

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner,

v.

MASIMO CORPORATION,

Patent Owner.

IRP2024-00241, IPR2024-00243, IPR2024-00244

CONTINUED REMOTE DEPOSITION OF

VIJAY K. MADISETTI, Ph.D.

February 7, 2025

11:00 a.m.

Reported by: Eileen Mulvenna, CSR/RMR/CRR/RDR

DIGITAL EVIDENCE GROUP

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1 CONTINUED REMOTE DEPOSITION of
2 VIJAY K. MADISETTI, Ph.D.,
3 Declarant for Patent Owner in the above-titled
4 action, held on Friday, February 7, 2025, commencing
5 at approximately 11:00 a.m., before Eileen Mulvenna,
6 CSR/RMR/CRR/RDR, Certified Shorthand Reporter,
7 Registered Merit Reporter, Certified Realtime
8 Reporter, Registered Diplomate Reporter, and Notary
9 Public of the State of New York.

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I N D E X

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WITNESS

EXAMINATION BY

PAGE

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VIJAY K. MADISETTI, Ph.D.

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MR. BISENIUS

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E X H I B I T S

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PAGE

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Exhibit 1001 Previously marked

366

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Exhibit 1004 Previously marked

433

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Exhibit 1005 Previously Marked

463

12

Exhibit 1007 Previously Marked

412

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Exhibit 1014 Previously Marked

481

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Exhibit 1015 Previously Marked

485

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Exhibit 1016 Previously Marked

476

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Exhibit 1028 Previously Marked

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Exhibit 1042 Previously Marked

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Exhibit 2100 Previously Marked

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Exhibit 2100 Previously Marked

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1 THE REPORTER: Counsel, before I swear
2 in the witness, do all parties agree to the
3 witness being sworn in remotely?

4 MR. BISENIUS: Yes.

5 MR. KIANG: Yes.

6 THE REPORTER: Counsel, please state
7 your appearance for the record.

8 MR. KIANG: This is Daniel Kiang from
9 Knobbe Martens Olson & Bear, representing the
10 Patent Owner, Masimo Corporation.

11 MR. BISENIUS: This is Patrick
12 Bisenius of Fish & Richardson, representing
13 Petitioner, Apple.

14 (Witness sworn.)

15 MR. BISENIUS: Okay. We're here for
16 day two of the deposition regarding
17 proceedings IPR2024-00241, IPR2024-00243, and
18 IPR2024-00244.

19 (Continued on the next page.)
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21
22

1 VIJAY K. MADISETTI, Ph.D.

2 having been duly sworn by Eileen Mulvenna,
3 a Notary Public of the State of New York,
4 was examined and testified as follows:

5 EXAMINATION

6 BY MR. BISENIUS:

7 Do you recall at the beginning of the
8 session on Tuesday, when we discussed a number of
9 terms, including "Patent Owner," "Petitioner,"
10 "POSITA," "the '591 patent," and "the '743 patent"?

11 A. Yes.

12 Q. Do you agree that we can continue to
13 use those same terms with these same definitions
14 today?

15 A. Yes.

16 Q. I'd like to start with your
17 declaration from the '241 proceeding. This is
18 Exhibit 2100 in the '241 proceeding.

19 (Exhibit 2100, Previously Marked,
20 received and marked.)

21 BY MR. BISENIUS:

22 Q. Please let me know when you have that.

1 A. Okay. I have my expert 2100 from the
2 '241 proceeding.

3 Q. I'd like to start out talking about
4 paragraph 50.

5 A. Okay.

6 Q. Here at the beginning of paragraph 50,
7 you stated that, "Claim 22 requires a plurality of
8 detectors that are 'arranged in an array having a
9 spacial configuration corresponding to a shape of
10 the portion of the tissue measurement site bounded
11 by the circular shaped light block.'"

12 Do you see that?

13 A. I do.

14 Q. So this claim element includes a
15 number of descriptions. It discusses a plurality of
16 detectors; is that correct?

17 A. Yes, it has the phrase "a plurality of
18 detectors."

19 Q. And it states that the plurality of
20 detectors are arranged in an array having a spacial
21 configuration; is that correct?

22 A. Yes. Yes.

1 Q. And it also discusses a circular
2 shaped light block; is that correct?

3 A. It describes that as corresponding to
4 a shape of the portion of the tissue measurement
5 site bounded by the circular shaped light block.

6 Q. Looking at the second sentence of this
7 paragraph 50, you state, "arrangements of two or
8 three detectors are excluded from the scope of
9 Claim 14."

10 Do you see that?

11 A. Yes.

12 Q. In this section, are you discussing
13 Claim 22, Claim 14, or both from the '743 patent?

14 A. It would be both.

15 Q. In supporting your claim construction
16 here, you cite to portions of the prosecution
17 history of a parent application.

18 Do you see that?

19 A. Yes, I also cite to the -- the board's
20 adoption of this construction for a nearly identical
21 limitation in Claim 15 of the related '745 patent,
22 which is in IPR2022-01291.

1 Q. Do you cite to any portions of the
2 '743 patent that support your construction for this
3 element in your declaration?

4 A. I'm not sure I understand your
5 question. This is in my '741 declaration, and I
6 refer to this related patent. And I say that
7 there's a similarity in the language between the
8 claim limitations at issue, and Claim 22 of the '743
9 patent. So I do reference Claim 22 and Claim 14.

10 Q. And I'm wondering, have you cited to
11 any portions of the '743 patent specification in
12 support of your construction for this claim element?

13 A. I believe that by citing to the file
14 history and also to these additional citations to
15 the board's final written decision, which, again,
16 cite from the related application, which is the
17 '745 patent, that these would apply to the '743, as
18 well.

19 Q. Can you identify any examples in the
20 specification of the '743 patent that support this
21 claim element?

22 A. Again, I don't understand. What do

1 you mean "support this claim element"? Are you
2 looking for a written description, or are you
3 looking for enablement? I mean, I'm not sure what
4 you mean by "support."

5 Q. Well, you've provided a claim
6 construction here. So I can refrain that.

7 Can you identify any portions of the
8 '743 patent specification or figures that you
9 considered when determining the scope of this claim
10 element?

11 A. I looked at -- as I can I be in
12 paragraphs 50, 51, and 52, that I looked at the
13 prosecution history. I reviewed the patent. I
14 looked at the 199 application. The language that is
15 similar in this claim limitation, specifically
16 Claims 14 and 22. So, therefore, I offer such an
17 opinion.

18 Q. Can you identify any specific examples
19 in the '743 patent specification or figures that
20 informed your construction for this claim term?

21 MR. KIANG: Objection, asked and
22 answered.

1 THE WITNESS: Are you saying that I
2 should look at my report, or should I look at
3 the patent or -- I mean, as I said, all my
4 opinions are in this section. So -- and I
5 notice that I identified similar language
6 with the '743 claims, as well as the
7 relationship to the parent.

8 So I'm unsure if you're asking me to
9 look at these two paragraphs and identify
10 some citations in the '743?

11 BY MR. BISENIUS:

12 Q. All I'm asking you is: Did you
13 consider any specific examples from the
14 specification or figures of the '743 patent when
15 forming your opinion regarding claim construction of
16 the settlement?

17 A. As a part of --

18 MR. KIANG: Objection.

19 THE WITNESS: Yeah, go ahead.

20 MR. KIANG: Same objection.

21 THE WITNESS: Yeah, as a part of my
22 overall analysis, I did review the

1 specification and all the file history and
2 everything else. I just don't -- I've not
3 cited any specifics -- any specific lines.

4 Because, as I said, I know the
5 similarity of the language and the fact that
6 it's a parent and other issues that are not
7 in paragraphs 50 and 51.

8 BY MR. BISENIUS:

9 Q. According to paragraph 51 of your
10 declaration here, you believe that this claim
11 element is nearly identical to a limitation in
12 Claim 15 of the related '745 patent; is that
13 correct?

14 A. Yes.

15 Q. I'd like to turn to your declaration
16 for the '243 proceeding. Once again, this is
17 Exhibit 2100 in that proceeding.

18 (Exhibit 2100, Previously Marked,
19 received and marked.)

20 THE WITNESS: One second. '243.

21 Okay.

22

1 BY MR. BIENIUS:

2 Q. I'd like to talk about --

3 A. One second, Counsel.

4 Q. Okay.

5 A. '243. Okay.

6 Okay. I am in '243. I opened '243.

7 Q. I'd like to talk about paragraph 50 in
8 this declaration.

9 A. This is with respect to the '159;
10 right?

11 Q. Correct.

12 A. Okay. So that's paragraph 50. One
13 second.

14 Okay. I'm on paragraph 50, Counsel.

15 Q. Here you're discussing a claim element
16 from Claim 14 that recites, "The plurality of
17 detectors are arranged in an array having a spacial
18 configuration corresponding to a shape of the
19 portion of the tissue measurement site bounded by
20 the circular shaped light block."

21 Is that correct?

22 A. Yeah.

1 Q. In paragraph 51 here, you state that
2 you believe that this claim element is nearly
3 identical to a limitation in Claim 15 of the related
4 '745 patent; is that correct?

5 A. Yes. As I said in the other
6 declaration, yes.

7 Q. Do you believe that this recitation
8 from Claim 14 of the '159 patent is nearly identical
9 to the claim recitation we were discussing with
10 respect to Claim 22 of the '743 patent a few minutes
11 ago?

12 A. I think that both are -- both are
13 related to the parent application, which is the '199
14 application. And during prosecution of that
15 application, arrangements of two or three detectors
16 were specifically excluded from the scope.

17 And due to the similarity language
18 between the claim limitation at issue and the
19 Claim 14 of the '159 patent, I offered an opinion
20 here that a person of ordinary skill would
21 understand that with respect to the -- with respect
22 to the arrangements of -- that the claim would

1 exclude, arrangements of two or three
2 photodetectors, because those arrangements cannot
3 represent the shape of the portion of tissue
4 measurement site bounded by the circular shaped
5 light block.

6 Q. Can you identify any portions or
7 examples in the '159 patent specification or figures
8 that inform your claim construction for this claim
9 term?

10 A. I mean, whatever I have discussed in
11 paragraphs 50 and 51 would apply to your question.
12 I looked at the similarity. I looked at the
13 specification. I looked at the file history. I
14 would say that I looked at the claims.

15 I also looked at the final written
16 decision and the related IPR on the '745, which is
17 IPR2022-01291. And they're all consistent and
18 supportive of the positions that Masimo took
19 consistent with the prosecution history.

20 Q. And it's your opinion that this claim
21 element requires more than three detectors; is that
22 correct?

1 A. So as I described here, that in order
2 for the claim plurality of detectors to match or
3 represent an at least partially circular shape or an
4 annular shape, the plurality of detectors must
5 include sufficient detectors to represent such
6 shapes. For example, six or more detectors could be
7 arranged in an annular shape and meet the recited
8 limitation.

9 So I provide specifically an example
10 of six or more detectors could be arranged in an
11 annular shape and meet the recited limitations.
12 However, two detectors, for example, can only be
13 arranged in a spacial configuration representing a
14 line, and three detectors, for example, can only be
15 arranged in a spacial configuration representing a
16 line or a triangle.

17 So the specific example I call out is
18 six or more detectors could be arranged in an
19 annular shape and meet the recited limitations. I
20 don't offer a specific opinion about three.

21 Q. I'd like to move forward to
22 paragraph 132 in this same declaration, so in the

1 '243 proceeding.

2 A. The '243. We're looking at the '241,
3 I think.

4 Q. I had asked you to open the '243
5 proceeding.

6 A. Yeah, '243, as well. Both of them we
7 have opened. So which one do you want me to look at
8 now?

9 Q. I'm in the '243 proceeding
10 declaration, 2100. I'd like to talk about
11 paragraph 132.

12 A. '243. 132. Okay. One second.
13 Okay. I am on paragraph 132 on
14 page 86, which is, Iwamiya does not disclose a
15 circular array of detectors reflecting Independent
16 Claims 14 and Dependent Claims 5 and 25.

17 Q. In paragraph 132, you're discussing
18 the same element of Claim 14 that we were just
19 discussing with respect to paragraphs 50 and 51; is
20 that correct?

21 A. Yes. At the high level, yes. I'm
22 talking about Claim 14 and Dependent Claims 5 and 25

1 that require a plurality of detectors arranged
2 inside an array having a spacial configuration
3 corresponding to shape of the portion of the tissue
4 measurement site bounded by the circular shaped
5 light block.

6 Q. But here you talk about Claim 5. I'd
7 like to turn to the '159 patent itself. This is
8 Exhibit 1001 in the '243 and '244 proceedings.

9 (Exhibit 1001, Previously marked.)

10 THE WITNESS: Okay. What do you want
11 me to do?

12 BY MR. BISENIUS:

13 Q. Could you please open the '159 patent.
14 And specifically, I want to talk about Claim 5 in
15 Column 16.

16 A. Okay, I've opened U.S.
17 Patent 10,722,159. And I'm on Column 16.

18 Q. Could you please read Claim 5 out
19 loud?

20 A. So Claim 5 is a dependent claim, and
21 it's the physiological monitoring device of Claim 1,
22 "wherein the plurality of detectors are arranged in

1 an array having a spacial configuration
2 corresponding to a shape of the portion of the
3 tissue measurement site bounded by the light block."

4 Q. Would you agree that Claim 5 differs
5 from the element of Claim 14 we were just discussing
6 because Claim 5 does not require the light block to
7 be circular shaped?

8 A. So we are looking at which
9 declaration?

10 Q. The '243 declaration. We were just
11 discussing an element of Claim 14.

12 A. Uh-huh.

13 Q. And in paragraph 132 of your '243
14 declaration, you're discussing that element of
15 Claim 14 and Dependent Claims 5 and 25 together in
16 one section.

17 So I'm asking, do you agree that
18 Dependent Claim 5 differs from that element of
19 Claim 14, at least because Claim 5 does not require
20 the light block to be circular shaped?

21 A. So Claim 5 differs from Claim 14, you
22 mean?

1 Q. Correct. Specifically, the element
2 that you discuss in paragraph 132.

3 And so my question is: Would you
4 agree that the element of Claim 14 you're discussing
5 in paragraph 132 of your '243 declaration differs
6 from Dependent Claim 5, at least because Dependent
7 Claim 5 does not require the light block to be
8 circular shaped?

9 A. The word "circular" does not appear in
10 Claim 5, but the terms -- the discussions that I had
11 with respect to the prosecution and file history and
12 the parent and all that I believe still apply.
13 Because those discussions were -- they did not, I
14 believe, fully require the use of the word
15 "circular." They mention partially at least and
16 things like that.

17 So I believe my opinions and the basis
18 apply to Claim 5, as well, for those reasons.

19 Q. Will you please open the '743 patent?
20 I'd like to talk about the figures of the '159
21 patent and the '743 patent together just to save
22 some time and so I don't have to repeat questions.

1 A. Sure, one second. So you want me to
2 open up the '743?

3 Q. Yes, if you could open the '743 and
4 the '159 and have those both open, that would be
5 helpful.

6 A. Okay. '743 and -- okay. So I've
7 opened both of them side by side.

8 Q. All right. I want to start by talking
9 about Figure 4A of both patents.

10 A. Okay, one second. Let me get to
11 Figure 4A.

12 Okay. I'm on Figure 4A on the '743
13 and the '159.

14 Q. Would you agree that Figure 4A in the
15 '159 patent and Figure 4A in the '743 patent are the
16 same?

17 A. Again, the specification describes and
18 uses these figures. So I will say that at least as
19 shown in the figure itself at a high level they're
20 substantially similar, but I would refer to and rely
21 on the actual disclosures in the specification,
22 which I've not memorized.

