emitters in the
13 specification of '159. The light emitting
14 units are shown in green on page 35 of my --
15 of the '243 declaration.
16 And so as I describe in paragraph 48,
17 Iwamiya's light emitting units 6 emit
18 observation light of a specific wavelength
19 band to optically observe a skin tissue of a
20 human body. And a POSITA would have
21 recognized that the emitted observation light
22 is in a first shape characterized by a

1 location -- by a specific location of each
2 light emitting unit.
3 So a POSITA, as I describe, would have
4 recognized this as a first shape. And
5 depending on the configuration of the LEDs,
6 the shape of that light prior to going
7 through the material would have different
8 shapes, depending on the LEDs.
9 So it was not -- it's not necessary to
10 perform any experiments. This is not
11 unknown, as I describe, in what Iwamiya and
12 Sarantos quite clearly reveal. A POSITA
13 would have been very familiar with the shape
14 of light coming out of a pattern of LEDs.
15 BY MR. KIANG:
16 Q. Yeah, so to be clear, for all of your
17 declarations, the three declarations in these IPRs,
18 you did not do any testing regarding first shape and
19 second shapes of light; is that correct?
20 MR. KHAN: Objection, asked and
21 answered.
22 THE WITNESS: I believe the notion of

1 testing is somewhat antithetical to sort of
2 what a POSITA would understand and know based
3 on what was knowledge. Experimentation
4 suggests that something is unknown. As I
5 describe, Iwamiya and Sarantos quite clearly
6 describe the relevant topics at hand.
7 BY MR. KIANG:
8 Q. In preparing your declarations for
9 these IPRs, did you review any claim construction
10 materials regarding the '743 or the '159 patents?
11 A. Well, in none of my declarations do I
12 do any claim constructions, and as I described in
13 paragraph 23 of the second decla- -- of the '159,
14 what you call the '243, paragraph 23, "I understand
15 that, for purposes of my analysis in this
16 inter partes review, the terms appearing in the
17 patent claims should generally be interpreted
18 according to their 'ordinary and customary meaning.'
19 "I understand that the 'ordinary and
20 customary meaning' of a claim term is the meaning
21 that the term would have to a person of ordinary
22 skill in the art in question at the time of the

1 invention.
2 "I also understand that the person of
3 ordinary skill in the art is deemed to read the
4 claim term not only in the context of the particular
5 claim in which the disputed term appears, but in the
6 context of the entire patent, including the
7 specification."
8 I didn't find it necessary to construe
9 any terms in forming my opinions.
10 MR. KHAN: Counsel, I just wanted to
11 say for the record and, Eileen, for you, too,
12 co-counsel Andrew Patrick has just joined the
13 deposition. I just wanted to state that for
14 the record.
15 MR. KIANG: Thank you.
16 MR. KHAN: And, Eileen, that's Andrew
17 Patrick from Fish & Richardson.
18 THE REPORTER: Thank you.
19 BY MR. KIANG:
20 Q. So I believe you were referring to
21 paragraph 23 of your '243 declaration; is that
22 right, Dr. Anthony?

1 A. Yes, that's the -- for the '159, what
2 you call the '243, paragraph 23.
3 Q. And you mentioned "ordinary and
4 customary meaning" in this paragraph.
5 Do you understand -- is that the same
6 thing as "plain and ordinary meaning"?
7 A. In the context of the -- again, in the
8 context of the claim term in which the -- and in the
9 context of the entire patent, including the
10 specification.
11 Q. So for the '159 patent, in your two
12 declarations, the '243 and the '244 declaration, you
13 did not offer any opinions about claim construction,
14 other than you applied the ordinary and customary
15 meaning; is that correct?
16 A. Similarly, in paragraph 23 of the
17 other '159, so the '244, similar -- different page,
18 same paragraph number, 23, I didn't find it
19 necessary to construe any terms, but applied the, as
20 I describe, ordinary and customary meaning to a
21 person skilled in the art in the context of the
22 claim and the specification.

1 Q. Why don't we turn over to your '241
2 declaration. That's Tab 1.
3 A. '241, that's the '743. Okay.
4 MR. KHAN: Sorry, Dan, I didn't want
5 to interrupt, but I just wanted to let you
6 know we've been going on for an hour. So if
7 it's possible to take a short break every
8 hour, that would be great. And we can --
9 however long you think a break would be
10 sufficient for you and Dr. Anthony. I just
11 wanted to let you know [inaudible] --
12 MR. KIANG: Sure. How about we go a
13 few more minutes?
14 Unless, Dr. Anthony, you want to break
15 now?
16 THE WITNESS: I'm fine. You can ask
17 the question that you wanted to.
18 MR. KIANG: Okay.
19 BY MR. KIANG:
20 Q. Let's just turn over to the table of
21 contents, which is on the second and third pages of
22 the '241 declaration. And, again, feel free to go

1 through your entire declaration.
2 But, Dr. Anthony, you didn't provide
3 any opinions about claim construction in the '243
4 declaration; is that correct?
5 A. I don't have a similar paragraph as
6 the one that was described in the other ones, but I
7 do not construe any terms for the -- for '743, or
8 what you call the '241.
9 Q. So does that mean that you interpreted
10 the claims of the '743 patent according to their
11 plain and ordinary meaning?
12 A. As I described more broadly and
13 consistently with as I described in the other two
14 declarations, yes.
15 MR. KIANG: I think now would be an
16 okay time for a break. Counsel, do you want
17 to go ten minutes?
18 MR. KHAN: That sounds okay with me.
19 Dr. Anthony, is that okay with you?
20 THE WITNESS: Oh, that's fine. So my
21 time, 1:15?
22 MR. KIANG: That's right.

1 THE WITNESS: Okay.
2 THE REPORTER: We're off the record.
3 (Recess from the record.)
4 THE REPORTER: We're back on the
5 record.
6 BY MR. KIANG:
7 Q. Dr. Anthony, did you speak to anybody
8 during the break about the substance of your
9 testimony?
10 A. No.
11 Q. Were you aware -- well, let me back
12 up.
13 Before the break, we were just talking
14 about claim construction. So we're sort of still on
15 claim construction here.
16 Okay. Dr. Anthony, were you aware
17 when conducting your analyses for these declarations
18 that the parties had agreed to certain claim
19 constructions relevant to the '743 and the '159
20 patent?
21 MR. KHAN: Objection, relevance.
22 THE WITNESS: Again, I did not

1 construe any terms in forming my opinions,
2 and I'm not recalling any constructions that
3 were proposed.
4 MR. KIANG: Can I please have the hot
5 seater pull up Tab 9. This document has been
6 previously marked as Exhibit 2038.
7 (Exhibit 2038, Previously marked.)
8 MR. KIANG: I believe in all of the
9 IPRs, but definitely at least IPR 2024-00241.
10 BY MR. KIANG:
11 Q. And, Dr. Anthony, go ahead and
12 download the document, and let me know when you've
13 taken a -- when you have it ready.
14 A. What's the tab number? I'm looking at
15 the files.
16 MR. KIANG: Tab 9.
17 THE WITNESS: Tab 9. It's not in
18 the -- oh, there it is. Okay.
19 (Pause from the record.)
20 THE WITNESS: Okay, I've downloaded
21 it.
22

1 BY MR. KIANG:
2 Q. Dr. Anthony, have you ever seen this
3 document before?
4 A. I don't recall seeing this, but is it
5 someplace that I've cited in my declaration? I
6 don't recall ever citing this.
7 Q. This was not cited in your
8 declaration, I believe. This is a Masimo exhibit
9 filed by Masimo after your declaration was submitted
10 in these IPRs.
11 But if you turn to the end of the
12 document, page 88, at the very end of the document,
13 there's a date, August 31, 2023.
14 And that date is before you signed
15 your declarations in these IPRs; correct?
16 A. Yes, so the declarations were signed
17 on 12/9/2023, and the other two on 11/30/2023.
18 Q. And if we can go back to the beginning
19 of the document again.
20 I'll represent that this is a joint
21 claim construction brief regarding Masimo's asserted
22 patents that was filed in an earlier litigation

1 between Apple and Masimo. And since this was a
2 joint filing, this was a document that both Apple
3 and Masimo had to sign when submitting it to the
4 court there.
5 If we turn over to page 5 of this
6 document, numbered page 5, I think it's page 15 if
7 you're looking at the PDFs.
8 Do you see the Section 3 that says
9 "Agreed-Upon Constructions"?
10 A. Yes.
11 Q. And you see in that section, there's a
12 table there with an entry for the '743 patent, and
13 another entry for the '159 patent.
14 Do you see those?
15 A. Yes.
16 Q. And for the '743 patent, there's an
17 agreed-upon construction that the term "shape an
18 output light pattern" in Claims 1 and 14, means
19 change the size, not just the -- sorry, let me start
20 that again.
21 "Change the shape (not just the size)
22 of the light pattern that exits the optical

1 transmission material from the shape of the light
2 pattern received by it."
3 Do you see that?
4 A. Yes.
5 Q. Were you aware that Apple and Masimo
6 had agreed to this claim construction of the '745 --
7 '743 patent, before you filed your declaration?
8 MR. KHAN: Objection, scope.
9 Objection, relevance.
10 THE WITNESS: If I understood, this
11 document is relevant to a case that -- let's
12 see. You said it's the district court. So
13 as I describe, I'm not an expert for the --
14 for Apple on any district case. So I do not
15 believe I had opportunity to review this
16 document.
17 BY MR. KIANG:
18 Q. Do you disagree with the construction
19 that Apple and Masimo has agreed upon for the '743
20 patent?
21 MR. KHAN: Objection, scope.
22 Objection, relevance.

1 THE WITNESS: In forming my opinions,
2 as I described, I didn't find it necessary to
3 construe any -- I didn't consider this
4 construction in forming my opinions. I'm
5 happy to take some time to read this
6 document, but I did not need to construe any
7 terms in forming my opinion.
8 BY MR. KIANG:
9 Q. Take a look at the next row in this
10 table for the '159 patent. There's a term "second
11 shape" there.
12 Do you see that?
13 A. Yes.
14 Q. And do you see that Apple and Masimo
15 agreed that the term "second shape" in the '159
16 patent means "shape different from the first shape
17 (not just change in size)"?
18 A. Yes.
19 Q. Were you aware that Apple and Masimo
20 had agreed to that construction before you signed
21 your declarations in these IPRs?
22 MR. KHAN: Objection, scope.

1 Objection, relevance.
2 THE WITNESS: Again, I'm not an expert
3 in the case that you're describing, the --
4 whatever this case is, the -- I think you
5 said district court. I didn't find it
6 necessary to construe any terms in forming my
7 opinions.
8 BY MR. KIANG:
9 Q. When you say you didn't find it
10 necessary to construe any terms, what analysis did
11 you perform in coming to that conclusion?
12 A. Well, my analysis is the -- my
13 declaration, and as I describe in the -- for
14 example, the paragraph 23, you know, that in forming
15 my opinions I read the patents and the literature,
16 and I understand -- you know, for the purposes of my
17 analysis in the inter partes review, not district
18 court, because I'm not involved in that, in the
19 inter partes review proceeding, the terms appearing
20 in the patent claims should generally be interpreted
21 according to their ordinary and customary meaning.
22 I understand that the ordinary and

1 customary meaning of a claim term is the meaning
2 that the term would have to a person of ordinary
3 skill in the art in question at the time of the
4 invention.
5 I also understand a person of ordinary
6 skill in the art is deemed to read the claim term
7 not only in the context of the particular claim in
8 which the disputed term appears, but in the context
9 of the entire patent, including the specification.
10 So my analysis, as I describe, is
11 reviewing of Iwamiya and Sarantos and the other
12 relevant references and describing how the concepts
13 there are prior to the purported claims and
14 invention of the -- both '159 and '743.
15 Q. So before you signed your declarations
16 for these IPRs, nobody from Apple or representing
17 Apple informed you that Apple and Masimo had agreed
18 to a construction of second shape in the '159
19 patent; is that correct?
20 MR. KHAN: Objection, scope.
21 And, again, Dr. Anthony, I advise you
22 not to disclose any attorney-client privilege

1 or any other privileged information.
2 THE WITNESS: Again, yeah, I didn't
3 find it necessary to construe any terms, and
4 no constructions were, in my opinion,
5 necessary to -- in forming my opinions.
6 BY MR. KIANG:
7 Q. I don't think that quite answered my
8 question.
9 You were not informed by anybody that
10 Apple and Masimo had agreed to a construction of
11 "second shape" before you signed your declarations;
12 is that correct?
13 MR. KHAN: Same objections. And,
14 also, objection, vague.
15 THE WITNESS: I do not recall any
16 claim constructions suggested. Again, as I
17 describe my opinions, I did not find it
18 necessary to construe anything, and I offered
19 my opinions accordingly.
20 BY MR. KIANG:
21 Q. Taking a look at the construction for
22 "second shape" for the '159 patent, you were not

1 aware of this construction before you signed your
2 declarations; is that correct?
3 MR. KHAN: Objection, argumentative.
4 THE REPORTER: Excuse me, I didn't
5 hear you.
6 BY MR. KIANG:
7 Q. Let me rephrase the question,
8 Dr. Anthony.
9 THE REPORTER: No, I didn't hear
10 Mr. Khan.
11 BY MR. KIANG:
12 Q. You did not apply the party's
13 agreed-upon construction for "second shape" in your
14 analysis for your declarations; is that correct?
15 MR. KHAN: Objection, form.
16 THE WITNESS: Again, I didn't find it
17 necessary to construe nor use a particular
18 construction. Is this a reasonable
19 construction? Seems reasonable, but I didn't
20 do my analysis purely through -- I did it in
21 the ordinary and customary meanings, as
22 described by the -- in paragraph 24, I think

1 it was -- or 23.
2 MR. KIANG: Could you please bring up
3 Tab 2.
4 BY MR. KIANG:
5 Q. Dr. Anthony, that's your '243
6 declaration. And please turn to page 46.
7 Are you there?
8 A. Yes. Yes, sorry.
9 Q. Okay. At the top of page 46, you have
10 a heading that begins, "[1.5] wherein an opening
11 defined in the dark-colored coating is configured to
12 allow at least a portion of light reflected from the
13 tissue to pass through the surface."
14 Do you see that?
15 A. Yes.
16 Q. And that's a claim limitation;
17 correct?
18 A. Yes, of the '159 patent.
19 Q. And you didn't provide any claim
20 construction opinions for this limitation; correct?
21 MR. KHAN: Objection, asked and
22 answered.

1 THE WITNESS: I did not apply -- I did
2 not construct any terms for this. I did my
3 analysis as described subsequently in
4 paragraph 64 forward.
5 BY MR. KIANG:
6 Q. So you applied the plain and ordinary
7 meaning of "opening" in your analysis; is that
8 correct?
9 MR. KHAN: Objection, asked and
10 answered.
11 THE WITNESS: Well, again, "opening"
12 is in context of the entire description. As
13 I describe in paragraph 64 and 65, the prior
14 art meets this -- in my opinion, meets this
15 limitation of 1.5.
16 BY MR. KIANG:
17 Q. And for this limitation, you pointed
18 to the optical filter 17 in Iwamiya as the recited
19 opening; is that correct?
20 A. So I did describe in paragraph 64, As
21 discussed with respect to Element 1.4 above, in the
22 predictable combination of Iwamiya and Sarantos, the

1 light shielding frame 18 of Iwamiya is implemented
2 using a dark-colored coating or in-mold label, such
3 as described by Sarantos.
4 Iwamiya further describes an optical
5 filter 17 that is mounted on the lower side of the
6 light shielding frame 18 between the photodiodes 9
7 and the tissue H. This configuration is shown in
8 the detail of Figure 4, which is also on the screen,
9 from Iwamiya.
10 And then in paragraph 65, Iwamiya
11 describes that the optical filter 17 is configured
12 to transmit light of a specific wavelength band of
13 900 nanometers or more, and thus is configured to
14 allow at least a portion of light reflected from the
15 tissue to pass through to the photodiodes 9.
16 And then I further note that this
17 disclosure in Iwamiya of 900 nanometers or more is
18 merely an example of a portion of light. Modifying
19 Iwamiya's optical filter to transmit red and
20 infrared (as discussed with respect to 8 below), or
21 even removing the optical filter altogether, would
22 still satisfy Element 1.5.

1 Q. Okay. So for the opening limitation,
2 you've pointed to the optical filter 17 in Iwamiya;
3 is that correct?
4 A. I pointed to what I described, in that
5 a POSITA reading Iwamiya and Sarantos, as I've
6 described here, the optical filter allows light to
7 pass through it, such as an opening would, between
8 the -- that's in the dark-covered coating, as I
9 annotated there in pink.
10 And so -- and, also, as I further
11 describe, the optical filter would not have to be
12 there, but it is and for it to also be satisfying of
13 Element 1.5.
14 Q. The optical filter is a solid object;
15 right?
16 MR. KHAN: Objection, form.
17 THE WITNESS: It's a material that has
18 the property of filtering light and allows
19 light of some wavelengths through and some
20 wavelengths not. So it's an opening in
21 between the dark-colored coating, which would
22 prevent all light from coming through.

1 You know, as I describe here, the
2 filter allows light through that opening, as
3 is the -- as would be the case if we remove
4 the filter, as I describe at the end of
5 paragraph 65.
6 BY MR. KIANG:
7 Q. Are you aware that Apple's other
8 expert, Dr. Sarrafzadeh, has stated that a person of
9 ordinary skill in the art would understand that the
10 ordinary meaning of the term "opening" is akin to
11 empty space?
12 MR. KHAN: Objection, scope.
13 Objection, relevance.
14 THE WITNESS: I'm not -- again, I need
15 to establish I do not know
16 Dr. Sarrafad [sic], you said? And as I
17 describe here, Sarantos and Iwamiya, as I
18 described in paragraph 64 and 65, would
19 certainly meet the limitation of 1.5.
20 MR. KIANG: Can I please have the hot
21 seater pull up Tab 10. And this is a
22 document that's been previously marked as

1 Exhibit 2037 in all of the IPRs.
2 (Exhibit 2037, Previously marked.)
3 BY MR. KIANG:
4 Q. And, Dr. Anthony, let me know when you
5 have a copy of the document.
6 A. Let me just refresh.
7 You said Tab -- Tab 10?
8 Q. That's correct.
9 THE VIDEOGRAPHER: You should see it's
10 labeled EX2037, Tab 10.
11 THE WITNESS: Yep. Yep, I'm
12 downloading it.
13 Okay, I've downloaded it.
14 BY MR. KIANG:
15 Q. Okay. Dr. Anthony, have you ever seen
16 this document before?
17 A. I do not recall seeing this, no.
18 Q. I believe earlier today you mentioned
19 that you had reviewed Patent Owner's preliminary
20 responses in these IPRs; is that correct?
21 A. Whatever I said that I reviewed, I
22 reviewed. And so this is not -- this is not -- if I

1 understand, this is not part of -- let's see. I've
2 not seen this document.
3 Q. There's a date on this document at the
4 bottom, December 15, 2023.
5 Do you see that?
6 A. December 15, 2023. Yes, I do see
7 that.
8 Q. And that's a couple weeks after you
9 signed your declarations for these IPRs; right?
10 MR. KHAN: Objection, form.
11 THE WITNESS: I signed my declarations
12 on 11/30/2023 and on December 9, 2023.
13 BY MR. KIANG:
14 Q. And I'll represent that this document
15 is an excerpt -- a redacted excerpt of an expert
16 report by Dr. Sarrafzadeh provided on behalf of
17 Apple regarding the '743 and the '159 patents.
18 And do you see the '743 and '159
19 patents referenced in the title of this document?
20 A. I see the bottom says, "Expert Report
21 of Majid Sarrafzadeh, Regarding Non-Infringement of
22 U.S. Patent Nos. 10,687,743 and 10,722,159."