1 Q. Can you identify the detector in each
2 of Figure 4A in the '159 patent and Figure 4A in the
3 '743 patent?

4 MR. KIANG: Objection, lack of
5 foundation.

6 THE WITNESS: The specification
7 describes the detector as 310.

8 BY MR. BISENIUS:

9 Q. Does Figure 4A in either of the
10 patents depict a light block?

11 MR. KIANG: Objection to form.

12 THE WITNESS: That's not an opinion
13 that I expressed in my declaration because I
14 believe that this is a -- this is only --
15 this is a particular type of view or others,
16 but I've not offered an opinion on that
17 issue. I will defer to the specification and
18 how it describes these figures.

19 BY MR. BISENIUS:

20 Q. So you gave an opinion on claim
21 construction for a claim element that discusses a
22 circular shaped light block; is that correct?

1 A. I provided an opinion on a limitation
2 for a plurality of detectors limitation in both the
3 patents, the '743 and the '159 dot, dot, dot. So
4 it's a long limitation.

5 Q. Are you aware of if Figure 4A in
6 either of the patents depicts a light block?

7 MR. KIANG: Objection, scope.

8 THE WITNESS: As I said, I believe it
9 does, consistent with the specification. I
10 don't have the specification memorized. I've
11 not offered a specific opinion on that.

12 BY MR. BISENIUS:

13 Q. Is detector 310 in Figure 4A of the
14 '159 and '743 patents a single detector or an array
15 of detectors?

16 MR. KIANG: Objection, scope.

17 THE WITNESS: In which patent,
18 Counsel?

19 BY MR. BISENIUS:

20 Q. We can start with the '159 patent. Is
21 detector 310 in Figure 4A a single detector or an
22 array of detectors?

1 MR. KIANG: Same objection.

2 THE WITNESS: In Column 9, lines 25 to
3 30, state that a plurality of detectors 310
4 can be -- a plurality of detectors 310 can
5 be -- can be arranged in an array with a
6 spacial configuration corresponding to the
7 irradiated surface area 206 to capture the
8 attenuated or reflected light from the tissue
9 measurement site.

10 So I believe that it does disclose a
11 plurality of detectors 310.

12 BY MR. BISENIUS:

13 Q. You're discussing the paragraph that
14 starts at line 11 of Column 9 in the '159 patent; is
15 that correct?

16 A. I'm --

17 Q. I'm just asking you to make sure what
18 paragraph we're talking about. You're talking about
19 the paragraph that starts at line 11 of Column 9 in
20 the '159 patent; is that correct?

21 A. Column 9, line 11?

22 Q. Correct. I just want to confirm that

1 the portion of the '159 patent you were just
2 discussing is in the paragraph that starts at
3 line 11 of Column 9; is that correct?

4 A. For example, it -- I see that as
5 line 19.

6 Q. Oh, I'm sorry.

7 A. Yeah.

8 Q. I'm missing the paragraph break there.

9 A. Oh, okay. So that's what I was
10 wondering which paragraph and on line --

11 Q. This is the paragraph, you're right,
12 starting at line 19 of Column 9 of the '159 patent.

13 A. And also in Column 11, line 39.

14 Q. Can you describe how that portion in
15 Column 11 is relevant to the detector 310 in
16 Figure 3?

17 A. As I said, I mean, these are --

18 MR. KIANG: Objection to form.

19 THE WITNESS: Yeah, Mr. Kiang, please,
20 go ahead and --

21 MR. KIANG: Objection to scope.

22 THE WITNESS: Yes.

1 As I said, Counsel, I will defer to
2 the specification. I'm just doing this on
3 the fly, but I don't have a specific opinion
4 on this issue. And I would defer to the
5 specification to show the relevance of these
6 disclosures to the claim terms.

7 I don't have a specific opinion on
8 written description or enablement, as I
9 mentioned on day one. I assume that it's a
10 valid patent and it was examined and it
11 checks the boxes on written description and
12 enablement.

13 BY MR. BISENIUS:

14 Q. Well, I'm not asking you about written
15 description or enablement. I'm asking about
16 examples that informed your claim construction. So
17 let's look back to Column 9, the paragraph starting
18 at line 19.

19 Does this paragraph discuss a light
20 block?

21 A. Again, I don't have a specific opinion
22 on the specifications and what each particular

1 paragraph discloses in my report. So I'm not sure
2 if you're referring to a particular portion of my
3 report. I'll be glad to answer.

4 Q. Yes, I'm referring to paragraphs 50 to
5 51, where you offer a claim construction for a claim
6 element that recites a circular shaped light block.
7 And I'm referring to paragraph 132 of your
8 declaration, in which you discuss that same claim
9 element and also discuss Claim 5, which recites a
10 light block.

11 And so with respect to that, I'm
12 asking, does the paragraph that starts at line 19 of
13 Column 9 discuss a light block?

14 A. As I understand, Counsel, you're only
15 focusing on a particular figure, Figure 4A. I was
16 referring to the specification as a whole and other
17 things. But as I said, I don't offer an opinion
18 with respect to certain portions of the
19 specification.

20 I mean, you seem to be picking a
21 paragraph and asking certain questions about it. I
22 mean, the specification reads for itself. I don't

1 offer an opinion on what each portion of the
2 specification is limited to in terms of its
3 disclosure. That's not something I opined upon.

4 Q. I actually didn't pick this paragraph.
5 You referenced it when discussing Figure 4A and
6 whether or not the detector was a single detector or
7 an array of detectors.

8 And so I'm asking you, does this
9 paragraph, that you referenced that starts at
10 line 19 of Column 9, discuss a light block?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: As I said, Counsel, I've
13 not offered a detailed analysis of every
14 single paragraph in the specification. I
15 would defer to the specification itself and
16 intrinsic evidence to provide the written
17 description and enablement support and other
18 issues. I don't have an opinion on this in
19 my declaration. So I cannot offer an opinion
20 on the fly.

21 BY MR. BISENIUS:

22 Q. Earlier you also referenced line 39 of

1 Column 11. I'd like to turn to that paragraph. You
2 were discussing the paragraph that starts at line 31
3 of Column 11; is that correct?

4 A. I mean, you asked me a question. So I
5 pointed to this as an example. I mean, this is not
6 something that is in my report. It was just in
7 response to your particular question about the
8 specification, and are there new areas that I did
9 not discuss in my report. So I identified the
10 location to be responsive.

11 Q. Did this example that you've reference
12 in Column '11 at line 39 inform your construction
13 for Claim 5 and the element of Claim 14 that we were
14 discussing earlier?

15 A. I don't have a specific opinion on
16 that issue, Counsel. I believe that I reviewed the
17 entire specification, the file history, and other
18 intrinsic evidence and also the documents, the
19 prosecution file history, and the final written
20 decision that is cited. All these, I believe,
21 support my opinions to the extent they're discussed
22 in paragraphs on claim construction.

1 Q. Does the paragraph that starts at
2 line 31 of Column 11 discuss a light block?

3 MR. KIANG: Objection, scope.

4 THE WITNESS: As I said -- I think, as
5 I said, I don't offer a line-by-line analysis
6 of what each portion of the specification
7 discloses. I defer to the specification. I
8 don't have an opinion on that at this point.
9 It's not part of my declaration.

10 It is a part of the specification,
11 which I believe was fully examined by the
12 U.S. Patent Office and many other boards
13 representing the patent office. So I trust
14 they have checked the box on those issues.

15 BY MR. BISENIUS:

16 Q. The paragraph that starts at line 31
17 of Column 11 is a fairly short paragraph. Could you
18 please read it, and let me know if it discusses a
19 light block?

20 MR. KIANG: Objection, asked and
21 answered.

22 THE WITNESS: In the context of the

1 entire specification, I believe all the
2 paragraphs fully support the claims. So --
3 because, as I said, I have not offered a
4 specific opinion. So I cannot read a
5 paragraph in isolation because it talks about
6 as previously described.

7 So it does mention as previously
8 described. It refers to other sections. So
9 I think they're all connected to each other.
10 You have to parse through the specification
11 to see how they're linked and refer to other
12 portions of the specification.

13 So, therefore, it is my opinion that
14 the specification should best be reviewed as
15 a whole, and, in my opinion, it would fully
16 support the claims because the patent was
17 issued and examined several times by
18 different patent office entities.

19 But I don't have a specific opinion on
20 each line of the specification as to what it
21 discloses. So I cannot offer one now.

22

1 BY MR. BIENIUS:

2 Q. I'd like to turn to Figure 5 of both
3 the '159 and '743 patents.

4 A. Okay.

5 Q. Would you agree that Figure 5 of the
6 '159 patent and Figure 5 of the '743 patent are the
7 same?

8 A. As I said earlier, with respect to the
9 figures in the specification, I would agree that
10 they look substantially similar. But, again, I've
11 not memorized the specification. So I would defer
12 to the language in the specification itself as being
13 the final arbiter. I can offer a high-level opinion
14 that the figures look substantially similar.

15 Q. Figure 5 in each patent includes
16 reference numeral 310; correct?

17 A. Yes.

18 Q. Would you agree that 310 is referring
19 to the detector 310 that we were just discussing
20 with respect to Figure 4A in each patent?

21 MR. KIANG: Objection, scope, legal
22 conclusion.

1 THE WITNESS: As I said, Counsel, I
2 would defer to the specification. I don't
3 want to make any admissions that one is the
4 same as the other. I mean, the specification
5 itself discloses what it does. And I don't
6 include such detailed analysis of each figure
7 in my declaration.

8 So I would defer all these questions
9 to the declaration as to the discussions in
10 the specification itself rather than limit
11 them with the high-level comment.

12 So I won't agree to simplify or
13 provide a high-level description of these
14 figures as to the similarity or
15 dissimilarity. I would defer to the
16 specification for all questions on the
17 specifications of the two patents.

18 BY MR. BISENIUS:

19 Q. So you're not sure if the reference
20 numeral 310 in Figure 5 is referring to the same
21 detector 310 shown in Figure 4A; is that correct?

22 MR. KIANG: Objection, misstates

1 testimony. Same objections as previous
2 question.

3 THE WITNESS: That's not my testimony.
4 My testimony is that I believe the
5 specification fully supports the claims, and
6 I have not offered an opinion on what
7 portions of the specification are supporting
8 which portions of the claim.

9 I'm not offering an opinion as to
10 whether certain embodiments have -- or
11 certain figures have common elements. All
12 these are opinions that I've not offered. I
13 would fully defer to the specification to
14 convey the disclosures of the respective
15 patents '159 and '743.

16 I've not made any statement that
17 summarizes or simplifies or links certain
18 figures in a manner that is inconsistent with
19 the specification.

20 BY MR. BISENIUS:

21 Q. Does Figure 5 in the '159 patent or
22 the '743 patent depict a light block?

1 MR. KIANG: Objection, scope, legal
2 conclusion.

3 THE WITNESS: Yeah, as I said, I would
4 defer to the specification and the claims. I
5 don't have an opinion on that, Counsel,
6 sitting here.

7 BY MR. BISENIUS:

8 Q. So you're not sure if the embodiment
9 of Figure 5 in the '159 patent or the '743 patent
10 informs the scope of claim elements discussing a
11 light block; is that correct?

12 MR. KIANG: Objection, misstates
13 testimony. Objection to scope.

14 THE WITNESS: I disagree with that
15 characterization. I said I did not offer an
16 opinion on these -- each of these figures or
17 portions of the specification. Those -- it
18 was not something I was asked to do. I
19 assume that I have full written description
20 support and enablement support in the
21 specification for the claims that are at
22 issue.

1 So I do not have an opinion on that
2 issue, Counsel. If asked and allowed, as I
3 mentioned on day one, in the future, if I was
4 asked and allowed to submit something, I
5 could provide analysis, but my current
6 declaration doesn't have all these analysis.

7 So, therefore, I cannot -- I don't
8 want to guess or provide an inaccurate answer
9 at this point. I don't have an opinion on
10 these issues.

11 BY MR. BISENIUS:

12 Q. So I recognize that you have not put
13 that direct opinion in your declarations, but the
14 point of this deposition is to clarify statements
15 that you've made in your declarations. And you've
16 opined as to the claim scope of a claim element that
17 discusses a light block and a plurality of
18 detectors. And you've presented opinions as to
19 whether or not the prior art discloses those claim
20 elements that disclose the light block or plurality
21 of detectors.

22 And so I'm asking you today -- and you

1 are permitted to answer my questions, as long as
2 they're not privileged. I'm asking you, does
3 Figure 5 of the '159 patent or Figure 5 of the '743
4 patent depict a light block?

5 MR. KIANG: Objection to form.

6 Objection to scope, as counsel admitted.

7 THE WITNESS: As I said, Counsel, I've
8 answered that question before. I don't have
9 an opinion on that issue. I believe that the
10 specification fully supports the claims. I
11 don't have anything else to say.

12 BY MR. BISENIUS:

13 Q. But you have no opinion on whether or
14 not Figure 5 of the '159 patent or Figure 5 of the
15 '743 patent provides support for the claimed light
16 block; is that correct?

17 A. My correct testimony is that I was not
18 asked to offer an opinion about Figures 4 or 5, to
19 the extent how they support the claims. Therefore,
20 I did not offer such a specific opinion. So since I
21 did not offer such an opinion, I don't want to guess
22 at this point. And, therefore, I do not have an

1 opinion, sitting here today.

2 If asked and allowed, I may do so in
3 the future. But sitting here today, I don't want to
4 offer a new opinion that I did not offer as part of
5 my existing second declarations that we are
6 discussing today.

7 Q. Can you please turn to Column 10 of
8 the '159 patent?

9 Specifically, I'd like to talk about
10 the paragraph at line 40 of Column 10. Please let
11 me know when you're there.

12 A. Okay. I'm at line 40 of Column 10 of
13 the '159.

14 Q. The first sentence here is referencing
15 Figure 7A and 7B; correct?

16 A. Yes, it refers to 7A and 7B that it
17 calls as simplified schematics, side and top views.

18 Q. Would you agree that Figure 7A and 7B
19 are depicting the same embodiment?

20 A. As I said, Counsel, I don't have an
21 opinion on that issue. I will defer to the
22 specification itself.

1 Q. All right. Could you please pull up
2 Figure 7A from both the '159 and the '743 patent?

3 A. Okay.

4 Q. Would you agree that Figure 7A for the
5 '159 patent and Figure 7A from the '743 patent are
6 the same?

7 A. The same answer as before. I mean, I
8 would say that they look similar, but I would defer
9 to the specification and how they're used and
10 described and as the -- as the main source of
11 disclosure, I don't wish to summarize or simplify by
12 offering a high-level statement. They look
13 substantially similar.

14 Q. Earlier you discussed the detector 710
15 shown in Figure 7A.

16 Do you recall that?

17 A. I'm not sure where you are -- what
18 you're referring to, Counsel.

19 Q. You had pointed me to a paragraph in
20 Column 11 and discussed the detector 710. I can
21 direct you back to that. It's the paragraph that
22 starts at line 31 of Column 11, but you had

1 specifically pointed to the sentence that starts at
2 line 39 of Column 11, discussing detector 710 or
3 detectors, plural, 710.

4 A. That was in response to your question.
5 It is not something I discussed in my declaration.
6 You were just talking about there in the
7 specification, would a plurality of detectors be
8 arranged in an array with the spacial configuration.
9 And I pointed to some examples to be responsive, but
10 this is not something that I discussed in my
11 declaration.