1 Q. I believe earlier today you mentioned
2 you don't know who Dr. Sarrafzadeh is; correct?
3 A. I do not.
4 MR. KHAN: Same objection, asked and
5 answered --
6 (Cross talk)
7 BY MR. KIANG:
8 Q. So at the time you signed your
9 declaration, you weren't aware that he was also
10 going to provide this declaration a few days after
11 your declarations; correct?
12 A. I do not know the gentleman or this
13 document.
14 Q. Let's turn to paragraph 465 of this
15 document. This is an excerpt. So it should be --
16 let's see what page it's on. Page 4 of the PDF.
17 It's numbered page 308 of the document at the
18 bottom.
19 And take a look at paragraph 465.
20 (Document review.)
21 BY MR. KIANG:
22 Q. Do you see here that Dr. Sarrafzadeh

1 has provided an opinion, "A POSITA would understand
2 that the ordinary meaning of 'opening' is akin to
3 'empty space.' A POSITA would not regard solid
4 material as an 'opening.'"
5 Do you see that?
6 A. I do.
7 Q. Is Dr. Sarrafzadeh's opinion correct
8 that the plain and ordinary meaning of "opening"
9 means empty space?
10 MR. KHAN: Objection.
11 Counsel, the scope of this deposition
12 is related to the documents and the testimony
13 in Dr. Anthony's declarations. You're asking
14 him to opine on documents that are clearly
15 out of the scope of this deposition.
16 So I would ask you if you have any
17 questions, please cite to the portion of the
18 declaration and ask him questions that are
19 within the legal scope of this deposition.
20 Any other questions are clearly beyond the
21 scope.
22 MR. KIANG: If you wish to make an

1 objection or preserve your objection, you can
2 file a motion to exclude. But I would,
3 again, caution counsel for the second time
4 today that speaking objections are not
5 permitted in IPRs. If we have to take this
6 to the board, we will. But I don't want to.
7 BY MR. KIANG:
8 Q. So, again, Dr. Anthony, please answer
9 the question.
10 Is Dr. Sarrafzadeh's opinion correct
11 that the plain and ordinary meaning of "opening" --
12 MR. KHAN: Objection --
13 BY MR. KIANG:
14 Q. -- means empty space?
15 MR. KHAN: Objection, scope.
16 Sorry. Objection, scope. And
17 objection, relevance.
18 THE WITNESS: Again, I'm not familiar
19 with this document, but as I describe in my
20 declaration on paragraph 64 and 65, in
21 forming my opinions, there's a --
22 (The reporter seeks clarification.)

1 (Discussion off the record.)
2 THE WITNESS: So, actually, Mr. Kiang,
3 please repeat the question.
4 BY MR. KIANG:
5 Q. Sure.
6 Is Dr. Sarrafzadeh's correct that the
7 plain and ordinary meaning of "opening" means empty
8 space?
9 MR. KHAN: Objection, scope.
10 Objection, relevance.
11 THE WITNESS: Again, I did not need
12 time necessarily to construe any terms. So I
13 did not construe here "empty space" as
14 "opening."
15 As I describe in my declaration,
16 though, Sarantos and Iwamiya, in paragraph 64
17 and 65, Iwamiya in paragraph 65 describes the
18 optical filter configured to transmit light
19 of -- a portion of light, meaning sort of
20 900 nanometers or more, and is thus
21 configured to allow at least a portion of the
22 light reflected from the tissue to pass

1 through the -- to the photodiodes.
2 And I know that this disclosure in
3 Iwamiya of 900 nanometers or more is merely
4 an example of a portion of light. Modifying
5 Iwamiya's optical filter to transmit red or
6 other -- or infrared or other portions of
7 light, as discussed with respect to Claim 8,
8 or even removing the optical filter, would
9 still satisfy the element.
10 BY MR. KIANG:
11 Q. Now, earlier today, I believe, you've
12 mentioned that Iwamiya's optical filter is a
13 material; correct?
14 THE REPORTER: I'm sorry, isn't
15 material?
16 MR. KIANG: Is a material.
17 THE REPORTER: Thank you.
18 THE WITNESS: It is not a vacuum,
19 agreed.
20 BY MR. KIANG:
21 Q. So under Dr. Sarrafzadeh's explanation
22 of the plain and ordinary meaning of "opening,"

1 Iwamiya's optical filter is not an opening; correct?
2 MR. KHAN: Objection, scope.
3 Objection, relevance.
4 THE WITNESS: I'm not familiar with
5 this document, and I'm not an expert on the
6 other case or other court -- the district
7 court. But as I describe in paragraph 64 and
8 65, in the combination of Sarantos and
9 Iwamiya, in 64, the light shielding frame of
10 18 of Iwamiya is implemented using a
11 dark-colored coating or in-mold label, such
12 as described by Sarantos.
13 And in Iwamiya -- sorry, Iwamiya
14 further describes the optical filter 17 that
15 is mounted on the lower side of the light
16 shielding frame 18 between the photodiodes
17 and the tissue.
18 And I show that configuration in the
19 figure. And I describe in 65 how light
20 passes through that opening. Iwamiya
21 describes that the optical filter 17 is
22 configured to transmit light as a specific

1 wavelength of 900 nanometers or more as
2 opposed to not passing light.
3 And if it were not passing light, it
4 would not be an opening. And, thus, is
5 configured to allow at least a portion of the
6 light reflected from the tissue to pass
7 through to the photodiodes.
8 BY MR. KIANG:
9 Q. Dr. Anthony, I think you just repeated
10 paragraph 64 and 65 of your declaration; is that
11 correct?
12 A. I was paraphrasing from there and
13 describing how, as I've described, that there's
14 dark-colored coating, which is blocking light.
15 There is an opening, where the optical filter is,
16 and that allows a portion of the light to pass
17 through that opening, as I describe in paragraph 64
18 and 65.
19 Q. Sitting here today, do you disagree
20 with Dr. Sarantos' opinion that a person of ordinary
21 skill would understand that the ordinary meaning of
22 "opening" was akin to open space?

1 MR. KHAN: Objection, scope.
2 Objection, relevance.
3 THE WITNESS: Well, as I describe in
4 paragraph 65, as I describe, the filter there
5 is an opening. And I also say that if we
6 decided to remove the filter, it would also
7 be an opening. So if the filter weren't
8 there, it would be an opening. If the filter
9 is there, it's an opening, as I describe in
10 paragraph 64 and 65.
11 BY MR. KIANG:
12 Q. Let's go down to paragraph 479 of this
13 document. It's on the page that's numbered 317.
14 And do you see in this paragraph,
15 Dr. Sarrafzadeh provides an opinion, "As discussed
16 above, the ordinary meaning of 'opening' is 'empty
17 space.' Material, such as closed windows and solid
18 lenses, are the opposite of an 'opening.'
19 Stretching the claim term 'opening' to encompass a
20 closed window as an equivalent would vitiate the
21 requirement of an 'opening.'"
22 Do you see that?

1 A. I do see that.
2 Q. Is Dr. Sarrafzadeh's opinion that
3 material such as closed windows and solid lenses are
4 the opposite of an "opening" correct or incorrect?
5 MR. KHAN: Objection, scope.
6 Objection, relevance.
7 THE WITNESS: I'm not familiar with
8 this doctor. I'm not familiar with this
9 document. I've not read how they came to
10 their conclusion and their analysis.
11 As I describe in my declaration, in
12 the combination of Sarantos and Iwamiya with
13 the dark-colored coating on the frame and the
14 filter there would allow a portion of the
15 light through that opening defined by the
16 dark-colored coating through which light
17 passes that opening.
18 And then as I describe further in
19 paragraph -- towards the end of paragraph 65,
20 if the filter were removed, it would still
21 satisfy the element.
22

1 BY MR. KIANG:
2 Q. Is Dr. Sarrafzadeh's opinion that a
3 material, such -- that material, such as closed
4 windows and solid lenses, are the opposite of an
5 "opening" inconsistent with your opinion that the
6 optical filters in Iwamiya provide some opening?
7 MR. KHAN: Objection, scope.
8 Objection, relevance.
9 THE WITNESS: I think you slightly
10 misrepresented my opinion. Because as I
11 described in 65, I described as both with the
12 filter being there with defining an "opening"
13 and -- or if the filter were removed, it's an
14 "opening."
15 But certainly, as I described in 64
16 and 65, with the dark-colored coating not
17 passing any light and the optical filter
18 there passing light, at least of the
19 wavelengths 900 nanometers or more, it
20 certainly, as I describe, is an opening.
21 It's also an opening if the filter were not
22 there, as I describe at the last sentence of

1 paragraph 65.
2 BY MR. KIANG:
3 Q. Now, as I understand it, you presented
4 an opinion that with the filter there, it's still an
5 opening, correct, in Iwamiya?
6 A. Well, as I describe, there is -- in
7 paragraph 64 and 65, the optical filter is
8 configured to transmit light. So a portion of
9 light, in this case the portion meaning different
10 wavelengths of 900 nanometers or more, and so in
11 such is configured to allow light from the tissue to
12 pass through to the photodiodes 9, pass through the
13 opening, the "opening" defined by the dark-colored
14 coating all around the frame, and the optical filter
15 allowing a portion of the light through that
16 opening.
17 Unlike water, light can pass through
18 solid things. In this case there's a solid thing, a
19 filter, that allows a -- light to pass through that
20 opening. Like water, light can also pass through
21 things without an opening. And as I describe there,
22 65, with the filter there, it's an opening; with the

1 filter not there, it would also be an opening, as
2 taught by Iwamiya and Sarantos.
3 Q. Let's turn to paragraph 482 of this
4 document.
5 A. I'm sorry, what paragraph?
6 Q. 482.
7 Do you see here that Dr. Sarrafzadeh
8 provides as opinion, "To put it simply, an opening
9 is an empty space. Especially in the field of optic
10 light traveling through space in an opening is not
11 equivalent to light traveling through a material,
12 such as a window"?
13 Do you see that?
14 A. I do.
15 Q. Do you agree or disagree with
16 Dr. Sarrafzadeh's opinion?
17 MR. KHAN: Objection, scope.
18 Objection, relevance.
19 THE WITNESS: Again, I've not reviewed
20 this document or the methodology by which the
21 doctor here developed his opinions. But as I
22 elucidate, again, still in paragraph 64 and

1 65, Iwamiya and Sarantos, configured as such,
2 have an opening that's defined by the
3 dark-colored coating, the filter, allowing a
4 portion of the light to go through it.
5 And then, furthermore, you know, it
6 could be modified to include other portions
7 of light, as I describe with respect to
8 Claim 8 further below in the declaration, or
9 even removing the optical filter altogether
10 would still satisfy the element.
11 BY MR. KIANG:
12 Q. Let's go back to Tab 2, the '243
13 declaration. Will you please turn to page 41.
14 And I'll give you a minute to take a
15 look at the section that begins with 1.3.
16 (Document review.)
17 THE WITNESS: Okay.
18 BY MR. KIANG:
19 Q. So Section 1.3 concerns a plurality of
20 detection detectors; right?
21 A. "1.3 a plurality of detectors
22 configured to detect at least a portion of the light

1 after passing through the tissue, the plurality of
2 detectors further configured to output at least one
3 signal responsive to the detected light."
4 Q. And for this limitation, you're
5 relying on Iwamiya's photodiodes; correct?
6 A. Well, I'm not analyzing Iwamiya alone.
7 I'm analyzing Iwamiya and Sarantos together here.
8 But the figure here is the Iwamiya figure, yes.
9 Q. You've not cited Sarantos in
10 paragraphs 56 through 58; correct?
11 A. I don't cite Sarantos in those
12 particular paragraphs, but it's part of the section
13 where my -- my -- I'm not analyzing Sarantos -- or
14 Iwamiya in isolation. It's Iwamiya with Sarantos in
15 combination. But as I describe here, in those
16 particular paragraphs, I'm -- I don't cite to 1005,
17 which is the Sarantos.
18 MR. KIANG: Why don't we take another
19 ten-minute break at this time?
20 THE WITNESS: Okay. So I guess 2:13?
21 MR. KIANG: We can make it 12 minutes.
22 So we come back at 2:15.

1 THE WITNESS: 2:15? Okay.
2 MR. KIANG: Yes.
3 THE REPORTER: We're off the record.
4 (Recess from the record.)
5 THE REPORTER: Back on the record.
6 BY MR. KIANG:
7 Q. Dr. Anthony, did you speak to anyone
8 during the break about the substance of your
9 testimony?
10 A. No.
11 Q. Okay. Let's go turn to Tab 3, your
12 '244 declaration. And let's turn to page 24 -- 27.
13 Page 27.
14 And are you there?
15 A. Which declaration, sorry?
16 Q. '244.
17 A. '244. Okay.
18 Q. At the bottom of page 27,
19 paragraph 35, you've presented an opinion that, "A
20 POSITA would have understood that light shining
21 through a translucent or transparent material as
22 described in the specific arrangement of Sarantos

1 would necessarily change in shape due to the
2 refractive properties of translucent and transparent
3 materials..."
4 Do you see that?
5 A. Yes.
6 MR. KIANG: I have one quick question
7 for the hot seater. Was that highlighting
8 already in the document?
9 THE VIDEOGRAPHER: Yes, the orange
10 highlighting, it was there in the document.
11 MR. KIANG: My apologies, it should
12 not be there.
13 Why don't we take a quick
14 couple-minute break. I'm going to replace
15 that document with a clean copy of
16 Exhibit 1003.
17 THE WITNESS: Okay.
18 THE REPORTER: We're off the record.
19 (Recess from the record.)
20 THE REPORTER: We're back on the
21 record.
22 MR. KIANG: So for the record, I have

1 put a replacement for Tab 3, which is a clean
2 copy of Exhibit 1003 from IPR 2024-00244,
3 into the chat.
4 And so the hot seater can -- can you
5 pull that one up.
6 THE VIDEOGRAPHER: Yes, I have it now.
7 I'm just grabbing it.
8 MR. KIANG: Thank you.
9 And I apologize for the inconvenience.
10 I guess I have to ask a few questions again.
11 BY MR. KIANG:
12 Q. Dr. Anthony, do you recognize this
13 document?
14 A. So this is the 1003. This is the
15 second of the '159, the one that you called '244.
16 Q. Right. And I asked you some questions
17 earlier today that might have involved the '244
18 declaration.
19 Do all of your -- does all your
20 testimony about the '244 declaration still apply
21 based on this replacement document?
22 A. Skimming through it here, I believe

1 it's the same.
2 (Document review.)
3 THE WITNESS: Yeah, it looks like my
4 declaration. Yeah, so it's my declaration.
5 BY MR. KIANG:
6 Q. Okay. Thank you.
7 I believe we were on page 27 to 28.
8 Let's go back there. And the question I asked
9 before the break was: You presented -- or I guess I
10 directed you to your opinion here that a person of
11 ordinary skill would have understood that light
12 shining through a translucent or transparent
13 material as described in the specific arrangement of
14 Sarantos would necessarily change in shape due to
15 the retractive properties of translucent and
16 transparent materials.
17 You see that?
18 A. Yes.
19 Q. I want to focus your opinion that's
20 referring to the retractive properties of
21 translucent and transparent materials.
22 Is it your opinion that light passing

1 through any transparent or translucent material
2 would necessarily change in shape due to refraction?
3 MR. KHAN: Objection, vague.
4 THE WITNESS: I'm just looking at
5 the -- pulling up the Sarantos.
6 (Document review.)
7 THE WITNESS: Mr. Kiang, would you
8 please repeat your question?
9 BY MR. KIANG:
10 Q. Sure.
11 Is it your opinion that light passing
12 through any transparent or translucent material
13 would necessarily change in shape due to refraction?
14 MR. KHAN: Same objection.
15 THE WITNESS: A POSITA, as I describe
16 here, would have understood, in paragraph 35,
17 that light shining through a translucent or
18 transparent material as described in the
19 specific arrangements of Sarantos would
20 necessarily change shape due to the
21 refractive properties of the material and due
22 to the shape defined by the in-mold label.

1 So a POSITA understands that, you
2 know, translucent material, very similar in
3 nature to what skin does in diffusing light,
4 translucent materials would diffuse light
5 based on its properties. And so have a
6 diffusing nature, and so it would also change
7 the shape of the light.
8 BY MR. KIANG:
9 Q. What about a transparent material, as
10 you've said here in your paragraph 35?
11 A. Well, I said translucent and
12 transparent materials. It wasn't isolating just
13 one. It was describing translucent and translucent
14 materials and change the shape, you know, very
15 similar to the way that skin would in being diffuse,
16 depending on its optical properties.
17 Q. You said "translucent or transparent
18 material" in paragraph 35. So how about for
19 transparent materials?
20 A. As I describe here, the translucent or
21 transparent materials, you know, depending on the
22 specific design, the materials would change the

1 shapes in a different way. It could be a small
2 change in shape, big change in shape.
3 But, you know, certainly it would --
4 as a function of the refractive properties and
5 the -- which are also wavelength dependent,
6 depending on the nature of the light coming through,
7 the input light, the output light, would change the
8 shape of the light.
9 Q. So is it your opinion that any time a
10 transparent or translucent material is placed in
11 front of a light source, that would change the shape
12 of the light?
13 A. So as I describe, a POSITA would have
14 understood that light shining through translucent or
15 transparent material as described in the specific
16 arrangements of Sarantos would change due to the
17 refractive properties of translucent and transparent
18 materials into the shape defined by the in-mold
19 label.
20 So there's a shape defined by the
21 label, the shape-changing properties of the
22 material, and that's going to be a function of its

1 index or refraction as a function of wavelength, a
2 function of the -- sort of the scattering nature of
3 the refractive properties of the materials, and
4 would change it in different ways.
5 You know, unless it has -- unless
6 there's nothing there, it's going to change it in
7 some way. It could be a little bit, it could be a
8 lot, but certainly it's going to change the shape of
9 the light passing through.
10 Q. Dr. Anthony, are you familiar with the
11 Apple Watch?
12 A. I'm familiar with them, yeah. I know
13 what they are, yes.
14 Q. And were you aware, at least before
15 they were banned in the U.S., that Apple sold Apple
16 Watches that could measure blood oxygen saturation?
17 MR. KHAN: Objection, scope.
18 Objection, relevance.
19 THE WITNESS: I vaguely recall sort of
20 that being in the press, yes.
21 MR. KIANG: Let's have the hot seater
22 pull up Tab 11.

1 And can we please mark this as Depo
2 Exhibit 1.
3 (Exhibit 1, No Bates Numbers, Press
4 Release September 15, 2020, received and
5 marked.)
6 BY MR. KIANG:
7 Q. Dr. Anthony, go ahead and download the
8 document, or let me know when you've had a chance to
9 take a look at it.
10 MR. KHAN: I'm sorry, Daniel, does
11 this have an exhibit number in the record?
12 MR. KIANG: This does not have an
13 exhibit number in the record. It's been
14 marked as Depo Exhibit 1.
15 MR. KHAN: Okay. Thank you.
16 BY MR. KIANG:
17 Q. Dr. Anthony, I'm showing you a press
18 release from Apple's website regarding the Apple
19 Watch Series 6.
20 Do you see that?
21 A. Yes, I'm -- well, I downloaded it. I
22 was looking at it on my computer. But, yes, I see

1 it.
2 Q. Okay. And if you can turn to page 4.
3 A. PDF page 4?
4 Q. Yes. There's a big image at the
5 bottom of page 4.
6 Do you see that?
7 A. Yes.
8 Q. And that image is the back of an Apple
9 Watch Series 6.
10 You see that?
11 A. Series 6 Apple -- Watch Series 6, yes.
12 Q. And in this image do you see that
13 there's four areas relative to this watch that are
14 at the 12 o'clock, 3 o'clock, 6 o'clock, and
15 9 o'clock positions that are lit up?
16 A. Yes.
17 Q. Okay. I'll represent to you that at
18 each of those four locations, there's a material
19 there called a microlens array. And underneath
20 that -- underneath each of those microlens arrays,
21 there are some LEDs.
22 And at least in this image, do you

1 agree that those LEDs are shining through the
2 microlens arrays?
3 MR. KHAN: Objection, scope.
4 Objection, relevance.
5 THE WITNESS: I see the image. I see
6 what I'm assuming you're describing as the
7 LEDs as being the generally brighter regions
8 in a larger set of illuminated area. So...
9 BY MR. KIANG:
10 Q. Okay. And do you agree that these
11 microlens arrays are -- shown in this image are
12 translucent or transparent materials?
13 MR. KHAN: Objection, scope.
14 Objection, relevance.
15 THE WITNESS: I do not know what the
16 materials are, but they are passing light.
17 So they have some translucent or transparent
18 properties. I don't know, as well, if
19 there's other material in front of there, I
20 think there might be, in addition to the
21 lens. But light is coming through, at least
22 from the image, it seems.