12 Q. Would you agree that the detector 710
13 in Figure 7A could be a single detector or a
14 plurality of detectors?

15 A. As I said, I don't want to offer a
16 specific opinion that is new, and I will defer to
17 the specification itself.

18 Q. I want to turn back to Figure 7A of
19 both patents.

20 A. Okay.

21 Q. Okay. Does Figure 7A of the '159
22 patent or Figure A of the '743 patent depict a light

1 block?

2 MR. KIANG: Objection, scope.

3 THE WITNESS: As I said, Counsel, I
4 believe that the specification and other
5 intrinsic evidence fully supports the claim,
6 and they're written with full written
7 description and enablement because the patent
8 is a presumed valid issued patent that were
9 examined by various patent offices over a
10 period of time.

11 I don't have anything else to say
12 because I was not asked to offer an opinion
13 on these issues as a part of my declaration.
14 So I don't have an opinion on that for that
15 reason.

16 BY MR. BISENIUS:

17 Q. So sitting here today, you are unsure
18 if Figure 7A depicts a light block; is that correct?

19 MR. KIANG: Objection, misstates
20 testimony.

21 THE WITNESS: As I said earlier,
22 Counsel, that's not right. What I said is

1 that I was not asked to offer an opinion on
2 that particular issue. So I don't have an
3 opinion sitting here today, which is about a
4 deposition about my declaration and what it
5 discloses. So I don't have an opinion on
6 that issue. I believe that the specification
7 fully supports the claims --

8 BY MR. BISENIUS:

9 Q. So sitting here today --

10 A. -- for the reasons that I discussed.

11 Q. So sitting here today, you don't know
12 if Figure 7A depicts a light block; is that correct?

13 A. I would disagree with that
14 characterization. I don't have an opinion on that
15 issue for the reasons I described earlier.

16 Q. I want to turn to Figure 7B of both
17 patents. Would you agree that Figure 7B of the '159
18 patent is the same as Figure 7B of the '743 patent?

19 A. Again, I would defer to the language
20 in the specification of either patent, the '159 or
21 the '743, to provide a full disclosure as to what is
22 covered. But to be responsive to your question, I

1 would say that they look substantially similar, but
2 I would defer to the specification to identify and
3 disclose what they really mean in the context of the
4 relevant specification.

5 I don't wish to substitute or override
6 any of the language in the disclosures with my
7 opinions because this is not a specific opinion I
8 offered in my declaration.

9 Q. What shape does the detector 710
10 depicted in Figure 7B have?

11 A. I don't have --

12 MR. KIANG: Objection to scope.

13 THE WITNESS: I don't have an opinion
14 on that, Counsel. I would defer to the
15 specification.

16 BY MR. BISENIUS:

17 Q. Did you consider disclosures of the
18 detector 710 in Figure 7B when forming your opinion
19 regarding the scope of claim elements reciting a
20 plurality of detectors configured in an array having
21 a spacial configuration?

22 A. I believe I describe -- I relied upon

1 the intrinsic evidence, including the file history
2 and the specification and the claims and others. I
3 just don't have -- I've not memorized the
4 specification at this point, nor was I asked to
5 offer specific opinions as to specific portions of
6 the specification of the '743 and the '159
7 themselves. So I don't have a specific opinion on
8 the specifications of these patents.

9 Q. Does Figure 7B depict a light block?

10 MR. KIANG: Objection to scope.

11 THE WITNESS: I would defer to the
12 specification, Counsel. I don't have an
13 opinion on that issue. It was not asked of
14 me to analyze each figure in the
15 specification or written description or other
16 support.

17 BY MR. BISENIUS:

18 Q. So sitting here today, you are unsure
19 if Figure 7B depicts a light block; is that true?

20 MR. KIANG: Objection, misstates
21 testimony.

22 THE WITNESS: I would disagree with

1 that characterization. I said I believe that
2 the specification and intrinsic record fully
3 supports the claims for the reasons I
4 discussed earlier, but I don't have a
5 specific opinion on each and every figure in
6 the specification or certain portions of the
7 specification, because it's not something I
8 was asked to do to analyze what is disclosed
9 in each and every figure or not. I would
10 defer to the specification.

11 So I don't have an answer to that,
12 because I was not asked to do that. And I
13 don't want to guess or offer a new opinion
14 that's not in my declaration.

15 BY MR. BISENIUS:

16 Q. So sitting here today, you are unable
17 to tell me if Figure 7B includes a light block; is
18 that true?

19 A. It's the same answer as before
20 counsel. It's not something I was asked to do. I
21 believe that the specification and the intrinsic
22 record fully support the claims through written

1 description and enablement. I don't have anything
2 else to say because this is not an opinion that is
3 part of my declaration.

4 Q. I'd like to turn to Figure 8 of both
5 patents, please.

6 Would you agree that Figure 8 of the
7 '159 patent is the same as Figure 8 of the '743
8 patent?

9 A. I defer to the specification to fully
10 disclose what each of these patents discloses, but
11 to be responsive to your question, I would say that
12 they look similar.

13 Q. Figure 8 shows a detector 806; is that
14 correct?

15 A. An example of Figure 8, there is a
16 detector label on 826.

17 Q. Is the detector 806 a single detector
18 or an array of detectors?

19 MR. KIANG: Objection, scope.

20 THE WITNESS: As I said, Counsel, I
21 don't have an opinion on that issue. I would
22 defer to the specification itself to disclose

1 what it discloses. This is not something I
2 was asked to discuss or provide an opinion
3 on, and I don't want to provide a new opinion
4 or guess something. So I don't have a
5 specific opinion on that issue as a part of
6 my declaration.

7 BY MR. BISENIUS:

8 Q. So sitting here today, you are unable
9 to tell me whether detector 806 represents a single
10 detector, an array of detectors, or both; is that
11 correct?

12 A. I would disagree with that. It's
13 not -- it is my opinion that I was not asked to
14 provide an opinion on either of these figures or the
15 specification. So it's not that I'm unable to or I
16 don't know. It is just that I was not asked to
17 provide an opinion.

18 And I don't wish to offer an opinion
19 on the fly, because I've not memorized the
20 specification of either patent or every figure. So
21 I would -- and it's not part of my second
22 declaration. So I do not have an opinion, sitting

1 here today.

2 Q. Does Figure 8 depict a light block?

3 MR. KIANG: Objection to scope.

4 THE WITNESS: As I said, Counsel, I
5 don't have an opinion on that issue, sitting
6 here today. I would defer to the
7 specification, which I believe, as I said
8 earlier, fully supports the claims. But this
9 is not an opinion that I offered in my
10 declaration, because I was not asked to opine
11 on that issue.

12 BY MR. BISENIUS:

13 Q. Does the embodiment of Figure 8
14 include a light block?

15 MR. KIANG: Objection to scope.

16 THE WITNESS: I don't offer an opinion
17 on that issue in my declaration because
18 that's not something I was asked to do. I
19 believe that the specification fully supports
20 the claims, and I will rest at that statement
21 for the reasons I discussed earlier with you.

22

1 BY MR. BISENIUS:

2 Q. So sitting here today, you are unsure
3 if the embodiment of Figure 8 includes a light
4 block; is that correct?

5 MR. KIANG: Objection, misstates
6 testimony.

7 THE WITNESS: I would disagree with
8 that characterization, Counsel. It's not
9 that I'm unsure or I don't know. It is just
10 that I was not asked to offer an opinion on
11 that issue in my declaration.

12 I believe that the specification fully
13 supports the claims, but I don't offer, nor
14 was I asked to offer, specific opinions on
15 that issue. As I mentioned earlier, if asked
16 and allowed in future or in another
17 proceeding, I may offer such opinions, but I
18 don't have one today. And I don't want to
19 guess.

20 BY MR. BISENIUS:

21 Q. So you just said that, quote, It's not
22 that I'm unsure or I don't know, it's just that I

1 was not asked, end quote.

2 So do you know if the embodiment of
3 Figure 8 includes a light block?

4 MR. KIANG: Objection to scope.

5 THE WITNESS: As I said, Counsel,
6 that's not an opinion I was asked to provide.
7 I don't have an opinion on that issue.

8 BY MR. BISENIUS:

9 Q. Would the embodiment of Figure 8 be
10 compatible with the device that has a light block?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: Same answer, Counsel. I
13 don't have an opinion on that issue. I
14 believe that the full -- it's not something I
15 was asked to opine on in my declaration.
16 And, therefore, I do not have an opinion on
17 that.

18 BY MR. BISENIUS:

19 Q. I'd like to go back to Figure 7A of
20 both patents. Does the embodiment of Figure --
21 sorry, scratch that.

22 Is the embodiment of Figure 7A

1 compatible with a light block?

2 MR. KIANG: Objection, scope.

3 THE WITNESS: In response to your
4 questions, it is my -- I do not have an
5 opinion as to whether Figures 4A, 4B,
6 Figure 5, Figure 7A, Figure 7B, or Figure 8
7 are compatible with a light block, because
8 it's not an opinion I was asked to formulate.

9 And, therefore, I do not have an
10 opinion on that in my declaration. I believe
11 that, for the reasons I mentioned earlier,
12 the specification has written description and
13 enablement support, but I have not been asked
14 to offer an opinion on that issue.

15 So, therefore, I do not offer an
16 opinion today on all these figures.

17 MR. BISENIUS: We've been going a
18 little over an hour. Now might be a good
19 time for a break. We can go off the record.

20 THE REPORTER: We're off the record.

21 (Recess from the record.)

22 THE REPORTER: We're back on the

1 record.

2 BY MR. BIENIUS:

3 Q. I'd like to go back to Column 11 of
4 the '159 patent, the paragraph that starts at
5 line 31 of Column 11.

6 A. One second. Column 11 and line
7 No. 31?

8 Q. Yeah, the paragraph starting at line
9 No. 31.

10 A. Okay.

11 Q. This paragraph is discussing the
12 detector 710, among other things; is that correct?

13 A. It uses the word "710." So I'm not
14 sure what specifically it is doing. But, again, I
15 don't know what it's specifically discussing here,
16 but I will defer to the specification.

17 Q. Does this portion of the '159 patent
18 say how many detectors there are?

19 A. Again, as I mentioned, I mean, it
20 talks about a plurality of detector 710 in line
21 No. 39. So all I can say is that I would defer to
22 the specification, Counsel. I'm not going to make

1 any statement that limits the specification in some
2 way or the other. That's not something I have
3 offered opinions on in the specification.

4 I would presume that the specification
5 fully discloses and fully supports the claims for
6 both written description and enablement. It's not
7 an opinion that I offered. But in response to your
8 question, line 39 talks about an array of detectors.
9 Again, it's not that I have an opinion that limits
10 it to any particular feature.

11 Q. Does this portion of the '159 patent
12 limit the number of photodiodes that can be in the
13 sensor?

14 A. I don't have an opinion on this issue,
15 Counsel, because it's not something I was asked to
16 do. I understand why you are asking me these
17 questions, but I don't have an opinion on these
18 issues with respect to the '159 and the '743
19 specifications, because it was not -- it was not
20 something I was asked to do.

21 Q. I'd like to go back to paragraph 132
22 of your '243 declaration.

1 A. One second. '243.

2 One second. '243.

3 Okay. Which paragraph? 132?

4 Q. Correct.

5 A. Okay. I'm on paragraph 132, which is
6 a portion of my specification -- or sorry, portion
7 of my declaration called Section F, that says,
8 Iwaniya does not disclose a circular array of
9 detectors, referencing Independent Claims 14 and
10 Independent Claims 5 and 25.

11 Q. We were discussing the element of
12 Claim 14 discussed in paragraph 132 earlier;
13 correct?

14 Do you recall earlier today we
15 discussed the specific element of Claim 14; right?

16 A. We were talking about some claim
17 construction issues. I don't believe we came to
18 this paragraph.

19 Q. Do you recall discussing a difference
20 between Claim 5 and Claim 14, in that Claim 14
21 recites the circular shaped light block, while
22 Claim 5 does not require the light block to be

1 circular shaped?

2 Do you recall that discussion?

3 MR. KIANG: Objection, misstates
4 testimony.

5 THE WITNESS: I disagree with your
6 characterization, Counsel. You characterized
7 my testimony incorrectly. I did not make an
8 admission to that respect.

9 BY MR. BISENIUS:

10 Q. I want to turn to your '241
11 declaration, Exhibit 2100, in that proceeding.

12 A. One second. What are you asking me to
13 do?

14 Q. Open your declaration for the '241
15 proceeding, which is Exhibit 2100 in that
16 proceeding.

17 A. 2100 in that proceeding. '241. Okay.
18 That's for the '743 patent?

19 Q. Correct.

20 A. Okay. I've opened Exhibit 2100 for
21 the proceeding '241 on the '743 patent.

22 Q. I'd like to talk about paragraph 132

1 of this declaration.

2 A. 132. Okay. I am on paragraph 132,
3 which is part of Section H, as in Harry. It says,
4 Iwamiya does not disclose a circular array of
5 detectors (Independent Claims 22 and Dependent
6 Claims 5 and 21).

7 Q. In paragraph 132, you discuss
8 limitation 22d of the '743 patent, which recites
9 "plurality of detectors are arranged in an array
10 having a spacial configuration corresponding to a
11 shape of the portion of the tissue measurement site
12 bounded by the circular shaped light block."

13 Do you see that?

14 A. You're reading from the bottom of
15 page 86, going onto the top of page 87 of my
16 declaration in the '241 matter.

17 Q. And you refer to this claim element as
18 limitation 22d; is that correct?

19 A. Yes, 22d, as in David.

20 Q. I'd like to turn to the '743 patent --
21 sorry, actually, I got one more question on this
22 paragraph.

1 This limitation 22d refers to a
2 circular shaped light block; correct?

3 A. This limitation is the limitation that
4 we just discussed in paragraph 132. So I would say
5 that it corresponds to a shape of the portion of the
6 tissue measurement site bounded by the circular
7 shaped light block.

8 Q. Now, I'd like to turn to the '743
9 patent. Specifically, I want to talk about
10 Column 16, Claim 5.

11 A. Column 16, Claim 5. Okay.

12 Q. Will you please read Claim 5 out loud?

13 A. Claim 5 is "The physiological
14 measurement device of claim 1, wherein the plurality
15 of detectors are arranged in an array having a
16 spacial configuration corresponding to a shape of
17 the portion of the tissue measurement site bounded
18 by the light block."

19 Q. Claim 5 does not recite that the light
20 block is circular shaped; is that correct?

21 A. The word "circular" does appear
22 literally in Claim 5. But as I mentioned, I don't

1 have any other specific opinions on that, other than
2 that statement I just made, that the word "circular"
3 by itself does not appear in English in Claim 5.

4 Q. Does the '159 patent or '743 patent
5 describe that the shape, e.g., circular, square, of
6 a light block has any functional significance?

7 MR. KIANG: Objection to scope.

8 THE WITNESS: I would say defer to the
9 specification itself. I don't have a
10 specific opinion on that issue. It's not
11 something that I was asked to opine on, and I
12 don't have an opinion for that today.

13 BY MR. BISENIUS:

14 Q. So sitting here today, you are not
15 sure if the '159 patent or the '743 patent describes
16 the shape of the light block as having a functional
17 significance; is that correct?

18 MR. KIANG: Objection, misstates
19 testimony.

20 THE WITNESS: I would disagree with
21 your characterization of my answer. I said
22 that was not something I was asked to opine

1 on in this particular declaration. So I
2 don't have an opinion on that issue. If
3 asked and allowed in the future in another
4 matter, I may do so.