1 BY MR. KIANG:
2 Q. Under the reasoning that you've
3 applied in this IPR and in your declarations, when
4 light shines from an LED through the microlens
5 arrays in the Apple Watch, would that necessarily
6 change the shape of light due to refractive
7 properties of the microlens array?
8 MR. KHAN: Objection, scope.
9 Objection, relevance. Objection, calls for
10 speculation.
11 THE WITNESS: So I did not opine
12 particularly about the Apple Watch Series 6,
13 but as I described in my declaration in
14 paragraph 35 and -- well, paragraph 35, in
15 describing the Sarantos, having material
16 there would change the shape.
17 And so is it likely that light is
18 potentially changing shape? I'd have to do a
19 slice of the light before and after, look at
20 the light coming just out of the LEDs, look
21 at the light coming on the other side to --
22 so specifically, but I didn't mean to opine

1 upon that.
2 Certainly, as I describe in
3 paragraph 35, Sarantos, with its translucent
4 or transparent material would change the
5 shape of the light.
6 MR. KHAN: Counsel, before you ask
7 further questions along these lines, we've
8 cautioned you once before already of asking
9 questions out of scope, and you continue to
10 do so.
11 We will caution you again that the
12 board's rules make clear that for
13 cross-examination testimony, the scope of the
14 examination is limited to the scope of the
15 direct testimony.
16 If you persist in repeatedly asking
17 questions out of that scope, in addition to
18 lodging our objections, we will initiate a
19 conference call with the board to discusses a
20 proposed motion to pause this deposition,
21 because it's being conducted in bad faith.
22 And the board can determine whether

1 the deposition at that point needs to be
2 terminated or not, because it's being
3 conducted in bad faith.
4 MR. KIANG: Thank you, Counsel. But
5 every question I've asked so far has been
6 related to his direct testimony. I disagree
7 with your characterizations on the record.
8 MR. KHAN: Well, our caution is in
9 place.
10 MR. KIANG: And I then caution counsel
11 not to provide speaking objections.
12 MR. KHAN: There was no question here
13 that I objected to. It's a caution. And
14 it's a repeated caution. It's the third time
15 now.
16 BY MR. KIANG:
17 Q. Now, Dr. Anthony, in your previous
18 answer, I believe you stated that in order for you
19 to figure out whether the light is changing shape,
20 you'd have to take a look at the light before and
21 after -- after the material; is that correct?
22 MR. KHAN: Objection, scope.

1 Objection, relevance.
2 THE WITNESS: For my declaration, I
3 did not review any documents that describe
4 the construction or the function of the Apple
5 Watch. My opinions are, as I describe in my
6 declaration, certainly with respect to
7 Sarantos in paragraphs 34 and 35, where the
8 transparent material, translucent material in
9 Sarantos would change the shape of the light.
10 I have not opined about the construction of
11 the Apple Watch.
12 BY MR. KIANG:
13 Q. My question was a bit more general
14 than the Apple Watch.
15 I believe you stated that in order for
16 you to figure out whether the light was changing
17 shape, you would need to take a look at what the
18 shapes of light are before and after the material;
19 is that correct?
20 MR. KHAN: Objection, form.
21 THE WITNESS: I recall, Mr. Kiang,
22 that you had asked me a question whether it's

1 changing the light.
2 And I said, yes.
3 And then you kept pressing, and I
4 said, Well, I could do an analysis, but
5 there's material there. It's depending on
6 the wavelength of the light, the nature of
7 the materials. It's going to change it a
8 little or it's going to change it a lot, but
9 it's going to change the shape of the light.
10 But I was opining upon that in
11 general -- or not in general, but
12 specifically with respect to the -- my
13 declaration with respect to Sarantos, but
14 that's what my paragraphs 34 and 35 describe.
15 BY MR. KIANG:
16 Q. At the beginning of your current
17 answer, the one that you just gave me, you said that
18 I asked you a question about whether it's changing
19 the shape of light.
20 What were you referring to by "it"?
21 A. I believe you had asked about the
22 image that you have on the screen.

1 Q. That's the image of the Apple Watch;
2 correct?
3 A. Correct.
4 Q. Let's turn to paragraph 105 in the
5 same declaration, the '244 declaration. I think
6 that's on pages 84 to 85.
7 A. So this is in the section Sarantos and
8 Shie. Okay.
9 Q. You'll see in paragraph 105, you had
10 stated, "a POSITA would have understood and found it
11 obvious for the first shape of light emitted by the
12 LEDs in the combination to correspond to the same
13 first shape of light that enters the diffuser (i.e.,
14 there is no change in shape between the LEDs and the
15 diffuser itself)."
16 A. I'm sorry, was there a question?
17 Q. Not yet. I just wanted to make sure
18 that you had seen that, and that we're on the same
19 page here.
20 (Document review.)
21 BY MR. KIANG:
22 Q. Dr. Anthony, are you reading anything?

1 A. I was refamiliarizing myself with my
2 declaration around these paragraphs.
3 Q. Okay. For the statement in
4 paragraph 105, and specifically in this
5 parenthetical, "i.e., there is no change in shape
6 between the LEDs and the diffuser itself," you
7 haven't cited any evidence for support of that
8 statement; correct?
9 Actually, let me withdraw that
10 question. I'll ask you a different question,
11 Dr. Anthony.
12 What did you mean by, there is no
13 shape -- "there is no change in shape between the
14 LEDs and the diffuser itself"?
15 (Document review.)
16 THE WITNESS: Well, what I describe in
17 this section on limitation 1.2 under the --
18 in comparison to the 1.2 with just Sarantos,
19 here Sarantos with Shie, paragraph 104, As I
20 discussed above, the application of teaching
21 of Shie to Sarantos' device would have
22 resulted in implementation of Sarantos'

1 window that is positioned between the light
2 source 2208 and the user's skin to include
3 the additional teaching of Shie regarding a
4 diffuser with light diffusing and shaping
5 advantages positioned between Sarantos' light
6 emitting device in light source 2208 and the
7 user's wrist, in order to change the shape of
8 light from a first shape characterized by the
9 specific location, arrangement, and/or shape
10 of each light emitting device in the
11 resulting device into a second shape
12 projected toward a surface of the tissue.
13 As previously described with respect
14 to Claim 1 in Ground 1A, "A POSITA would have
15 understood and found it obvious for the first
16 shape of light emitted by the LED in a
17 combination to correspond to the same first
18 shape of light that entered the diffuser; for
19 example, Sarantos' Figure 22."
20 So a POSITA would have recognized the
21 light source 2208 emits light in a first
22 shape that's, at least in part, defined by

1 the specific location, arrangement, or shape
2 of each light emitting device of the light
3 source.
4 And as I described back in
5 paragraphs 34 and 35, the translucent and
6 transparent material would change the light
7 in some way.
8 Shie describes how to amplify it and
9 get some further design advantage, if the
10 designer in this particular case wanted
11 further diffusion -- further light change.
12 Sarantos, in combination with Shie,
13 also describes how the diffuser would further
14 change the shape of the light.
15 BY MR. KIANG:
16 Q. So when you say there's no change in
17 shape between the LEDs and the diffuser itself, are
18 you saying that if Sarantos' LED, that's shown here
19 in Figure 22 on page 85 of your declaration, if that
20 LED had a square image and surface, then that LED
21 would be emitting a square shape of light?
22 Is that what you're saying?

1 MR. KHAN: Objection, mis- --
2 objection, misstates testimony.
3 THE WITNESS: I'm sorry, can you
4 repeat the question?
5 BY MR. KIANG:
6 Q. Sure.
7 I'm trying to understand what you
8 meant by, "there is no change in shape between the
9 LEDs and the diffuser itself."
10 So if we look at Figure 22 of
11 Sarantos, which I think you've reproduced here on
12 page 85 of your declaration, with some annotations;
13 right?
14 (Document review.)
15 BY MR. KIANG:
16 Q. Dr. Anthony, are you still reviewing
17 something or --
18 A. I was reading -- rereading my
19 declaration around paragraph 105 and 106.
20 Q. Okay. So you have, on page 85 of your
21 declaration, a portion of Figure 22 of Sarantos;
22 correct?

1 A. That is correct.
2 Q. And the green thing that you've
3 highlighted, 2208, that's an LED; is that correct?
4 A. Correct.
5 Q. And you've also mentioned -- I guess
6 you pointed to a region that you've highlighted. I
7 guess you have a bracket that's orange, and you've
8 highlighted the numeral 2226; right?
9 A. Correct.
10 Q. And that's the window in Sarantos;
11 correct? Or the window region?
12 A. Correct.
13 Q. And between the window region 2226 and
14 the LED 2208, there's a bit of a gap; correct?
15 A. Correct.
16 Q. Now, what you said in paragraph 105 is
17 "there is no change in shape between the LEDs on the
18 diffuser itself"; correct?
19 A. So as I'm describing here, Sarantos,
20 in combination with Shie, that window now, that
21 material is now a diffuser material, right. And
22 there's no change in shape from the LED to the

1 material, in this case it's diffuser.
2 So in that gap there's no change, but
3 once it hits the diffuser now in the window instead
4 of just being the translucent or transparent
5 material, it's the Shie diffuser. But as it passes
6 through that, whether it passed through the
7 combination of Sarantos and Shie or just the
8 non-diffuser version in just Sarantos by itself, the
9 light would change shape after it passes through
10 that.
11 Q. If I understood that correctly then,
12 if Sarantos -- that LED 2208 is a square, has a
13 square emission surface. Would it be your opinion
14 then that there is no change -- well, number one, it
15 would emit light in a square shape; is that correct?
16 MR. KHAN: Objection, calls for
17 speculation. Objection, misstates testimony.
18 Objection, relevance.
19 THE WITNESS: Well, just because the
20 LED there is square does not mean that it's a
21 square pattern. It's whatever the pattern of
22 light coming out of it. I don't know what it

1 is, but it's coming out. It's not being
2 changed by the nothingness between the
3 surface of the LED and the back of the window
4 of this -- that's labeled 2226. It's some
5 shape.
6 And then it passes through 2226, which
7 is either with Sarantos by itself, just the
8 translucent or transparent material, and it
9 would change shape. With Shie, to further
10 change the shape -- would understand with
11 that diffuser would further change shape, but
12 passing through it would change whatever
13 shape it is coming out of the LED that's
14 2208.
15 BY MR. KIANG:
16 Q. So looking at Sarantos' Figure 22, a
17 person of ordinary skill would not be able to know
18 what shape -- what the first shape of light is
19 that's being emitted by Sarantos' LED; is that
20 correct?
21 MR. KHAN: Objection, form.
22 THE WITNESS: Well, a POSITA looking

1 at this would understand that there is a
2 first shape of light. There's a shape of
3 light that comes out of an LED. And the
4 shape of that light, once it passes through
5 the window, would change shape, either from
6 the translucent/transparent materials, as
7 described back on pages 26 and 27, so
8 paragraph 34, 35, or here, as described in
9 paragraphs 104, 105, and forward.
10 BY MR. KIANG:
11 Q. How would a POSITA know if it's a
12 different shape that comes out compared to what's
13 going in?
14 A. So as I describe underneath that
15 paragraph on page 85 -- or underneath the figure,
16 sorry, page 85, a POSITA would have recognized that
17 the light source 2208 emits light in a shape -- in a
18 first shape that is, at least in part, defined by
19 the location, arrangement, or the shape of each
20 light emitting device of the light source, so
21 depending on the details of that LED.
22 And then in 106, In the predictable