5 But at this point, in this particular
6 matter, in my declaration, I don't have such
7 an opinion. Therefore, I don't want to
8 provide a new opinion that doesn't appear in
9 my declaration.

10 I believe that the specification fully
11 supports the claims, both from a written
12 description and enablement point of view,
13 because both these patents are assumed valid
14 and examined by the patent office in multiple
15 cases.

16 BY MR. BISENIUS:

17 Q. Dose the '159 patent or the '743
18 patent describe that the shape of the light block
19 solves some problem?

20 MR. KIANG: Objection, scope.

21 THE WITNESS: I don't have an opinion
22 on that issue, Counselor, with respect to the

1 specifications of the '743 or '159, for the
2 reasons I stated in my previous answer, which
3 I repeat and incorporate in this answer.

4 BY MR. BISENIUS:

5 Q. So sitting here today, you are unaware
6 of if the '159 patent or the '743 patent describes
7 that any particular shape for the light block would
8 solve a problem not solved by a different shape; is
9 that correct?

10 MR. KIANG: Objection to scope.

11 THE WITNESS: I would disagree with
12 that characterization. It is not an opinion
13 that I was asked to provide on the samples of
14 the 153 -- '159 and the '743 as to what they
15 fully contain. This is not something that I
16 was asked to offer. This is not something I
17 offered an opinion on in my declaration. So,
18 therefore, I do not have an opinion on that,
19 sitting here today.

20 BY MR. BISENIUS:

21 Q. Does the '159 patent or the '743
22 patent describe any particular shape for the light

1 block that solves a problem not solved by other
2 shapes for the light block?

3 MR. KIANG: Objection to scope, asked
4 and answered.

5 THE WITNESS: I don't have an opinion
6 on that issue. I will defer to the
7 specification itself and the intrinsic
8 record. I don't have a specific opinion for
9 the reasons that I discussed earlier in
10 conjunction with other questions that you
11 asked me on a similar vein.

12 BY MR. BISENIUS:

13 Q. Does the '159 patent or the '743
14 patent describe that any particular shape for the
15 light block presents some unexpected result?

16 MR. KIANG: Objection to scope. I
17 don't have a specific opinion on that issue,
18 Counsel. It's not something I was asked to
19 provide.

20 BY MR. BISENIUS:

21 Q. As an expert in the field, in 2015 --
22 prior to July of 2015, would you have considered the

1 shape of a light block to have had a functional
2 significance?

3 MR. KIANG: Objection to scope.

4 THE WITNESS: I don't have an opinion
5 on that issue. It's not something I
6 considered, Counsel. I don't have an
7 opinion, sitting here today.

8 BY MR. BISENIUS:

9 Q. Prior to July of 2015, would a POSITA
10 have recognized a functional significance to the
11 shape of a light block?

12 MR. KIANG: Objection to scope, asked
13 and answered.

14 THE WITNESS: I don't have a specific
15 opinion on that issue, Counsel. It's not
16 something I was asked to provide in my
17 declaration. I did not specifically offer an
18 opinion beyond what is in my declaration as
19 to my opinions.

20 BY MR. BISENIUS:

21 Q. I realize that you didn't answer that
22 specific question in your declaration, but you did

1 discuss claim construction for claim elements that
2 recite a light block having a particular shape, and
3 you discussed whether or not certain prior art
4 disclosed those elements having -- a light block
5 having that particular shape.

6 And so I'm asking you, would a POSITA,
7 prior to July 2015, have been aware of any
8 functional significance related to the particular
9 shape for a light block in these types of sensors?

10 MR. KIANG: Objection, asked and
11 answered. Objection to scope, as counsel
12 admitted.

13 THE WITNESS: As I said, Counsel,
14 that's not an opinion that I offered in my
15 declaration. I don't wish to offer an
16 opinion now on something new. And as I said,
17 my declaration has all my opinions and their
18 bases.

19 BY MR. BISENIUS:

20 Q. I'd like to discuss the Sarantos
21 reference. Actually, you know what, we talked about
22 that part. I want to talk about the Shie reference.

1 This is Exhibit 1007.

2 (Exhibit 1007, Previously Marked,
3 received and marked.)

4 THE WITNESS: One second, Counsel.

5 Okay.

6 BY MR. BISENIUS:

7 Q. Do you have the Shie reference in
8 front of you? This is Patent No. 6,483,976;
9 correct?

10 THE WITNESS: Yes, sir.

11 MR. KIANG: I want to make an
12 objection on the record. It is not an
13 exhibit in the '243 IPR.

14 MR. BISENIUS: Correct. I'd like to
15 ask these questions with respect to the '244
16 IPR.

17 BY MR. BISENIUS:

18 Q. Could you please turn to Column 6 of
19 Shie? Specifically starting at line 44 of Column 6.

20 A. So which IPR is this in connection to?

21 Q. This is related to the '244
22 proceeding.

1 A. The '244, okay.

2 So I'm opening up Exhibit 107 [sic],
3 which is Shie. And I'm -- I was asked to go to
4 Column No. 7?

5 Q. Column 6, starting at line --

6 A. 6.

7 Q. -- 44.

8 A. Okay. 44?

9 Q. 44.

10 A. Okay.

11 Q. Could you please read this paragraph
12 starting at line 6 -- sorry, starting at Column 6,
13 line 44, and the next paragraph to yourself, and let
14 me know when you're finished.

15 (Document review.)

16 THE WITNESS: Okay. I reviewed the
17 portions of the specification in Columns 6
18 and 7 starting in line No. 44.

19 BY MR. BISENIUS:

20 Q. This portion of Shie discusses shaping
21 advantages; is that correct?

22 A. I don't see that.

1 Q. So looking at the second paragraph
2 that I just asked you to read, continuing on to
3 Column 7, the sentence that starts at line 2
4 mentions, highly desirable light diffusing and
5 shaping advantages.

6 Do you see that?

7 A. It doesn't say what they are. I have
8 no idea what they're saying here.

9 Q. You have no idea what this paragraph
10 is saying here; is that correct?

11 A. No. No, no. What I meant is that it
12 doesn't describe any shaping advantage.

13 Q. What does the term "shaping" mean
14 here?

15 A. It does not disclose anything.

16 Q. I'm asking you, as an expert in the
17 field, what do you understand the term "shaping" to
18 mean here?

19 A. The specification does not provide any
20 guidance.

21 Q. So you are unsure of what the term
22 "shaping," as used in Shie, means; is that correct?

1 MR. KIANG: Objection, misstates
2 testimony.

3 THE WITNESS: The specification does
4 not provide any guidance. And, in fact, the
5 bold in another IPR, 2022-41465, said that it
6 was impossible to evaluate the merits of the
7 assertions made by the petition with respect
8 to Shie.

9 BY MR. BISENIUS:

10 Q. Can you identify how the assertions
11 made in the petition in that related case are the
12 same or different than the assertions made with
13 respect to Shie in the '244 proceeding?

14 A. I think I described that in my
15 declaration.

16 Q. Can you give me an example of how the
17 assertions made in that related proceeding are the
18 same or different than the assertions made in the
19 petition in the '244 proceeding?

20 MR. KIANG: Objection to the manner in
21 which the deposition is being taken. Counsel
22 is asking the witness questions without

1 providing the documents to the witness.

2 THE WITNESS: As I said, Counsel,
3 whatever I've said with respect to the
4 previous matter is in my declaration. I
5 don't have more detail than that.

6 BY MR. BISENIUS:

7 Q. So sitting here today, you cannot tell
8 me what the word "shaping" means, as it's used in
9 Shie; is that correct?

10 MR. KIANG: Objection, misstates
11 testimony.

12 THE WITNESS: I disagree with that
13 characterization. I said Shie does not --
14 Shie is not related to health care or health
15 monitoring technologies or physiological
16 sensors. It does not teach or suggest any
17 application of these optical elements to any
18 physiological sensor, pulse oximeter, or
19 heart rate sensor.

20 It is talking about automotive
21 applications, such as interior dome lights,
22 tail lamps of vehicles and others. It does

1 not disclose or discuss what it means by
2 these terms, "shaping" and otherwise.

3 BY MR. BISENIUS:

4 Q. So sticking with these two paragraphs
5 starting at line 44, Column 6 of Shie, Shie
6 describes an optical element in the form of
7 cylindrical lens 30.

8 Do you see that?

9 A. Shie says that Figures 2a and 2b
10 illustrate an optical element in the form of a
11 cylindrical lens 30.

12 Q. Looking at the second paragraph of
13 this section, which starts at line 61 of Column 6,
14 Shie states that the curvature and contour of the
15 cylindrical lens surfaces 34, 40 and 44 define the
16 macro-optical characteristics of a lens 30 or
17 alternative lenses 37 and 41.

18 Do you see that?

19 A. You're reading from line 61 through
20 64?

21 Q. Correct.

22 A. You have read from line 61 through 64

1 of Shie, Column 6.

2 Q. Would a POSITA have understood how the
3 curvature and contour of the cylindrical lens
4 surfaces described here affect the light diffusing
5 and shaping advantages described by Shie?

6 A. No, Shie --

7 MR. KIANG: Objection to form.

8 THE WITNESS: Yeah, no, Shie is
9 silent. Any of these issues, there's no
10 disclosure here as to what it means. Nor has
11 Apple or its expert provided any evidence
12 otherwise, as I discuss in my declaration.

13 BY MR. BISENIUS:

14 Q. What function do the curvature and
15 contour of the cylindrical lens surfaces described
16 here in Shie perform in the lenses?

17 MR. KIANG: Objection to form.

18 THE WITNESS: There's no disclosure.

19 BY MR. BISENIUS:

20 Q. It's your opinion that there's no
21 disclosure of a function performed by the curvature
22 and contour of the cylindrical lens surfaces in

1 Shie; is that correct?

2 A. Again, I do not see sufficient
3 disclosure or any disclosure as to these functions
4 in Shie for the reasons that I state in my
5 declaration.

6 Q. The next sentence of this paragraph,
7 which starts at line 64 of Column 6 states, "The
8 micro-structures 36 provide the novel diffusing
9 characteristics and are again molded or formed
10 integral into a surface of the substrate bodies 32,
11 48 and 42 along with the micro-optical
12 characteristics for each particular embodiment."

13 Do you see that?

14 A. You're reading from Column 6, lines 63
15 to 66?

16 Q. What function do the micro-structures
17 36 perform in the substrate bodies 32, 38, and 42?

18 MR. KIANG: Objection to form.

19 THE WITNESS: I don't see any
20 disclosure.

21 BY MR. BISENIUS:

22 Q. I'd like to go back one column to

1 Column 5 of Shie.

2 A. Okay.

3 Q. I'd like to talk about the paragraph
4 starting at line 29 of Column 5. Could you please
5 read that paragraph to yourself, and let me know
6 when you're done?

7 A. Okay.

8 (Document review.)

9 THE WITNESS: Yes, I read that.

10 BY MR. BISENIUS:

11 Q. This paragraph of Shie is describing
12 micro-structures in a substrate; is that correct?

13 A. What are you referring to?

14 Q. The paragraph starting at line 29 of
15 Column 5.

16 A. Again, I would defer to the language.
17 It mentions micro-sculpted surface structures or
18 micro-structures in a substrate that are random in
19 nature to produce -- and produce light output with a
20 smooth, consistent and continuous intensity.

21 So it's describing here
22 micro-structures for producing light output with a

1 smooth, consistent and continuous intensity.

2 Q. And then it goes on in the next
3 sentence to state that these micro-structures can be
4 created in such a manner so as to control the
5 direction of light output from a light source so as
6 to shape the light output into a desired
7 distribution pattern or envelope.

8 Do you see that?

9 A. You're reading from lines 45 through
10 40 of Column 5?

11 Q. So would you agree that Shie does
12 disclose the function of micro-structures here?

13 A. I don't agree. All it says is that
14 the micro-structures produce a light output with
15 smooth, consistent and continuous intensity in lines
16 No. 32 to 33.

17 Q. When Shie says that these
18 micro-structures can also be created in such a
19 manner so as to control the direction of light
20 output from a light source so as to shape the light
21 output, would you agree that it's disclosing
22 changing the shape of the light?

1 A. I disagree. It refers to -- it seems
2 to say it's for the desire, and it seems to
3 explicitly describe the desire as smooth and
4 continuous intensity.

5 Q. You see in the next sentence where it
6 says that it shapes the light output into a desired
7 distribution pattern?

8 A. I don't see that.

9 Q. All right. Well, this is in the
10 sentence that starts at line 35.

11 It says, "These micro-structures can
12 also be created in such a manner so as to control
13 the direction of light output from a light source so
14 as to shape the light output into a desired
15 distribution pattern or envelope."

16 Do you see that?

17 A. You're reading from lines 35 to 38
18 that you read earlier from Column 5.

19 Q. So I'm asking you, would a POSITA
20 understand how the micro-structures change the shape
21 of the light?

22 A. No, they don't describe as changing

1 anything.

2 Q. So you do not believe that a change in
3 the direction of light and a change in the shape of
4 the light output into a desired distribution pattern
5 would change the shape of the light?

6 A. You're using language that's not in
7 the disclosure of Shie. The only disclosure of Shie
8 is to provide consistent and continuous intensity.

9 Q. What does Shie's discussion of "shape
10 the light output" mean?

11 A. As I said, all it describes is a
12 smooth, consistent and continuous intensity in line
13 No. 34 of -- and 35 of Column 5.

14 Q. Would a POSITA understand shaping the
15 light output to achieve any other outcomes other
16 than smooth, consistent and continuous intensity?

17 A. As I said, you're using language that
18 is not in the disclosure, and I don't see any such
19 disclosure.

20 Q. You don't see any such disclosure of
21 the micro-structures shaping the light output to
22 achieve a smooth and consistent and continuous

1 intensity; is that correct?

2 A. You're using language that is not
3 described in that manner in the disclosure. All I'm
4 saying is that all it does is discloses that the
5 micro-structures in Column 5, starting at line
6 No. 34, produce a light output with a smooth,
7 consistent and continuous intensity. I don't see
8 anything else.

9 Q. You don't see the discussion in the
10 very next sentence of the same micro-structures
11 being used to control the direction of light output
12 from a light source so as to shape the light output;
13 is that correct?

14 A. No. You're reading, again, from
15 lines 35 to 38. I mean, it says that into a desired
16 distribution pattern or envelope. And the desire is
17 described as smooth, continuous and consistent
18 intensity in lines 34 and 35.

19 Q. I'd like to turn to Column 7 of Shie,
20 and I want to talk about the two paragraphs that
21 span from line 8 to line 27.

22 Can you please read those two

1 paragraphs to yourself and let me know when you're
2 finished?

3 (Document review.)

4 THE WITNESS: Okay, I've reviewed
5 them.

6 BY MR. BISENIUS:

7 Q. This portion of Shie discusses a
8 parabolic convex lens; is that correct?

9 A. Lines 8 through 10 describe an optical
10 element in the form of a convex -- in the form of a
11 parabolic convex lens 50, lines 8 through 10.

12 Q. And this portion of Shie describes
13 that the surface of the parabolic convex lens
14 includes a plurality of micro-structures; is that
15 correct?

16 A. It says here that the lens 50 includes
17 a substrate body 52 having on one side a curved or
18 parabolic convex lens surface 54 and the plurality
19 of micro-structures 56 on the opposite side of the
20 substrate body 52, referring to Figures 3a and 3b of
21 Shie.

22 Q. And then continuing on in the next

1 paragraph that starts at line 21, it describes that
2 the micro-structures may be designed to shape the
3 light into a narrow distribution while the
4 micro-structures 56 in the middle may provide a
5 broader light distribution pattern.