1 combination resulting from the application of Shie
2 to Sarantos, the portion of Sarantos' window region
3 2226 that is positioned between the light source
4 2208 and the user's skin would have been implemented
5 to change the shape of the light based on the
6 teachings of Shie, so a diffuser.
7 In the combination, Shie describes a
8 diffuser that has light diffusing and shaping
9 advantages and changes a first shape of light into a
10 second shape.
11 As I discussed above, a POSITA would
12 have recognized it would have been obvious and
13 beneficial to use light shape-changing material of
14 Shie in the wristwatch sensor of Sarantos in between
15 LEDs 2208 and the user's wrist tissue, shown in
16 Figure 22 above, in order to change the shape of
17 light emitted by LEDs into a second shape projected
18 onto the tissue, to have the benefit of diffusing it
19 and changing its shape.
20 Q. Are you done reading from your
21 declaration?
22 A. I can go on in paragraph 107, but

1 it's -- it's as described.
2 Q. In your opinion, if Sarantos' LED
3 that's shown here on Figure 22 on page 85 of your
4 declaration, if that one has a square emission
5 surface, does it emit a square-shaped light beam?
6 MR. KHAN: Objection, calls for
7 speculation. Objection, scope.
8 THE WITNESS: If -- I think I've
9 described, but the shape of the light that
10 comes out of 2208 is a shape defined by the
11 characteristics of the LED. And that shape
12 would be changed in shape as it passes
13 through the window, but that shape that comes
14 out of the 2208 LED is a function of the
15 details of that LED. But it would have a
16 shape that would get changed as it passes
17 through 2226 in combination with Shie.
18 BY MR. KIANG:
19 Q. Okay. So sitting here today, you
20 can't tell me that that's a square-shaped light
21 beam; correct?
22 A. I think I answered the question. It

1 could be a square. It could be a circle. It could
2 be -- you know, you said "beam." So that suggests
3 that it's very focused, but it has a shape.
4 Q. So you can't confirm today, sitting
5 here, that whatever -- if Sarantos' LED is a square,
6 you can't confirm that it emits a square-shaped
7 light beam.
8 Is that what you're saying?
9 MR. KHAN: Objection, asked and
10 answered. Objection, restates testimony.
11 THE WITNESS: The LED there is drawn
12 as a rectangle. The actual shape coming out
13 of it would depend on the construction of
14 that specific LED. It would have a shape
15 that comes out the front of that, and then
16 that shape would pass through the 2226 window
17 and would be changed.
18 BY MR. KIANG:
19 Q. Okay. So for purposes of this
20 question, I want you to assume that 2208, the LED,
21 has a square emission surface.
22 And based on that assumption, are you

1 able to confirm or not whether the LED would emit a
2 square-shaped light beam?
3 MR. KHAN: Objection, calls for
4 speculation. Objection, scope. Objection,
5 relevance.
6 THE WITNESS: Mr. Kiang, I'm sorry,
7 I'm confused by the question. Because as I
8 described, the shape of it is unknown until
9 you say, here is a specific LED that has this
10 shape, or that has a radiation pattern of
11 this shape. That shape, though, will be
12 changed into a second shape as it passes
13 through 2226, with Sarantos or the
14 Sarantos/Shie combination.
15 BY MR. KIANG:
16 Q. Dr. Anthony, why don't we turn to
17 paragraph 229 in your '244 declaration. It should
18 be the same declaration that we're looking at.
19 A. Which paragraph, sorry?
20 Q. 229.
21 A. 229.
22 Q. Page 161.

1 Does this paragraph 229 set forth the
2 legal standards for obviousness that you applied in
3 your declaration?
4 A. I am not an attorney. This is my
5 understanding of obviousness and anticipation as has
6 been explained to me by counsel.
7 For example, I have been informed that
8 a patent claim is invalid as obvious under this
9 particular rule, 35 U.S.C. 103, in light of one or
10 more prior art references if it would have been
11 obvious to a POSITA, taking into account the scope
12 and content of the prior art, the differences
13 between the prior art and the claims, the level of
14 ordinary skill in the art, and any so-called
15 secondary considerations of nonobviousness, which
16 include (i) a long-felt need for claimed invention,
17 (ii) commercial success attributable to the claimed
18 invention, unexpected results of the claimed
19 invention, and copying of the claimed invention by
20 others.
21 I have also been informed that a claim
22 can be obvious in light of a single prior art

1 reference or prior art references. There must be a
2 reason to modify the single prior art reference, or
3 combine two or more references, in order to achieve
4 the claimed invention.
5 This reason may come from a teaching,
6 suggestion, or motivation to combine, or may come
7 from the reference or references themselves, the
8 knowledge or common sense of one skilled in the art,
9 or from the nature of the problem to be solved, and
10 may be explicit or implicit from the prior art as a
11 whole.
12 I have been informed that the
13 combination of familiar elements according to known
14 methods is likely to be obvious when it does not --
15 does no more than yield predictable results. I also
16 understand it's improper to rely on hindsight in
17 making the obvious determination.
18 So that's as I understand from
19 counsel, and these are the principles that I
20 applied.
21 BY MR. KIANG:
22 Q. You understand, Dr. Anthony, you don't

1 have to recite your declaration when answering my
2 questions; correct?
3 A. I understand, but you had asked me
4 whether this was the thing that I understood about
5 obviousness, and this is what I understood about
6 obviousness.
7 Q. Now, paragraph 229 mentions secondary
8 considerations of nonobviousness; correct?
9 A. Yes, any so-called secondary
10 considerations of nonobviousness.
11 Q. Did you consider any secondary
12 considerations of nonobviousness in forming your
13 opinions for this declaration or for any of the
14 three declarations that we're discussing today?
15 A. I do not believe there are any
16 secondary considerations that I highlight in my
17 declaration.
18 Q. Several claims of the '743 and the
19 '159 patents recite the determination of oxygen
20 saturation at the wrist.
21 Do you recall that?
22 A. Yes.

1 Q. And you're aware, because you were
2 previously retained as an expert in the '745 patent
3 IPRs, that Masimo had raised secondary
4 considerations of nonobviousness regarding
5 determining oxygen saturation at the wrist; correct?
6 A. I'm not -- I've not memorized my prior
7 '745 materials.
8 Q. But you recall that Masimo had raised
9 evidence concerning Apple's engineer testimony in
10 the '745 patent IPRs; correct?
11 MR. KHAN: Objection, scope.
12 Objection, relevance.
13 THE WITNESS: I vaguely recall that
14 from prior, but as I describe in my
15 declarations, there's plenty of literature
16 and experience of people that have very
17 successfully measured pulse ox at the wrist.
18 And I can point to those sections in my
19 declaration, but certainly those are
20 well-established techniques.
21 BY MR. KIANG:
22 Q. So at the time you wrote -- at the

1 time you signed these declarations, you were aware
2 that Masimo had presented secondary considerations
3 arguments regarding determining oxygen saturation at
4 the wrist; correct?
5 MR. KHAN: Objection, form.
6 THE WITNESS: Well, I had to go back.
7 And I describe in -- of that same
8 declaration, the -- on the '159 that you
9 numbered '244, in paragraph 75.
10 So responsive to Patent Owner's
11 arguments raised in the other IPR, I believe
12 that --
13 (The reporter seeks clarification.)
14 THE WITNESS: Patent Owner responses
15 raised in another IPR, I presume that is at
16 least the '745, there are many references, a
17 dozen, that antedate the '159 that underscore
18 how determining oxygen saturation at the
19 wrist was not only well known, but had
20 actually been successfully and repeatedly
21 performed.
22 And then I go through in the

1 subsequent paragraphs, in 76 and 77, 78, 79,
2 81, 82, 83, 84, 85, that show various of
3 those prior teachings that show measurement
4 of pulse ox at the wrist.
5 MR. KIANG: Dr. Anthony, why don't we
6 take another ten-minute break at this time
7 since it's --
8 THE WITNESS: Okay. Ten minutes?
9 MR. KIANG: Yes.
10 THE WITNESS: So make it 3:22, I
11 guess?
12 MR. KIANG: Actually, let's make it an
13 even number -- I guess a round number. Let's
14 come back at 25 after.
15 THE WITNESS: Okay, 25 after.
16 THE REPORTER: We're off the record.
17 (Recess from the record.)
18 THE REPORTER: Okay. We're back on
19 the record.
20 BY MR. KIANG:
21 Q. Dr. Anthony, during the break, did you
22 speak to anybody about the substance of your

1 testimony?
2 A. No.
3 Q. Okay. Earlier today I asked you some
4 questions about the Apple Watch Series 6 in relation
5 to your opinion that light shining through a
6 translucent or transparent material would
7 necessarily change in shape due to refraction.
8 Do you recall that?
9 A. I recall these questions, yes.
10 Q. Now, correct me if I'm wrong, but I
11 believe that you had stated that -- or that you had
12 opined that the microlens array in the Apple Watch
13 was changing the shape of light that was emitted
14 from the LEDs and shining through the microlens
15 array; correct?
16 MR. KHAN: Objection, scope.
17 Objection, relevance.
18 THE WITNESS: I believe I was
19 commenting on -- mainly I was pointing to my
20 declaration, and I did not study the Apple
21 Watch in forming my opinions.
22

1 BY MR. KIANG:
2 Q. But did I misstate your testimony on
3 that?
4 A. Can you repeat it then?
5 Q. Sure.
6 I believe that you had stated that, in
7 your opinion, the microlens array in the Apple Watch
8 was changing the shape of the light that was emitted
9 from the LEDs that shines through the microlens
10 array; is that right?
11 MR. KHAN: Objection, scope.
12 Objection, relevance, asked and answered.
13 And, again, Counsel, we'll caution you
14 to please keep the questions within the scope
15 of [inaudible].
16 THE WITNESS: Again, I've not studied
17 the Apple Watch in forming my opinions. I
18 was looking at Sarantos and Iwamiya and Shie
19 and describing the shape-changing nature of
20 those prior arts would do to light.
21 Insofar as that they have some
22 diffusers in the nature, similar to what is