6 Do you see that?

7 A. You're reading from lines 24 through
8 28 in Column 7 of Shie.

9 Q. What does Shie's discussion of "shape
10 the light" mean here?

11 A. Which line, 24 through 28?

12 Q. Correct.

13 A. And it says that the lens may be
14 designed to shape the light into a narrow
15 distribution while the micro-structures in the
16 middle may provide a broader light distribution
17 pattern. So that's all it says. It doesn't say
18 whether the shape has changed or something -- or
19 anything else. It does not say anything. There is
20 no such disclosure.

21 Q. I'd like to continue on to Column 9 of
22 Shie.

1 A. Okay.

2 Q. The paragraph starting at line 36,
3 could you please read that paragraph to yourself,
4 and let me know when you're done?

5 (Document review.)

6 THE WITNESS: Okay.

7 BY MR. BISENIUS:

8 Q. This portion of Shie is discussing a
9 lightpipe with micro-structures; is that correct?

10 A. It's talking about an embodiment of
11 Figure 11 that illustrates a lightpipe 130 having a
12 CCFL fluorescent light source 132. So it's a
13 fluorescent light.

14 Q. This paragraph discusses that the
15 lightpipe can homogenize, shape, and direct light
16 exiting the lightpipe; is that correct?

17 A. It says here that integral in the top
18 surface of the lightpipe 130 are micro-structures
19 136 which homogenize, shape, and direct light
20 exiting the lightpipe 130 towards the user. Such a
21 lightpipe may be used in devices such as laptop
22 computers or other electronic devices.

1 Q. What does Shie's discussion of "shape"
2 here mean?

3 A. It's not -- it doesn't provide any
4 disclosure whether the shape is changed or not. It
5 simply talks about a fluorescent light that is used
6 in a laptop.

7 Q. Would a POSITA understand the
8 description of the lightpipe here to affect the
9 shape of the light?

10 MR. KIANG: Objection to form, legal
11 conclusion.

12 THE WITNESS: As I said, Counsel, I
13 don't see any disclosure other than in the
14 language that you state your question in.
15 All I can say is that it talks about a
16 fluorescent light in a lightpipe used in a
17 laptop computer. It does not mention
18 anything else.

19 BY MR. BISENIUS:

20 Q. If the lightpipe does not affect the
21 shape of light, why is the word "shape" used here?

22 MR. KIANG: Objection, speculation.

1 THE WITNESS: Yeah, as I said,
2 Counsel, I cannot guess. All I can say is
3 that the focus of Shie, as we discussed in
4 Column 5, appears to be to homogenize and --
5 the intensity. And that seems to be the
6 focus of Shie to one of ordinary skill in the
7 art, Column 5, where it says that -- that it
8 wants to produce a light output with smooth,
9 consistent and continuous intensity.

10 BY MR. BISENIUS:

11 Q. Continuing with the paragraph at
12 line 36 of Column 9, this paragraph discusses that
13 the lightpipe homogenizes the light; is that
14 correct?

15 A. It describes the micro-structures 136
16 which homogenize. That's described in lines 43 and
17 44.

18 Q. And it separately states that the
19 microstructures shape the light; is that correct?

20 A. As I said, the specification says what
21 it says, Counsel. I don't see the word
22 "separately." It simply says, which homogenize,

1 shape, and direct light exiting the lightpipe 130
2 towards the user. Such a lightpipe may be used in
3 devices such as laptop computers.

4 Q. Would a POSITA understand homogenizing
5 the light and shaping the light to be the same or
6 different?

7 MR. KIANG: Objection, form.

8 THE WITNESS: As I said, given the
9 disclosures of Shie, one would understand
10 that these micro-structures are designed for
11 smoothing the intensity in a consistent and
12 continuous manner, which is confirmed by the
13 disclosure of the laptop, because you like
14 your laptop to have continuous intensity of
15 the screen.

16 BY MR. BISENIUS:

17 Q. Would a POSITA consider homogenizing
18 and smoothing the light to be the same thing, or are
19 those different?

20 MR. KIANG: Objection, form.

21 THE WITNESS: My -- my response is
22 that looking at the context of using it in a

1 laptop computer, the micro-structures are
2 used here to create a consistent and -- a
3 consistent and continuous intensity for the
4 laptop screen.

5 BY MR. BISENIUS:

6 Q. I'm talking specifically about the
7 recitations in the paragraph starting at line 6 of
8 Column 9, where it's discussing the lightpipe.

9 When it discusses the micro-structures
10 136 of the lightpipe 130, are the function of
11 homogenizing the light and shaping the light the
12 same or different?

13 A. I would defer to the disclosure. In
14 the context of the disclosure, it's my opinion that
15 the micro-structures are providing a laptop screen
16 with smooth, continuous intensity.

17 Q. So you're not sure if the
18 micro-structures of the lightpipe homogenizing the
19 light is the same as the micro-structures of the
20 lightpipe shaping the light; is that correct?

21 MR. KIANG: Objection, misstates
22 testimony.

1 THE WITNESS: I disagree with your
2 characterization. I think that Shie does not
3 describe or desire, doesn't provide any
4 details. It's clearly describing that it's
5 for the laptop screen, and the stated goal is
6 to provide a consistent intensity of the
7 laptop screen.

8 BY MR. BISENIUS:

9 Q. So it is your opinion that a POSITA
10 would not understand what Shie means by any of its
11 descriptions of shaping the light using
12 micro-structures; is that correct?

13 A. It's my opinion that based on the
14 question that you asked me about Column 9, it is my
15 opinion that micro-structures are providing a
16 smooth, continuous intensity for the laptop screen,
17 nothing more.

18 Q. Is it your opinion that shaping the
19 light using micro-structures is the same as
20 providing a smooth and continuous light?

21 A. Based on the disclosures of Shie, as
22 we discussed in Column 5, that the objective of Shie

1 is to -- for the micro-structures is to produce a
2 light output with smooth, consistent and continuous
3 intensity.

4 Q. What I'm asking you is, is the
5 disclosure in Column 9 of the micro-structures
6 shaping the light the same or different as providing
7 a smooth, consistent, continuous intensity?

8 MR. KIANG: Objection, form.

9 THE WITNESS: As I understand,
10 Counsel, I think I answered that, that the
11 only stated objective is to provide
12 continuous and smooth intensity of the laptop
13 screen. There's no -- there's no other
14 disclosure in Shie of changing shape or
15 anything else.

16 BY MR. BISENIUS:

17 Q. Let's talk about the Iwamiya
18 reference. This is Exhibit 1004 in both the '241
19 and '243 proceedings.

20 (Exhibit 1004, Previously marked.)

21 THE WITNESS: Okay.

22

1 BY MR. BISENIUS:

2 Q. Would you please turn to Column 6,
3 line 7 of Iwamiya?

4 A. Okay.

5 Q. In this paragraph, do you see where it
6 says, "an annular light guide unit 7 that guides the
7 observation light emitted from the light emitting
8 unit 6 and annularly diffuses and irradiates the
9 observation light with respect to a skin H."

10 A. Okay.

11 Q. Do you see that recitation?

12 A. You're reading from Column 6, lines 10
13 through 14 -- 10 through 14.

14 Q. So this portion of Iwamiya is
15 discussing an annular light guide unit 7; is that
16 correct?

17 A. It's describing, as illustrated in
18 Figures 3 and 4, an annular light guide 7 -- annular
19 light guide unit 7 that guides the observation light
20 emitted from the light emitting unit 6 and annularly
21 diffuses and irradiates the observation light with
22 respect to skin H.

1 We're reading from Column 6, lines 8
2 through 14.

3 Q. Can you explain how the light guide
4 unit 7 in Iwamiya works?

5 A. It's disclosed in the specification
6 here. I have nothing else to add.

7 Q. I'm asking you if you understand how
8 the light guide unit 7 works and can explain it?

9 A. I would defer to the language in the
10 specification.

11 Q. Do you understand how the light guide
12 unit 7 in Iwamiya works?

13 MR. KIANG: Objection, asked and
14 answered.

15 THE WITNESS: I said, the
16 specification, it describes what it does.

17 BY MR. BISENIUS:

18 Q. That was a yes-or-no question.

19 Do you know how the light guide unit 7
20 in Iwamiya works?

21 MR. KIANG: Objection, asked and
22 answered.

1 THE WITNESS: As described in the
2 specification, I used the language in the
3 specification to inform me as to my
4 understanding of how the light guide works.
5 So I would defer to the language in the
6 specification --

7 BY MR. BISENIUS:

8 Q. Can you describe --

9 A. -- as my understanding.

10 Q. Can you describe how the guide unit
11 guides the light?

12 A. As I said, I would have to defer to
13 the language in the spec. I don't -- I have not
14 memorized the specification.

15 Q. Do you know how the light guide unit 7
16 functions to guide the light?

17 A. As I said, Counsel, it --

18 MR. KIANG: Objection, asked and
19 answered.

20 THE WITNESS: I would defer to the
21 language in the specification.

22

1 MR. KIANG: Objection, asked and
2 answered.

3 BY MR. BISENIUS:

4 Q. Why does Iwamiya use an annular light
5 guide unit rather than a different shaped light
6 guide unit?

7 MR. KIANG: Objection, speculation.

8 THE WITNESS: I don't have a specific
9 opinion on that issue, Counsel.

10 BY MR. BISENIUS:

11 Q. Are you aware of any benefits of using
12 an annular light guide unit rather than the light
13 guide unit of a different shape?

14 MR. KIANG: Objection, scope.

15 THE WITNESS: That's not an opinion
16 that I offered in my declaration, Counsel.

17 BY MR. BISENIUS:

18 Q. Sitting here today, you can't think of
19 any benefits of using an annular light guide unit
20 rather than using a light guide unit of a different
21 shape; is that correct?

22 MR. KIANG: Objection to scope.

1 THE WITNESS: That's not what I said.

2 I said I have not offered an opinion on that
3 issue. So I don't want to guess at this
4 point.

5 BY MR. BISENIUS:

6 Q. Are you aware of any benefits or
7 downsides of using an annular light guide unit
8 rather than a light guide unit of a different shape?

9 MR. KIANG: Objection to scope.

10 THE WITNESS: I don't have a specific
11 opinion on that issue, Counsel. It's not
12 something that I offered. You're using words
13 that don't appear in Iwamiya. I would defer
14 to Iwamiya's specification to describe its
15 invention.

16 BY MR. BISENIUS:

17 Q. This paragraph is referring to the
18 annular light guide unit 7. I'd like to go back to
19 Figure 2 of Iwamiya.

20 A. Okay.

21 Q. Would you agree that Figure 2 includes
22 a depiction of the annular light guide unit 7?

1 A. Which unit are you referring to?

2 Q. Reference No. 7 in Figure 2, would you
3 agree that this is identifying the light guide
4 unit 7?

5 A. The specification -- I have not
6 memorized the specification, but it does not
7 describe Figure 3 -- Figure 2 fully. But in
8 Figure 3 and Figure 4, it describes an annular light
9 guide unit 7.

10 Q. Do you believe the reference numeral 7
11 in Figure 2 is referring to the same component or a
12 different component than the referenced numeral 7 in
13 Figures 3 and 4?

14 A. It refers to Figure 3 as a
15 cross-sectional view taken along lines 33 in
16 Figure 2. So if you look at Figure 2 and look at
17 the --

18 Q. But then would you agree that Figure 2
19 includes a depiction of the light guide unit 7?

20 A. I would just defer to language in the
21 specification that Figure 3 is a cross-section of
22 Figure 2, and Figure 3 refers to unit 7 as the light

1 guide.

2 Q. Do you recall discussing Figure 2 in
3 your '241 and '243 declarations?

4 MR. KIANG: Objection to form of the
5 question.

6 THE WITNESS: Which -- which paragraph
7 are you referring to? I mean, I've not, as I
8 said -- which declaration? Is it '241?

9 BY MR. BISENIUS:

10 Q. In both the '241 and '243
11 declarations. So let's see if I can find an
12 example.

13 So, for example, in the '241
14 declaration, you discuss Figure 2 in a number of
15 places, but one place is paragraphs 133 through 137,
16 you've included a number of -- you've included the
17 Figure 2 a number of times in those paragraphs.

18 Do you see that?

19 A. Yes, on paragraph 133, I refer to
20 Figures 1 through 4, and describe Apple's
21 obviousness arguments rely on modifying Iwamiya's
22 first embodiment, which is illustrated in Figures 1

1 through 4.

2 Q. And you've included --

3 A. So I was referring to Apple's
4 petition.

5 Q. And you've included Figure 2 in this
6 paragraph; is that correct?

7 A. I was referring to Apple's petition
8 here and show that Iwamiya's figures -- that Iwamiya
9 does not depict a plurality of photodetectors in any
10 of its figures in the first embodiment. Instead,
11 Iwamiya's figures illustrate only a single
12 photodetector, as shown and highlighted before. So
13 it was in the context of a single photodetector.

14 Q. I promise I am not trying to trick you
15 here. I just want to agree that in paragraph 133,
16 you've included Figure 2 from Iwamiya; is that
17 correct?

18 A. To the extent of citing Apple's
19 [inaudible] and relying on Figures 1 through 4 where
20 it tried to show that there was a plurality of
21 photodetectors.

22 Q. Well, if you can continue on to the

1 next page, which is still part of paragraph 133.

2 Do you see that you have included
3 Figure 2 from Iwamiya here?

4 A. Yes, because it's part of Apple's
5 petition.

6 Q. And, once again, in paragraphs 135 and
7 136, you've included portions of Figure 2 in those
8 paragraphs; is that correct?

9 A. Citing Apple's reliance on Figure 2 in
10 its petition.

11 Q. Okay. So going back to Iwamiya,
12 actual Figure 2 of Iwamiya, as it appears in that
13 document, would you agree that the light guide unit
14 has an annular shape?

15 A. I would say that the unit 7 is an
16 annular light guide.

17 Q. Do you consider the word "annular" to
18 refer to the shape of the light guide?

19 A. What do you mean by "the shape of the
20 light guide"?

21 Q. I'm sorry, my computer is acting a
22 little slow here.

1 So, for example, the paragraph that we
2 were discussing earlier in Column 6, that starts at
3 line 7 of Column 6, it refers to specifically,
4 quote, the annular light guide unit 7, at line 17.

5 Do you see that?

6 A. Okay.

7 Q. So would you agree that the word
8 "annular" is modifying the term "light guide unit"?

9 A. Yes.

10 Q. So my question is: Is the word
11 "annular" referring to the shape of the light guide
12 unit?

13 A. I'm not sure why you use the word
14 "shape." All I can say it's modifying -- it says
15 here that H positioned in a central portion of an
16 annular irradiation area E wherein the observation
17 light is irradiated by the annular light guide
18 unit 7.

19 Q. Do you know what the "annular" means
20 in this context?

21 A. "Annular" means two circles, that --
22 it's the region between two circles, one smaller and

1 one larger, that have a common radius -- that have a
2 common center. That's an example.

3 (Reporter seeks clarification.)

4 BY MR. BISENIUS:

5 Q. Why don't we start over. I'll ask the
6 question again.

7 Do you know what the term "annular"
8 means in this context?

9 A. "Annular" appears to be the shape
10 between two concentric circles.

11 Q. So you would agree that the term
12 "annular" here is referring to the shape of the
13 light guide unit; is that correct?

14 A. I'm not sure, again, as to your
15 question. The word "annular" means it is the
16 portion between two circular -- two concentric
17 circles, nothing more. I don't specifically offer
18 an opinion about anything else, other than the word
19 "annular."