1 described in the combination, it would change
2 the shape, as well, but I didn't opine about
3 that. I go back to my declaration and
4 opining about Sarantos and Sarantos and Shie.
5 BY MR. KIANG:
6 Q. And to be clear, when you were saying
7 it will change the shape, as well, in your answer,
8 you were referring to the microlens array in the
9 Apple Watch; correct?
10 MR. KHAN: Objection, scope.
11 Objection, relevance. Objection, asked and
12 answered.
13 THE WITNESS: And, again --
14 MR. KHAN: Counsel, this is -- I'm
15 sorry, and, Counsel, this is going to be my
16 fifth warning to you. So just making a note
17 for the record.
18 BY MR. KIANG:
19 Q. Dr. Anthony, please answer the
20 question.
21 A. So I've not studied the Apple Watch.
22 I understand the figure that you showed to me. I

1 was opining in forming my opinions about what
2 Sarantos and Shie would do.
3 If I had more design documents about
4 the Apple Watch, I could take some time and opine
5 about that; but my opinions are really geared around
6 the literature that I described in my declaration.
7 Q. In providing your opinions about Shie,
8 you referenced microstructures in Shie; correct?
9 Actually, Dr. Anthony, I'll withdraw
10 that question. I don't think I quite got an answer
11 to the one I asked before.
12 And, really, that -- the question I
13 had before was really just a clarification on your
14 answer. I believe -- give me a minute here.
15 Okay. Dr. Anthony, I believe in a
16 previous answer, you said that if you had more
17 design documents about the Apple Watch, you could
18 take some time and opine about whether the Apple
19 Watch changed the shape of light; is that right?
20 A. Again, I've not reviewed any -- what
21 I'm here being -- talking about is my declaration
22 with Sarantos and Shie and Iwamiya. I've not

1 studied for my testimony here today the Apple Watch.
2 I saw the image that you showed to me,
3 and I'm making stuff up on the fly, because you're
4 asking about something I have not reviewed in
5 detail. I'm not making stuff up on the fly. That's
6 not what I mean. But I'm here talking about my
7 opinions with respect to Iwamiya and Shie and
8 Sarantos.
9 MR. KHAN: And, Counsel -- Counsel,
10 before you go on, I will caution that if you
11 ask another question about the Apple Watch, I
12 will be forced to pause this deposition and
13 call the board. Because your questions are
14 clearly out of scope and we have repeatedly
15 warned you and you're not questioning the
16 expert in good faith. It's out of bad faith.
17 So we will be forced to pause this deposition
18 and call the board.
19 BY MR. KIANG:
20 Q. Dr. Anthony, can you please turn to
21 paragraph -- actually, page 92 of your '244
22 declaration.

1 A. I'm sorry, which declaration? I'm
2 sorry.
3 Q. '244.
4 Do you see on the fourth line on
5 page 92, you've quoted, "a circular microlens
6 produces a circular scatter pattern while a
7 rectangular microlens produces a rectangular
8 pattern."
9 Do you see that?
10 A. Yes.
11 Q. Is it your opinion that a microlens
12 array changes the shape of light?
13 MR. KHAN: Objection, vague.
14 (Document review.)
15 THE WITNESS: As I fully describe
16 there, A POSITA -- starting at the bottom of
17 page 91 in paragraph 115, A POSITA would have
18 understood that the shape of the Fresnel lens
19 determines the shape of the light exiting the
20 Fresnel lens.
21 The boundary shape of the diffuser
22 structure defines the geometry of the edges

that limit the spacial extent of each scatter center. For example, boundary shape can be circular, square, rectangular or any general shape.

Then a circular microlens produces a circular scatter pattern, while a rectangular microlens produces a rectangle pattern. And, for example, a circle-shaped Fresnel lens with diffusing microstructures would change Sarantos' square-shaped light beam entering the Fresnel lens into a circle-shaped light beam exiting the lens.

So as I describe here, there's a Fresnel lens with also diffusing structures, and so the pattern -- the shape of the light would be sort of both macro-patterned and micro-patterned by the shape of the lens and the diffusing microstructures of the Fresnel lens and so would change the shape of the light.

BY MR. KIANG:

Q. When you refer to the microstructures

1 of the Fresnel lens, you're referring to
2 microlenses; is that correct?
3 A. So I cite here at Apple 1054 -- if you
4 could post that, I can describe it more fully. But
5 here, as I've described, a circle-shaped Fresnel
6 lens with diffusing microstructures would change the
7 Sarantos square shape entering the Fresnel lens into
8 a circular shape exiting the lens. And a POSITA
9 would have known that a Fresnel lens is commonly
10 used in reflective pulse oximetry. So it would
11 change the -- you would have diffusing properties
12 and pattern and shape-changing properties.
13 Q. Thank you, Dr. Anthony.
14 MR. KIANG: I'll pass the witness.
15 MR. KHAN: Can we take a --
16 THE WITNESS: Oh, sorry, I thought I
17 missed a question. I'm sorry.
18 MR. KHAN: Can we take a five-minute
19 break and come back?
20 MR. KIANG: Sure.
21 THE WITNESS: So 3:50?
22 MR. KHAN: That sounds good.

1 THE REPORTER: Okay. We're off the
2 record.
3 (Recess from the record.)
4 THE REPORTER: We're back on the
5 record.
6 MR. KHAN: We have no other questions.
7 MR. KIANG: Thank you.
8 THE REPORTER: Okay. That concludes
9 the deposition for today.
10 (The deposition concluded. The time
11 is 3:49 p.m. PT)
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22

1 STATE OF NEW YORK)
ss:
2 COUNTY OF WESTCHESTER)
I, EILEEN MULVENNA, CSR/RMR/CRR, a
3 Certified Court Reporter, Registered Merit Reporter, Certified Realtime Reporter, and Notary Public in
4 and for the State of New York, do hereby certify:
That I reported the taking of the
5 deposition of the witness, DR. BRIAN W. ANTHONY, commencing on the 28th day of October, 2024, at the
6 hour of 12:00 p.m. (Pacific Time).
That prior to being examined, the witness
7 was duly sworn by me to testify to the truth, the whole truth, and nothing but the truth.
8 That I thereafter transcribed my said shorthand notes into typewriting and that the
9 typewritten transcript of said deposition is a complete, true and accurate transcription of my
10 said shorthand notes taken down at said time, and that a request has been made to review the
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I further certify that I am not a relative
12 or employee of an attorney or counsel of any of the
13 parties, nor a relative or employee of any attorney
14 or counsel involved in said action, nor a person
15 financially interested in the action.
16 IN WITNESS WHEREOF, I have hereunto
17 set my signature this 28th day of October, 2024.
18
19
20
21
22 EILEEN MULVENNA, CSR/RMR/CRR/RDR

1 Dr. Brian W. Anthony, c/o
FISH & RICHARDSON
2 1000 Maine Avenue SW, Suite 1000
Washington, D.C. 20024
3
Case: Apple, Inc. v. Masimo Corp.
4 Date of deposition: October 28, 2024
Deponent: Dr. Brian W. Anthony
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5 Witness Name: Dr. Brian W. Anthony
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7 and examined the foregoing pages
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22 DATE NOTARY

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6 ERRATA SHEET
7
8 Case: Apple, Inc. v. Masimo Corp.
9 Witness Name: Dr. Brian W. Anthony
10 Deposition Date: October 28, 2024
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Anthony
Exhibit 1
(10-28-24)
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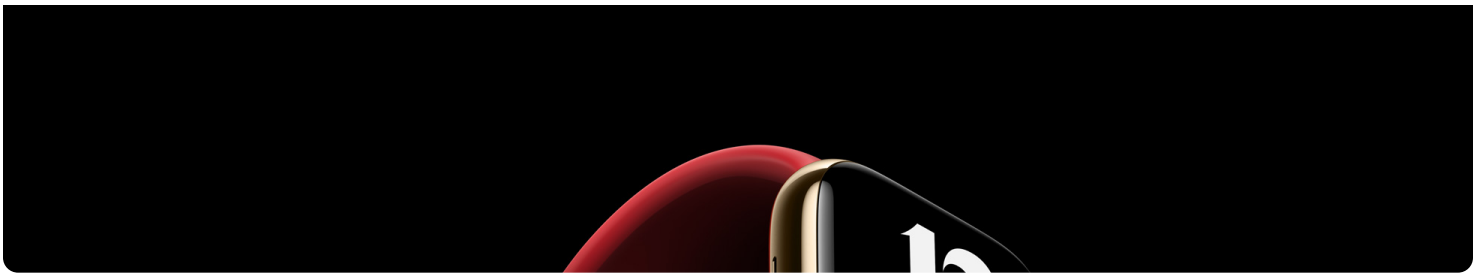
PRESS RELEASE
September 15, 2020

Apple Watch Series 6 delivers breakthrough wellness and fitness capabilities

Featuring a Blood Oxygen sensor and app, new case finishes, and watchOS 7



Introducing Apple Watch Series 6, featuring a revolutionary Blood Oxygen sensor and app.

Cupertino, California — Apple today announced Apple Watch Series 6, introducing a revolutionary Blood Oxygen feature that offers users even more insight into their overall wellness. Apple Watch Series 6 delivers many notable hardware improvements, including a faster S6 System in Package (SiP) and next-generation always-on altimeter, along with its most colorful lineup yet, featuring a beautiful palette of new case finishes and bands. watchOS 7 brings Family Setup, sleep tracking, automatic handwashing detection, new workout types, and the ability to curate and share watch faces, encouraging customers to be more active, stay connected, and better manage their health in new ways.

“Apple Watch Series 6 completely redefines what a watch can do,” said Jeff Williams, Apple’s chief operating officer. “With powerful new features, including a Blood Oxygen sensor and app,[1] Apple Watch becomes even more indispensable by providing further insight into overall well-being.”

Apple Watch Series 6 offers its most colorful collection yet.

Blood Oxygen Sensor and App

Apple Watch Series 6 expands the health capabilities of previous Apple Watch models with a new feature that conveniently measures the oxygen saturation of the user's blood, so they can better understand their overall fitness and wellness. Oxygen saturation, or SpO2, represents the percentage of oxygen being carried by red blood cells from the lungs to the rest of the body, and indicates how well this oxygenated blood is being delivered throughout the body.