20 Q. I'm really not trying to trick you
21 here.

22 "Annular" is referring to a shape; is

1 that correct?

2 A. "Annular" refers to the portion
3 between two concentric circles.

4 Q. Could a square light guide unit be
5 annular?

6 MR. KIANG: Objection to form.

7 THE WITNESS: I'm not sure what you're
8 asking, Counsel.

9 BY MR. BISENIUS:

10 Q. I'm asking you if a square light guide
11 unit could be annular?

12 A. I don't know what a square light guide
13 unit means.

14 Q. Do you know what shape a square is?

15 A. Yes, a square is a geometrical shape
16 with four vertices with equal sides.

17 Q. So could a square-shaped light guide
18 unit be annular?

19 A. I don't know. I'm not sure what
20 you're asking.

21 MR. KIANG: Objection to form.

22

1 BY MR. BISENIUS:

2 Q. Can a rectangular-shaped light guide
3 unit be angular?

4 MR. KIANG: Objection to form.

5 THE WITNESS: Again, I don't have an
6 opinion on that issue. I'm not sure what
7 you're asking, Counsel.

8 BY MR. BISENIUS:

9 Q. I want to go back to Figure 2 of
10 Iwamiya.

11 A. Okay.

12 Q. Reference numeral 7, the light guide
13 unit, is identifying a portion of this figure.

14 Can you describe what shape the light
15 guide unit has in this figure?

16 A. All it calls it is an annular light
17 guide. I don't have an opinion on the shape of the
18 light guide. I don't even understand what you're
19 saying -- asking.

20 Q. So sitting here today, you cannot
21 describe the shape of the annular light guide
22 unit 7; is that correct?

1 MR. KIANG: Objection, misstates
2 testimony.

3 THE WITNESS: As I said, I mean, the
4 word "annular" is a qualifier for "light
5 guide," nothing more. It doesn't mention
6 about a shape or anything else.

7 The claim term "shape" talks about
8 shape of light and other types of things. So
9 you are conflating different terms from the
10 claim with other terms. So it's unclear what
11 you're asking.

12 BY MR. BISENIUS:

13 Q. So I'm not talking about the shape of
14 light, and I'm not talking about the claim terms
15 right now. I'm talking specifically about Figure 2
16 in Iwamiya. It shows the light guide unit 7.

17 And I'm asking you, what shape does
18 the light guide unit 7 have in Figure 2?

19 A. All I can say is that the
20 specification refers to it as an annular light
21 guide, nothing more. And I would defer to the
22 specification as to what it calls it, as an annular

1 light guide 7, nothing more.

2 Q. Would a non-annular light guide unit
3 produce the same shape of light or a different shape
4 of light from an annular light guide unit?

5 MR. KIANG: Objection to form.

6 THE WITNESS: I have no opinion,
7 Counsel, on that issue with respect to
8 Iwamiya.

9 BY MR. BISENIUS:

10 Q. In optical sensors in general, prior
11 to July 2015, would a POSITA understand an annular
12 light guide unit to produce the same shape of light
13 or a different shape of light from a non-annular
14 light guide unit?

15 MR. KIANG: Objection to scope,
16 incomplete hypothetical.

17 THE WITNESS: Yeah, I don't have
18 enough information. I have no opinions on
19 that issue.

20 BY MR. BISENIUS:

21 Q. Prior to July 2015, would a POSITA
22 have considered an annular light guide unit to

1 produce the same shape of light or a different shape
2 of light from a square light guide unit?

3 MR. KIANG: Same objections.

4 THE WITNESS: I don't have -- I mean,
5 it seems to be a very vague question. I
6 don't have an answer on that. It depends on
7 the context. I don't have an answer or an
8 opinion on that.

9 BY MR. BISENIUS:

10 Q. So let's look at Figure 2 of Iwamiya,
11 specifically.

12 If the light guide unit 7 in Figure 2
13 were replaced by a square light guide unit, would
14 the shape of light emitted from the light guide unit
15 be the same or different?

16 MR. KIANG: Objection to scope,
17 incomplete hypothetical.

18 THE WITNESS: I don't have an opinion
19 on that issue, because Iwamiya does not
20 present that possibility.

21 BY MR. BISENIUS:

22 Q. You don't have the knowledge or

1 experience to know whether or not changing the light
2 guide unit to a square light guide unit would change
3 the shape or not; is that correct?

4 MR. KIANG: Objection to scope,
5 incomplete hypothetical.

6 THE WITNESS: I don't have an opinion
7 on that issue, Counsel.

8 MR. BISENIUS: We've been going quite
9 a bit over an hour, sorry about that. Let's
10 go off the record, and we can take a break.

11 THE REPORTER: We're off the record.

12 (Recess from the record.)

13 THE REPORTER: Back on the record.

14 BY MR. BISENIUS:

15 Q. Dr. Madiseti, what is a
16 circumference?

17 A. It depends on the context.

18 Q. Okay. So specifically sticking with
19 the Iwamiya reference we were discussing before the
20 break, this is Exhibit 1004.

21 Turning to, for example, Column 8 --
22 the paragraph starts on Column 7, but the portion of

1 the paragraph at the top of Column 8, it's
2 discussing Figures 3 and 4. It's also talking about
3 the light guide unit 7 we were just discussing.

4 Towards the end of this paragraph it
5 says, "The light guide unit 7 is mounted" -- I
6 should start reading --

7 A. Why don't you start all over again,
8 Counsel. Which column are you referring to, the
9 figure or the text?

10 Q. I'm referring to the text and starting
11 at the top of Column 8.

12 A. Okay.

13 Q. Specifically, the sentence that starts
14 at line 7, Column 8.

15 A. Okay.

16 Q. This is discussing the light guide
17 unit 7 we were talking about before and states, "A
18 flat surface of the bottom surface of the scattered
19 light taking unit 8 forms the same plane as the
20 bottom surface of the diffusion/irradiation ring
21 portion 12 of the light guide unit 7 and is mounted
22 in an inner circumferential surface of the

1 diffusion/irradiation ring portion 12 of the light
2 guide unit 7 through a second waterproof packing 16
3 in this state."

4 Do you see that?

5 A. You're reading from Column 8, lines 5
6 through 14, I think.

7 Q. Correct.

8 And then the next paragraph discusses
9 an outer circumferential surface and inner
10 circumferential surface.

11 Do you see that?

12 A. Next paragraph discusses an outer
13 circumferential surface of the scattered light
14 taking unit 8 and an inner circumference surface of
15 the diffusion/irradiation ring portion 12 of the
16 light guide unit 7 are optically isolated by the
17 second reflection layer 15 formed in the inner
18 circumferential surface of the diffusion/irradiation
19 ring portion 12, as illustrated in Figure 3.

20 Q. Sure.

21 So in this context, what does the term
22 "circumference" mean?

1 MR. KIANG: Objection to form.

2 THE REPORTER: I can't hear you,
3 Mr. Kiang.

4 MR. KIANG: Objection to form.

5 THE WITNESS: I'm not sure what this
6 is saying here, Counsel. I don't have -- I
7 don't think I discussed this particular
8 sentence in my declaration. So I would defer
9 to the language itself.

10 BY MR. BISENIUS:

11 Q. So, for example, you talked about this
12 in a number of your declarations, but in the '241
13 proceeding declaration, you talk about the light
14 guide unit 7 in paragraph 61.

15 A. Okay. Which proceeding?

16 Q. This is in the '241 proceeding --

17 A. Okay.

18 Q. -- of your declaration.

19 A. Which paragraph?

20 Q. Paragraph 61.

21 A. Okay. I'm on 61. I'm here.

22 Q. Paragraph --

1 A. Yes.

2 Q. -- 61, it covers a number of pages.

3 But near the bottom of page 37, you discuss the
4 annular light guide unit 7 and then also an annular
5 light guide unit 32.

6 Do you see that?

7 A. Yes.

8 Q. So I want to talk about the shape of
9 the light guide unit 7. So going back to Iwamiya,
10 the portion we were discussing at the top of
11 Column 8, that paragraph that starts at the top of
12 Column 8 and the next paragraph starting at line 14.

13 This describes an outer circumference
14 signal surface of the scattered light taking unit 8
15 and an inner circumferential surface of the
16 diffusion/irradiation ring portion 15 of the light
17 guide unit 7. So it's saying that these two
18 surfaces are both part of the light guide unit 7.

19 So my question is: In this context,
20 what does the word "circumference" mean?

21 A. I don't see all what you're saying in
22 your question there. I really will defer to the

1 language itself.

2 It says, "An outer circumferential
3 surface of the scattered light taking unit 8 and an
4 inner circumferential surface of the
5 diffusion/irradiation ring portion 12 of the light
6 guide unit 7 are optically isolated by the second
7 reflection layer 15 formed in the inner
8 circumferential surface of the diffusion/irradiation
9 ring portion 12."

10 So it doesn't say what you're saying
11 in your question.

12 Q. Well, my only question is: In this
13 context, what does the word "circumference" mean?

14 A. Again, all I can say is that I would
15 defer to the specification.

16 Q. Please --

17 (Cross talk.)

18 BY MR. BISENIUS:

19 Q. When Iwamiya says, "An inner
20 circumferential surface of the diffusion/irradiation
21 ring portion 12 of the light guide unit 7," do you
22 know what shape the term "circumferential" is

1 referring to?

2 A. I don't have an opinion on that,
3 Counsel.

4 Q. So you do not know what the word
5 "circumferential" means in this context; is that
6 correct?

7 A. I didn't say I don't understand. It's
8 not something that I opined on. And I have to look
9 at the specification in detail to understand what
10 this portion is saying.

11 MR. KIANG: For the record, I have an
12 objection to form.

13 BY MR. BISENIUS:

14 Q. Would this description in Iwamiya of
15 "an inner circumferential surface of the
16 diffusion/irradiation portion 12 of the light guide
17 unit 7" inform a POSITA's understanding of the shape
18 of the light guide unit 7?

19 A. I don't have an opinion on that issue,
20 Counsel. I've not been asked to discuss every line
21 of the Iwamiya specification. I was responding to
22 the board and your expert.

1 Q. When Iwamiya refers to the "inner
2 circumferential surface," is the word
3 "circumferential" referring to a shape of the
4 surface or something else?

5 A. I don't have an opinion on that,
6 Counsel, at this point.

7 Q. So is it correct to say that you do
8 not know, sitting here today, whether the term
9 "circumferential" refers to a shape?

10 A. I don't offer -- I'm not offering a
11 new opinion or anything else. This is something
12 that I can review to understand it in detail. I
13 don't have an opinion as I sit here.

14 Q. Would a POSITA have known what the
15 word "circumference" or the word "circumferential"
16 means during the relevant time frame?

17 MR. KIANG: Objection to form.

18 THE WITNESS: In this context of
19 Iwamiya, I would have to -- I don't have an
20 opinion of what would a POSITA understand
21 from this particular section of Iwamiya,
22 Column 8, lines 14 through 20. I don't have

1 a specific opinion on this, sitting here
2 today.

3 BY MR. BISENIUS:

4 Q. You've read all of Iwamiya; is that
5 correct?

6 A. Yes, at some point. I've not
7 memorized it. I've not opined on this particular
8 section, these given pages.

9 Q. And you're an expert in optical
10 sensors; is that correct?

11 A. As I said, I provided an opinion in
12 this matter. I believe that I'm an expert in this
13 area, but this is an important matter. These
14 involve technical descriptions.

15 Q. Do you know what the term
16 "circumference" means in the context of Iwamiya's
17 system?

18 A. As I said -- I ask you to -- in this
19 particular section that we are looking at, I don't
20 have a specific opinion at this point.

21 Q. I'd like to turn to Column 12 of
22 Iwamiya. The paragraph at the bottom of Column 12,

1 starting at line 55.

2 Could you please read that paragraph
3 to yourself, and let me know when you're finished?

4 (Document review.)

5 THE WITNESS: Okay.

6 BY MR. BISENIUS:

7 Q. What does the term "circumferential"
8 mean in this paragraph?

9 A. Again, I don't have a specific
10 opinion, sitting here today. I have to review the
11 entire spec to understand. I don't have an opinion
12 today.

13 Q. Is it your opinion that a POSITA would
14 not know what the word "circumferential" means
15 without reading the entire specification of Iwamiya?

16 A. Again, I don't have a specific opinion
17 on that issue. I believe that these are very
18 complicated specifications that you're referring to
19 here in this portion. It's describing the scattered
20 light taking unit 8 is made of a material with a
21 high refractive index, and so on and so forth.

22 It's describing a very specific

1 configuration in more detail, not a general use of
2 the term.

3 Q. Can you tell me what the word
4 "circumferential" means in general terms, outside of
5 the context of Iwamiya?

6 A. It depends on the context. I can't
7 really say much.

8 MR. KIANG: I have an objection to
9 form. I don't see it on the realtime.

10 THE REPORTER: You'll have to keep
11 your voice up, please.

12 BY MR. BISENIUS:

13 Q. Can you please turn to Column 14 of
14 Iwamiya.

15 A. Okay.

16 Q. Specifically the paragraph starting at
17 line 32, could you please read that paragraph to
18 yourself, and let me know when you're finished?

19 (Document review.)

20 THE WITNESS: Yes, I've reviewed that.

21 BY MR. BISENIUS:

22 Q. This paragraph is talking about the

1 scattered light taking unit 8; is that correct?

2 A. It mentions in line No. 33 and 34, a
3 scattered light taking unit.

4 Q. What does the word "circumference"
5 mean in the context of this portion of Iwamiya?

6 A. Here, for example, I describe in
7 paragraphs 138 and 139 of my declaration, in the
8 '241 matter, that a POSITA would have interpreted
9 the Iwamiya reference to light receiving units
10 disposed on the same circumference centered on an
11 optical axis of the scattered light taking unit 8,
12 as shown in the figures on page 92 and 93 of my
13 declaration in the '241 IPR.

14 So that's how I understand this
15 disclosure.

16 Q. So you do understand what the term
17 "circumference" means in the context of Iwamiya; is
18 that correct?

19 MR. KIANG: Objection,
20 mischaracterizes testimony.

21 THE WITNESS: My testimony is
22 particularly referring to the discussion I

1 provide in paragraphs 138 and 139 --

2 BY MR. BISENIUS:

3 Q. And you --

4 A. -- not anything else.

5 Q. You used the word "circumference" in
6 these paragraphs; correct?

7 A. I refer to "disposed on the same
8 circumference centered on an optical axis of the
9 scattered light taking unit 8."

10 Since I opined on this in my
11 declaration, I did respond to your questions. You
12 asked me a question that I did not provide an
13 opinion on.

14 In my opinion, Apple's hindsight-based
15 depiction in paragraphs 134, 135, 136, and 137 of my
16 report and my declaration are incorrect. And
17 instead, as I describe in paragraphs 138 and 139,
18 the correct interpretation, in my opinion, in the
19 view of a person of ordinary skill in the art would
20 be as shown in figures on page 92.

21 Q. What does the word "circumference"
22 mean, as you use it here?

1 A. So as I say -- I show that in blue. I
2 say that in the blue, the detectors shown in the
3 blue squares on the top of page 92, they are being
4 bounded by a circle. Similarly, the four squares at
5 the bottom of page 92 are also bounded by that
6 circle, which is the circumference that is bounding
7 the three squares on the top of page 92 and the four
8 squares on the bottom of page 92.

9 Q. I'd like to talk about the Sarantos
10 reference, which is Exhibit 1005 in all three
11 proceedings. Please bring that up.

12 (Exhibit 1005, Previously Marked,
13 received and marked.)