To compensate for natural variations in the skin and improve accuracy, the Blood Oxygen sensor employs four clusters of green, red, and infrared LEDs, along with the four photodiodes on the back crystal of Apple Watch, to measure light reflected back from blood. Apple Watch then uses an advanced custom algorithm built into the Blood Oxygen app, which is designed to measure blood oxygen between 70 percent and 100 percent. On-demand measurements can be taken while the user is still, and periodic background measurements occur when they are inactive, including during sleep. All data will be visible in the Health app, and the user will be able to track trends over time to see how their blood oxygen level changes.

The new Blood Oxygen sensor and app conveniently measure the oxygen saturation of blood so users can better understand their overall fitness and wellness.

Apple is joining forces with researchers to conduct three health studies that include using Apple Watch to explore how blood oxygen levels can be used in future health applications. This year, Apple will collaborate with the University of California, Irvine, and Anthem to examine how longitudinal measurements of blood oxygen and other physiological signals can help manage and control asthma.

Separately, Apple will work closely with investigators at the Ted Rogers Centre for Heart Research and the Peter Munk Cardiac Centre at the University Health Network, one of the largest health research organizations in North America, to better understand how blood oxygen measurements and other Apple Watch metrics can help with management of heart failure. Finally, investigators with the Seattle Flu Study at the Brotman Baty Institute for Precision Medicine and faculty from the University of Washington School of Medicine will seek to learn how signals from apps on Apple Watch, such as Heart Rate and Blood Oxygen, could serve as early signs of respiratory conditions like influenza and COVID-19.

The Blood Oxygen sensor employs LEDs, along with photodiodes on the back crystal of Apple Watch Series 6.

Design and Performance

Apple Watch Series 6 improves performance through redesigned hardware that packs even more features and power into the same impressively small design. Using a new dual-core processor based on A13 Bionic in iPhone 11, the upgraded S6 SiP runs up to 20 percent faster, allowing apps to also launch 20 percent faster, while maintaining the same all-day 18-hour battery life.[2] Additionally, Apple Watch Series 6 features the U1 chip and Ultra Wideband antennas,[3] which will enable short-range wireless location to support new experiences, such as next-generation digital car keys. Apple Watch Series 6 offers faster charging, completing a full charge in under 1.5 hours, and improved battery life for tracking certain workouts, such as indoor and outdoor runs.

An enhanced Always-On Retina display on Apple Watch Series 6 is up to 2.5 times brighter than Apple Watch Series 5 outdoors when the user's wrist is down, making it much easier to see a watch face in bright sunlight. When their wrist is down, the user can also now access Notification Center and Control Center, tap on complications, and swipe to change faces without having to wake their watch screen.

Always-On Altimeter

The always-on altimeter provides real-time elevation all day long by using a new, more power-efficient barometric altimeter, along with GPS and nearby Wi-Fi networks. This feature allows for the detection of small elevation changes above ground level, up and down to the measurement of 1 foot, and can be shown as a new watch face complication or workout metric.

Apple Watch Collection

This fall, customers have more choices than ever with stunning new cases and bands to suit every style preference. For the first time, a new blue color joins the

silver, space gray, and gold aluminum case options, along with a (PRODUCT)RED Apple Watch with exclusive matching bright red bands. Stainless steel models are now available in graphite — a rich gray-black hue with a striking high-shine finish — and an updated classic yellow gold color. Apple Watch Edition is available in natural and space black titanium.

Three all-new band styles offer customers innovative options that provide a tailored and comfortable fit without traditional clasps or buckles. In an industry first, the ultralight Solo Loop introduces a continuous and stretchable band design that comes in two materials: soft silicone and braided yarn. A special UV treatment process used on the soft silicone of the Solo Loop creates a smooth, silky finish, while a precision-braiding machine interweaves the 16,000 polyester yarn filaments, made of 100 percent recycled material, with ultrathin silicone threads, giving unique stretchability and a distinct look to the Braided Solo Loop. To ensure the best fit, a new sizing system offers nine available lengths for the Solo Loop styles. The first-of-its-kind Leather Link wraps elegantly around the

wrist, effortlessly attaching on the other side with flexible molded magnets.

Apple Watch Nike now comes with new colors for the Nike Sport Band and Nike Sport Loop, and a new Nike Compact watch face allows for multiple Nike Run Club complications. Apple Watch Hermès offers stainless steel cases in silver or space black paired with Single or Double Tour styles in an assortment of vibrant new colors. The fall collection also unveils the Hermès Attelage Single Tour and slimmer Attelage Double Tour bands, which feature a refined connection to the case that reflects the brand's equestrian heritage, and a new Hermès Circulaire watch face that offers increased options for complications.

watchOS 7

With watchOS 7, customers can take personalization to the next level with seven new watch face options, including Stripes, Chronograph Pro, GMT, and Artist, while curating, discovering, and sharing new watch face configurations with

others. New health and fitness features, including low-range VO2 Max, sleep tracking, automatic handwashing detection, and new workout types, can help users better understand overall well-being. Conveniently accessible on the wrist, Maps includes cycling directions and Siri offers language translation.

Family Setup and Optimized Features for the Entire Family

Family Setup[4] in watchOS 7 extends Apple Watch to the entire family by allowing kids and older family members of the household who do not have an iPhone to benefit from the connectivity, safety, and fitness features of Apple Watch. Kids can take advantage of communication and personalization capabilities, access Emergency SOS at any time, enjoy an Activity rings experience that has been optimized just for them, and utilize a new mode called Schooltime, which can help them stay focused and attentive while learning at home or in the classroom.

watchOS 7 also offers optimized features for older adults, starting with a simplified onboarding and configuration process, along with a refreshed X-Large face that shows the time and a rich complication at a glance. Older adults can also benefit from a new Health Checklist in the Health app on iPhone, which offers the ability to track whether health features like fall detection have been enabled in one centralized view.

Pricing and Availability

- Apple Watch Series 6 (GPS) starts at **$399** and Apple Watch Series 6 (GPS + Cellular) starts at **$499**.
- Apple Watch Series 6 (GPS) is available to order today from apple.com and in the Apple Store app, with availability beginning Friday, September 18, in the *US*, *Puerto Rico*, and 27 other countries and regions.
- Apple Watch Series 6 (GPS + Cellular) is available to order today from apple.com and in the Apple Store app, with availability beginning Friday, September 18, in the *US*, *Puerto Rico*, and 21 other countries and regions. For carrier availability, visit apple.com/watch/cellular.
- Apple Watch Nike is available to order today from apple.com and in the Apple Store app, with availability beginning Friday, September 18, in the *US*, *Puerto Rico*, and more than 27 other countries and regions. For more information, visit apple.com/apple-watch-nike or nike.com/applewatch.
- Apple Watch Hermès is available to order today from apple.com and in the Apple Store app, with availability beginning Friday, September 18, in the *US* and more than 14 other countries and regions. For more information, visit apple.com/apple-watch-hermes or hermes.com/applewatchhermes.
- New Apple Watch bands are available to order today from apple.com and in the Apple Store app, with availability beginning Friday, September 18. Solo Loop and Braided Solo Loop in (PRODUCT)RED will be available in late October. Solo Loop and Braided Solo Loop are compatible with Apple Watch Series 4 and later.
- watchOS 7 will be available for Apple Watch Series 3 and later on September 16, and requires iPhone 6s or later running iOS 14. Not all features are available on all devices.
- When customers buy directly from Apple, Apple Watch Studio gives them the exclusive opportunity to pick their preferred case and band combination to create a look that is uniquely their own.
- Customers looking for convenient, contactless service are able to find many of the same shopping and support services from apple.com. Customers can chat with an Apple Specialist and get shopping help, choose monthly financing options, trade in eligible devices, and get Genius support and no-contact delivery. In-store pickup is also available. Customers are encouraged to check apple.com/retail for more information on the health and safety measures in place, and the services available at their local store.
- Customers in the US can trade in their eligible device for an Apple Gift Card or credit toward their purchase. If the device is not eligible for credit, Apple will recycle it for free.[5]
- Three months of Apple Fitness+ are included for customers who purchase Apple Watch Series 3 or later starting September 15, 2020. This extended trial is available for a limited time.[6]
- Customers in the US who buy directly from Apple can choose Apple Card Monthly installments to pay for their Apple Watch over 24 months, interest-free, and get 3 percent Daily Cash back all upfront. Customers who choose to pay in full with their Apple Card also get 3 percent Daily Cash back.

- Customers can extend their limited warranty with AppleCare+ and get accidental damage coverage and 24/7 priority access to technical support.
- Customers who buy Apple Watch directly from Apple can enjoy a free Online Personal Session with an Apple Specialist to help them explore and discover all the amazing things they can do with their new Apple Watch.[7]
- In line with Apple's commitment to the environment, there are industry-leading amounts of recycled content in Apple Watch Series 6, with 100 percent recycled rare earth elements in the Taptic Engine, nearly 100 percent recycled tungsten throughout the product, and a 100 percent recycled case on aluminum models. Apple is also helping the environment by removing the AC adapter that could become electronic waste from Apple Watch Series 6 packaging, and helping its Apple Watch manufacturing partners transition to renewable energy.

To see all of the latest announcements and photos from today's keynote event, check out the wrap-up on Apple Newsroom.

Share article

Images of Apple Watch Series 6
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Apple revolutionized personal technology with the introduction of the Macintosh in 1984. Today, Apple leads the world in innovation with iPhone, iPad, Mac, Apple Watch, and Apple TV. Apple's five software platforms — iOS, iPadOS, macOS, watchOS, and tvOS — provide seamless experiences across all Apple devices and empower people with breakthrough services including the App Store, Apple Music, Apple Pay, and iCloud. Apple's more than 100,000 employees are dedicated to making the best products on earth, and to leaving the world better than we found it.

1. Blood Oxygen app measurements are not intended for medical use, including self-diagnosis or consultation with a doctor, and are only designed for general fitness and wellness purposes.
2. Battery life varies by use.
3. Not available in all countries.
4. Requires cellular models of Apple Watch Series 4 or later, or Apple Watch SE.
5. Trade-in values vary based on the condition, year, and configuration of your trade-in device, and may also vary between online and in-store trade-in. You must be at least 18 years old. Offer may not be available in all countries. In-store trade-in requires presentation of a valid government-issued photo ID (local law may require saving this information). Additional terms from Apple or Apple's trade-in partners may apply.
6. $9.99 per month or $79.99 per year after free trial. No commitment. Plan automatically renews until cancelled.
7. In most countries.

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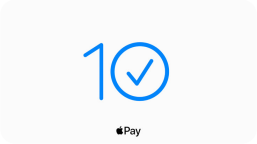

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