14 THE WITNESS: Okay.

15 BY MR. BISENIUS:

16 Q. I want to start at Column 19 of
17 Sarantos.

18 A. Okay.

19 Q. Could you turn to the paragraph that
20 starts at line 33 of Column 19? And please read
21 that paragraph to yourself, and let me know when
22 you're done.

1 (Document review.)

2 THE WITNESS: Okay, I read that.

3 BY MR. BISENIUS:

4 Q. This paragraph is discussing Figure 25
5 of Sarantos; is that correct?

6 A. It's referencing to Figure 25 in line
7 No. 34. So Figure 25 is mentioned in line No. 34.

8 Q. This says, "Figure 25 depicts an
9 example of an annular photodetector element 2512
10 with a light source 2508 in the middle, in
11 accordance with an example implementation."

12 Do you see that?

13 A. I do.

14 Q. What does the word "annular" mean in
15 this context?

16 A. It says that it has an exterior --

17 (The reporter seeks clarification.)

18 THE WITNESS: It describes here that
19 the annular photodetector element 2512 has an
20 exterior periphery defined by the first
21 boundary 2532 and a central opening defined
22 by a second boundary 2534; the first boundary

1 2532 and the second boundary 2534 may be
2 offset from one another by a first distance
3 2584 along a radius of the annular area.

4 BY MR. BISENIUS:

5 Q. Does the word "annular," as used in
6 this paragraph, refer to a shape of the
7 photodetector element 2512?

8 A. I just described -- the board
9 specification describes as the first boundary and a
10 central opening and so on and so forth. I don't
11 have an opinion -- a specific opinion as to your
12 question.

13 Q. Sitting here today, you're not sure if
14 the word "annular" is referring to a shape for the
15 photodetector element 2512; is that correct?

16 A. I am not offering a specific opinion
17 beyond that disclosed in the specification because
18 Sarantos is the best person to describe the
19 invention. And they described it, like I said, from
20 lines 35 to 40. You're trying to simplify it in
21 some way.

22 Q. Figure 25 describes that it's

1 discussing a photodetector element and a light
2 source in accordance with an example implementation;
3 is that correct?

4 A. It describes that in lines 34 to -- 33
5 to 34 in Column 19.

6 Q. Turning to Column 16, the paragraph
7 with -- the short paragraph that starts at line 60
8 of Column 16, this is discussing Figures 22 to 24;
9 correct?

10 A. It's referencing Figures 22 to 24 in
11 line No. 60.

12 Q. And it says that cross-sections of
13 various PPG sensors in accordance with various
14 implementations.

15 Do you see that?

16 A. Yes, you're reading from line 60 to 62
17 of Sarantos.

18 Q. Do you agree that Figure 22 is showing
19 a cross-section of an example implementation as
20 shown in Figure 25?

21 A. Figure 25? It says 22 through 24. It
22 doesn't mention 25 at all.

1 Q. Do you think that Figures 22 through
2 24 are referring to the same embodiment or a
3 different embodiment?

4 A. I don't have an opinion on that at
5 this point.

6 Q. I want to turn to the Maattala
7 reference, which is Exhibit 1018 in all three
8 proceedings.

9 A. Maattala.

10 Q. Maattala?

11 MR. KIANG: What did you say, Counsel?

12 MR. BISENIUS: I want to refer to the
13 Maattala reference. It's Exhibit 1018 in all
14 three proceedings.

15 MR. KIANG: Okay. Objection. That's
16 actually not correct. It's only Exhibit 1018
17 in the '243 and '244 IPRs.

18 MR. BISENIUS: Did we get our exhibit
19 numbers confused here?

20 MR. KIANG: Your exhibit numbers are
21 completely different among the three.

22

1 MR. BISENIUS: I want to talk about
2 the Maattala reference. Do we agree that
3 reference is [inaudible].

4 MR. KIANG: I can agree with that,
5 with Exhibit 1036 in the '241 and --

6 (Reporter seeks clarification.)

7 MR. KIANG: I can agree that Maattala
8 was Exhibit 1036 in the '241 IPR, and it was
9 Exhibit 1018 in the '243 and '224 IPRs. I
10 don't agree to any other statement that
11 counsel has made.

12 BY MR. BISENIUS:

13 Q. Dr. Madisetti, did you review this
14 reference prior to preparing your declarations in
15 these cases?

16 A. Yes, I did comment on it, as well,
17 that none of these references, including Maattala,
18 actually determine the oxygen saturation at the
19 wrist.

20 Q. Does the Maattala reference mention
21 requiring its device to have wireless communication
22 capabilities?

1 MR. KIANG: Objection to scope.

2 THE WITNESS: What are you asking,
3 Counsel?

4 BY MR. BISENIUS:

5 Q. I'm asking if the Maattala reference
6 mentions requiring its device to have wireless
7 communication capabilities?

8 A. Are you referring to my declaration?
9 Are you referring to my declaration, Counsel?

10 Q. Sure. So, for example, in the '243
11 proceeding --

12 A. Okay.

13 Q. -- here you comment that -- sorry, I'm
14 starting at paragraph 109 of your '243 proceeding
15 declaration.

16 A. Okay.

17 Q. Here in paragraph 109, you refer to a
18 number of exhibits, including Exhibit 1018, which is
19 the Maattala reference, in that proceeding.

20 Then later, in paragraph 115, if you
21 want to take a look, you're discussing the Maattala
22 reference. And you state, Maattala (Exhibit 1018)

1 similarly does not demonstrate a reasonable
2 expectation of success.

3 Do you see that statement?

4 A. Yes, but you asked me a different
5 question about -- something about -- specifically, I
6 was asking you -- I agree that I discuss Maattala in
7 certain context, but you are asking for something
8 that I wanted to see where it was in the Maattala
9 reference.

10 Q. Earlier in this declaration, for
11 example, starting at paragraph 86 --

12 A. One second. Let me get there.

13 Okay, I'm in 86.

14 Q. In 86, you're discussing testimony
15 from Apple's engineers. And then later on in
16 paragraphs 97 and 98, you're further discussing
17 testimony from Apple's engineers regarding their
18 difficulties with respect to measuring oxygen
19 saturation using the Apple Watch.

20 A. Yes.

21 Q. My question is: Does Maattala mention
22 requiring its device to have wireless communication

1 capabilities?

2 MR. KIANG: Objection, scope.

3 THE WITNESS: And as I said, Counsel,
4 that's not an opinion that I offered at this
5 point.

6 BY MR. BISENIUS:

7 Q. Does the Maattala reference mention
8 requiring its device to have cellular communication
9 capabilities?

10 MR. KIANG: Objection to scope,
11 relevance.

12 THE WITNESS: I don't have an opinion
13 on that issue, Counsel.

14 BY MR. BISENIUS:

15 Q. Does Maattala --

16 A. Sitting here, I don't have an opinion
17 on that issue.

18 Q. Does Maattala mention requiring its
19 device to have a color display screen?

20 MR. KIANG: Objection to scope,
21 relevance.

22 THE WITNESS: I don't have an opinion

1 on that issue, Counsel.

2 BY MR. BISENIUS:

3 Q. Does Maattala mention requiring its
4 device to have touchscreen capabilities?

5 MR. KIANG: Objection, scope,
6 relevance.

7 THE WITNESS: For this IPR, I'm not
8 offering an opinion on all these questions
9 that you're asking.

10 BY MR. BISENIUS:

11 Q. How does the device described in the
12 Maattala reference output the measured pulse
13 oximetry information to the user?

14 MR. KIANG: Objection, foundation.
15 Also, assumes facts not in evidence.

16 THE WITNESS: My opinion is that
17 Maattala does not determine oxygen saturation
18 at all. My opinions for Maattala are in my
19 declaration. I don't offer additional
20 opinions. Maattala is not determining oxygen
21 saturation at the wrist.

22

1 BY MR. BISENIUS:

2 Q. Would you agree that Maattala
3 describes measuring signals of some sort?

4 MR. KIANG: Objection to form.

5 THE WITNESS: I don't have any
6 opinion, Counsel, on that issue.

7 BY MR. BISENIUS:

8 Q. Looking at the title of Maattala, it
9 says, "Optimum Place for Measuring Pulse Oximeter
10 Signal in Wireless Sensor/Belt or Wrist-Band."

11 Would you agree that Maattala
12 discusses measuring pulse oximetry?

13 A. I would agree that for measuring pulse
14 oximeter signals in wireless or wristbands, it says
15 the place for measuring.

16 Q. So how does the Maattala reference
17 describe outputting the measured pulse oximeter
18 signals?

19 A. My opinions --

20 MR. KIANG: Objection, form.

21 THE WITNESS: -- of Maattala are
22 limited to what I said in my declaration. It

1 is not determining -- it is not determining
2 the oxygen saturation. I don't offer any
3 other opinion on that matter.

4 BY MR. BISENIUS:

5 Q. Would a POSITA have known how to use
6 measured pulse oximeter signals to determine oxygen
7 saturation of a patient?

8 A. I'm not sure what you're asking,
9 Counsel.

10 Q. Well, the title alone says measuring
11 pulse oximeter signals in wireless sensor belts or
12 wristband. There are numerous discussions in this
13 very short paper about measuring pulse oximeter
14 signals.

15 I'm asking you, would a POSITA have
16 known how to use pulse oximeter signals to determine
17 oxygen saturation prior to July 2015?

18 A. I don't have -- with respect to
19 Maattala, it is -- my only opinion that I provide is
20 in my declaration, that --

21 Q. And you're aware of the knowledge of
22 what a POSITA would have known prior to July 2015;

1 is that correct?

2 A. I provide the definition of a
3 "POSITA."

4 Q. Do you recall the Maattala reference
5 having any design constraints with respect to input
6 or output functionability?

7 A. I don't offer a specific opinion on
8 that issue.

9 Q. Is the device described in the
10 Maattala reference intended for commercial sale?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: I don't have an opinion
13 on that issue, Counsel.

14 BY MR. BISENIUS:

15 Q. Would a POSITA have recognized that
16 the device described in Maattala would have had
17 different design considerations and performance
18 constraints than a device intended for commercial
19 sale?

20 MR. KIANG: Objection, scope.

21 THE WITNESS: I have no opinion on
22 that, Counsel.

1 BY MR. BISENIUS:

2 Q. Well, is the device described in
3 Maattala intended for everyday use by consumers?

4 MR. KIANG: Objection to scope.

5 THE WITNESS: I would refer to -- I
6 don't have an opinion on that issue, Counsel.

7 BY MR. BISENIUS:

8 Q. I'd like to talk about the Cai
9 reference, which is Exhibit 1016 [sic] In the '243
10 proceeding.

11 (Exhibit 1016, Previously Marked,
12 received and marked.)

13 THE WITNESS: Okay.

14 MR. KIANG: Give me some time to look
15 for it.

16 MR. BISENIUS: Yes, let me know when
17 you both have it.

18 MR. KIANG: Okay.

19 THE WITNESS: Yes, I have it.

20 BY MR. BISENIUS:

21 Q. You've read this entire reference;
22 correct?

1 A. Yes, I reference my opinions on Cai in
2 paragraph 118 of my '241 declaration.

3 Q. Does Cai mention requiring its device
4 to have wireless communication capabilities?

5 MR. KIANG: Objection, scope.

6 THE WITNESS: I don't have an opinion
7 on that issue.

8 MR. KIANG: Also, for the record, the
9 Cai reference was Exhibit 1035 in the
10 '241 IPR, and it's 1015 [sic] in the other
11 two IPRs.

12 BY MR. BISENIUS:

13 Q. Does the Cai reference mention
14 requiring its device to have cellular communication
15 capabilities?

16 A. No opinion on that, Counsel.

17 Q. Does the Cai reference mention
18 requiring its device to have a colored display
19 screen?

20 MR. KIANG: Objection, scope.

21 THE WITNESS: No opinion on that.

22

1 BY MR. BISENIUS:

2 Q. Does the Cai reference mention
3 requiring its device to have a touchscreen display?

4 MR. KIANG: Objection, scope.

5 THE WITNESS: No opinion on that,
6 Counsel.

7 BY MR. BISENIUS:

8 Q. Does the Cai reference describe having
9 any design constraints with respect to input or
10 output functionality?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: I don't have an opinion
13 on that particular issue.

14 My opinions are that Cai does not
15 support a reasonable expectation of success
16 for oxygen saturation at the wrist or does
17 it -- Cai, Exhibit 1035, does not support a
18 reasonable expectation of success for
19 determining oxygen saturation at the wrist,
20 as I describe in paragraph 118 of my '241.

21 BY MR. BISENIUS:

22 Q. Does the Cai reference describe

1 outputting any measured physiological parameters?

2 A. I don't have an opinion on that. It's
3 my opinion it does not determine oxygen saturation
4 from the wrist.

5 Q. Is the device described in Cai
6 intended for commercial sale?

7 MR. KIANG: Objection to scope.

8 THE WITNESS: I don't offer an opinion
9 on that issue, Counsel.

10 BY MR. BISENIUS:

11 Q. In your opinion, would a POSITA have
12 recognized that the device described in Cai would
13 have had different design considerations and
14 performance constraints than a device intended for
15 commercial sale?

16 MR. KIANG: Objection to form and
17 scope.

18 THE WITNESS: I do not have an opinion
19 on that issue.

20 BY MR. BISENIUS:

21 Q. What signals does the device described
22 in Cai measure from a patient?

1 A. I just said, I don't offer an opinion
2 on that issue. I don't see any determination of
3 oxygen saturation in Cai.

4 Q. Looking at page 2 of Cai, the
5 equation 5 specifically, what does SpO2 refer to
6 here?

7 A. It's referring to -- in this case,
8 it's referring to -- equation 5 says, The change
9 rate of reflectance light intensity W_2 , the blood
10 oxygen saturation can be expressed as SpO2. Refer
11 to A minus BW number 1 upon W number 2.

12 Q. Is it your understanding that the term
13 "SpO2" in equation 5 indicates blood oxygen
14 saturation?

15 A. It is providing some description of
16 formulas where it calls -- in the production section
17 where it refers to SpO2 here as blood oxygen
18 saturation as an equation.

19 Q. Would you agree that equations 5 and 6
20 on page 2 are equations for calculating blood oxygen
21 saturation?

22 A. So these are formulas that -- these

1 are formulas for calculation -- these are formulas
2 for SpO2. They don't prove that the system of Cai
3 or anything else determines SpO2, let alone SpO2 on
4 the wrist.

5 Q. I want to talk about the Pang
6 reference, which is Exhibit 1014 in the '243
7 proceeding.

8 (Exhibit 1014, Previously Marked,
9 received and marked.)

10 MR. KIANG: For the record, Pang was
11 not an exhibit in the '241 IPR.

12 BY MR. BISENIUS:

13 Q. Let me know once you have that open.

14 A. Pang. Yes, I've opened Pang.

15 Q. Have you read this entire reference?

16 A. Yes.

17 Q. This is an IEEE article titled, "A
18 Neo-Reflective Wrist Pulse Oximeter"; correct?

19 A. Yes.

20 Q. Does Pang mention requiring its device
21 to have a wireless communication capability?

22 MR. KIANG: Objection to scope.

1 THE WITNESS: I don't have an opinion
2 on that issue, Counsel.

3 BY MR. BISENIUS:

4 Q. Does Pang mention requiring its device
5 to have cellular communication capabilities?

6 MR. KIANG: Objection to scope.

7 THE WITNESS: No opinions on that.

8 BY MR. BISENIUS:

9 Q. Does Pang mention requiring its device
10 to have a color display screen?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: No opinions on that. My
13 opinions with respect to Pang are in
14 paragraph 112, for example, in the '243
15 declaration, that Pang Exhibit 1014 does not
16 present any oxygen saturation determinations
17 from the wrist. It just presents separate
18 red and IR waveforms.

19 BY MR. BISENIUS:

20 Q. Would a POSITA have known how to
21 determine blood oxygen saturation from the red and
22 infrared waveforms disclosed by Pang?

1 A. There is no such discussion that would
2 allow a person of ordinary skill in the art to know
3 how this could be done. For example, there's no
4 indication that the two waveforms were time
5 correlated.

6 As I describe in paragraph 112, Pang
7 also relies on simulated data showing that its
8 authors were not able to determine oxygen saturation
9 using Pang's design, and other such issues that are
10 raised about Pang in paragraph 112 of my '243 IPR
11 declaration, Exhibit 2100.

12 Q. Do you recall if Pang discusses having
13 any design constraints with respect to input or
14 output functionality for its wrist-worn sensor?

15 MR. KIANG: Objection to form.

16 Objection to scope.

17 THE WITNESS: No opinions on that.

18 BY MR. BISENIUS:

19 Q. How does the wrist-worn sensor in Pang
20 output the signals that it measures?

21 MR. KIANG: Objection to form.

22 THE WITNESS: No opinions on that. As

1 I describe in paragraph 112, it does not
2 present any oxygen saturation determinations
3 from the wrist.

4 BY MR. BISENIUS:

5 Q. Does the wrist-worn sensor in Pang --
6 sorry, scratch that.

7 Does Pang describe its wrist-worn
8 sensor as being intended for commercial sale?

9 MR. BISENIUS: Objection to scope.

10 THE WITNESS: No opinions on that.

11 BY MR. BISENIUS:

12 Q. Would a POSITA have recognized that
13 the device described in Pang would have had
14 different design considerations and performance
15 constraints than a device intended for commercial
16 sale?

17 MR. KIANG: Objection to scope.

18 Objection to form.

19 THE WITNESS: No specific opinions on
20 that.

21 BY MR. BISENIUS:

22 Q. I'd like to talk about the Li

1 reference. This is Exhibit 1015 in the '243
2 proceeding.

3 (Exhibit 1015, Previously Marked,
4 received and marked.)

5 THE WITNESS: Okay.

6 BY MR. BISENIUS:

7 Q. Have you read this entire reference?

8 A. Yes.

9 Q. Does Li describe requiring its device
10 to have wireless communication capabilities?

11 MR. KIANG: Objection to scope.

12 Objection to relevance.

13 THE WITNESS: I don't have an opinion
14 on that issue.

15 BY MR. BISENIUS:

16 Q. Does Li describe its device as
17 requiring communication cellular communication
18 capabilities?

19 MR. KIANG: Same objections.

20 THE WITNESS: No opinions on that
21 issue.

22

1 BY MR. BISENIUS:

2 Q. Does Li describe requiring its device
3 to have a color display screen?

4 MR. KIANG: Same objections.

5 THE WITNESS: No opinions on that
6 issue.

7 BY MR. BISENIUS:

8 Q. Does Li mention requiring its device
9 to have touchscreen capabilities?

10 MR. KIANG: Same objections.

11 THE WITNESS: No opinions on that
12 issue.

13 BY MR. BISENIUS:

14 Q. Does Li describe design constraints
15 with respect to input or output functionality of its
16 device?

17 MR. KIANG: Same objections. Same
18 objection to form.

19 THE WITNESS: No opinions. As I
20 describe in paragraph 113 of my declaration,
21 Li does not report any determinations of
22 oxygen saturation from the wrist. It appears

1 to be using only one wavelength of light, and
2 that does not indicate the feasibility of
3 determining oxygen saturation.

4 BY MR. BISENIUS:

5 Q. What signals are collected by the
6 device described in Li?

7 A. It seems to -- it seems to be from
8 only one single unknown wavelength of light.

9 Q. What does that information collected
10 from that wavelength of light represent?

11 MR. KIANG: Objection to form.

12 THE WITNESS: All I can say is that it
13 does not allow a determination of oxygen
14 saturation, because it is just one wavelength
15 of light. And, therefore, it does not
16 indicate the feasibility of determining
17 oxygen saturation.

18 BY MR. BISENIUS:

19 Q. Was the device described in Li
20 intended for commercial sale?

21 MR. KIANG: Objection to scope,
22 relevance.

1 THE WITNESS: I don't have an opinion
2 on this issue. I believe it was some sort of
3 student project.

4 BY MR. BISENIUS:

5 Q. In your opinion, would a POSITA have
6 recognized that the device described in Li would
7 have had different design considerations and
8 performance constraints than a device intended for
9 commercial sale?

10 MR. KIANG: Objection to scope,
11 relevance.

12 THE WITNESS: I have no opinion on
13 that issue.

14 BY MR. BISENIUS:

15 Q. I want to talk about the Brady
16 reference. It's Exhibit 1028 in the '243
17 proceeding.

18 (Exhibit 1028, Previously Marked,
19 received and marked.)

20 THE WITNESS: 1028, uh-huh.

21 MR. KIANG: For the record, this
22 reference -- this exhibit was not an exhibit

1 in the '241 IPR.

2 THE WITNESS: 1028. I only see that

3 in the '243 IPR.

4 BY MR. BISENIUS:

5 Q. Correct. I'm referring to

6 Exhibit 1028 in the '243 proceeding.

7 A. Okay.

8 Q. Have you read this reference?

9 A. Yes.

10 Q. Looking at Figure 1, would you agree

11 that Brady is showing a wristwatch device?

12 A. It calls Figure 1 as a monitoring

13 device worn by a user.

14 Q. Would you agree that, as shown in

15 Figure 1, the device is a wristwatch form factor?

16 A. Paragraph 47 says that it's preferably

17 a watch.

18 Q. Does Brady describe its device as

19 requiring cellular communication capabilities?

20 MR. KIANG: Objection to scope,

21 relevance.

22 THE WITNESS: No opinions on that.

1 BY MR. BISENIUS:

2 Q. Does Brady describe its device as
3 requiring a color display screen?

4 A. No opinions on that.

5 Q. Does Brady describe its device as
6 having a touchscreen display?

7 A. No opinions on that.

8 Q. Does Brady discuss design constraints
9 with respect to input or output functionality of
10 this device?

11 A. No opinions on that. As I describe in
12 paragraph 116 of my report, Brady does not support a
13 reasonable expectation of success for determining
14 oxygen saturation at the wrist. It's actually
15 focused on measuring burned calories.

16 Q. Can you please turn to paragraph 52 of
17 the Brady reference?

18 A. Okay. This paragraph discusses
19 measuring light in the red frequency at
20 660 nanometer wavelength and infrared frequency at
21 the 900 nanometer wavelength; is that correct?

22 (The reporter seeks clarification.)

1 BY MR. BISENIUS:

2 Q. This paragraph discusses measuring
3 light at the red frequency, 660 nanometers
4 wavelength, and the infrared frequency,
5 900 nanometer wavelength; is that correct?

6 A. Again, it just talks about, in
7 paragraph 52, that the photodetector 130, which is
8 typically a photodiode, detects transition at the
9 red and infrared wavelengths. So it just detects
10 transmission.

11 Q. And it describes specifically examples
12 of red and infrared wavelengths; correct?
13 660 nanometer for red and 900 nanometer wavelength
14 for infrared; is that correct?

15 MR. KIANG: Objection to form.

16 THE WITNESS: At paragraph 52, it
17 talks about generation of red at
18 660 nanometers and infrared at
19 900 nanometers, in paragraph 52.

20 BY MR. BISENIUS:

21 Q. When this paragraph discusses
22 detecting red and infrared wavelengths by the

1 photodiode, is it your understanding that it's
2 referring to the red and infrared wavelengths
3 described earlier in the paragraph?

4 A. It's talking about detection of
5 transmission. I mean, that's all it states.

6 Q. Paragraph 52 describes the device as a
7 pulse oximetry device; is that correct?

8 A. It uses the word, optical sensor 30 is
9 a pulse oximetry device.

10 Q. Would a POSITA have known how to
11 determine blood oxygen saturation of a patient based
12 on detected transmission of red and infrared
13 wavelength light through the user's skin?

14 A. Not through the disclosure of Brady.

15 Q. I want to talk about the Fontaine
16 reference. It's Exhibit 1042 of the '243
17 proceeding.

18 (Exhibit 1042, Previously Marked,
19 received and marked.)

20 MR. KIANG: Before we move on, I have
21 a general objection to relevance as to all
22 questions relating to the Pang reference to

1 the extent Apple seeks to use that in the
2 '241 IPR.

3 And the same general objection to the
4 extent Apple seeks to use any testimony
5 regarding the Brady reference in the '241
6 IPR, as both of those exhibits are not
7 exhibits in the '241 --

8 (The reporter seeks clarification.)

9 MR. KIANG: Okay. Let me restart
10 that.

11 I have a general objection to
12 relevance to the extent that Apple seeks to
13 use any testimony regarding the Pang
14 reference and the Brady reference in the
15 '241 IPR, as those two exhibits were not
16 exhibits in that IPR.

17 BY MR. BISENIUS:

18 Q. Okay. I want to talk about the
19 Fontaine reference, Exhibit 1042 in the '243
20 proceeding. Let me know when you have that.

21 A. One second. One second. In the '243?

22 Q. Yes.

1 A. Okay.

2 MR. KIANG: I have a general
3 objection to any questioning regarding this
4 reference, as it was not an exhibit in the
5 '241 IPR, nor was it discussed in any of
6 Apple's petitions.

7 BY MR. BISENIUS:

8 Q. Have you read this reference?

9 A. Yes.

10 Q. And you've read the entire reference?

11 A. Yes.

12 Q. Does Fontaine mention requiring its
13 device to have wireless communication capabilities?

14 A. I have no opinions on that.

15 Q. Does Fontaine mention requiring its
16 device to have cellular communication capabilities?

17 MR. KIANG: Objection to scope.

18 THE WITNESS: No opinions on that.

19 BY MR. BISENIUS:

20 Q. Does Fontaine mention requiring its
21 device to have a color display screen?

22 MR. KIANG: Objection to scope.

1 THE WITNESS: No opinions on that.

2 BY MR. BISENIUS:

3 Q. Does Fontaine describe requiring its
4 device to have touchscreen capabilities?

5 MR. KIANG: Objection to scope.

6 THE WITNESS: No opinions on that.

7 BY MR. BISENIUS:

8 Q. Does Fontaine describe any design
9 constraints with respect to input or output
10 functionality of its device?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: I don't have an opinion
13 on that.

14 BY MR. BISENIUS:

15 Q. What signals were measured from the
16 patient by the device described in Fontaine?

17 MR. KIANG: Objection to scope.

18 THE WITNESS: No specific opinions on
19 that. I mean, it's my opinion that it's not
20 a scientific peer-reviewed publication.
21 There's no evidence of its date, but it
22 appears to show a lot of errors in whatever

1 it's trying to calculate.

2 It doesn't seem to be a credible or
3 reliable reference. There's no evidence that
4 it's even prior art.

5 BY MR. BISENIUS:

6 Q. Can you please turn to page 13 of the
7 Fontaine reference.

8 A. Okay.

9 Q. I'm looking at the third paragraph on
10 page 13. And when I say "page 13" -- sorry, I'll
11 start over.

12 When I say "page 13," I'm referring to
13 the larger numbers in the middle at the bottom of
14 the page.

15 A. Okay.

16 Q. So I want to talk about the
17 third paragraph on page 13. This paragraph
18 discusses using red and infrared wavelengths to
19 obtain PPG signals; is that correct?

20 MR. KIANG: Objection to scope,
21 relevance.

22 THE WITNESS: What are you referring

1 to?

2 BY MR. BISENIUS:

3 Q. The third paragraph on page 13 of the
4 Fontaine reference, that paragraph starts out with
5 the words, "The need for a noninvasive."

6 Do you see that?

7 A. Yes.

8 Q. This paragraph discusses using red and
9 infrared wavelengths to obtain PPG signals for a
10 patient; is that correct?

11 MR. KIANG: Objection to scope.

12 THE WITNESS: I don't have a specific
13 opinion here. As I said, it's a very
14 confusing reference. And I will just say
15 that it discloses what it discloses.

16 BY MR. BISENIUS:

17 Q. Looking at the third sentence of this
18 paragraph, it states, "Red and infrared wavelengths
19 are used to obtain PPG because these wavelengths are
20 easily transmitted through tissues."

21 Do you see that?

22 MR. KIANG: Objection to scope.

1 THE WITNESS: You are reading from
2 that portion.

3 BY MR. BISENIUS:

4 Q. When it says "PPG" here, it's
5 referring to PPG signals; is that correct?

6 MR. KIANG: Objection to scope.

7 THE WITNESS: As I said, Counsel, I'm
8 not sure what it's doing. It's very -- it's
9 a document that was not peer reviewed. It
10 appears to be citing all over the place.
11 It's some sort of undergraduate project
12 that's ill thought of.

13 BY MR. BISENIUS:

14 Q. Would a POSITA have understood that
15 red and infrared PPG -- sorry, let me start over.

16 Would a POSITA have understood that
17 red and infrared wavelengths could be used to obtain
18 PPG signals?

19 A. Not through the disclosures of
20 Fontaine.

21 Q. Prior to July 2015, were you aware of
22 commercial pulse oximetry sensors that used red and

1 infrared wavelengths of light to obtain PPG signals?

2 A. As I said, they required a lot -- to
3 the extent that they do, they would require specific
4 types of signals obtained in a specific way,
5 processed in a specific way, done with a specific
6 determination of calculations, none of which is
7 mentioned in -- or disclosed in Fontaine.

8 Q. Would a POSITA, prior to July 2015,
9 known how to use ratios of absorption of red and
10 infrared light to determine blood oxygen saturation?

11 A. Not for the wrist. In any case,
12 before July 2015, a POSITA would not know how to use
13 any such calculation or even any such signals for
14 the wrist, as I describe in my declaration.

15 Q. If a POSITA had information indicating
16 the absorption of red and infrared light through a
17 tissue site on a patient, would that POSITA be able
18 to use that information to determine blood oxygen
19 saturation?

20 MR. KIANG: Objection to form,
21 incomplete hypothetical.

22 THE WITNESS: I have no opinion on

1 that very high-level question. As I said, no
2 one -- no POSITA would understand with
3 reasonable expectation of success, as I've
4 shown with Apple's own documentation and
5 testimony, that as of July 2015, one would
6 understand how to determine pulse oximetry at
7 the wrist.

8 BY MR. BISENIUS:

9 Q. Prior to July 2015, had you ever
10 designed a pulse oximeter intended for hospital or
11 clinical use?

12 A. I designed the prototype -- designed a
13 prototype of pulse oximeter.

14 Q. Prior to July 2015, had you ever
15 designed a pulse oximeter intended for home use?

16 A. As I said, I don't -- I don't know
17 what the intention was for the prototype, but I
18 designed a prototype for pulse oximetry.

19 Q. Would a POSITA have recognized that
20 the design considerations for a commercial user
21 device would have differed from a clinical device
22 intended for use in hospitals or other health care

1 settings?

2 MR. KIANG: Objection to form,
3 incomplete hypothetical.

4 THE WITNESS: I don't have an opinion
5 on that issue, Counsel.

6 BY MR. BISENIUS:

7 Q. Prior to July 2015, would there have
8 been different performance constraints for pulse
9 oximetry devices intended for commercial use in
10 everyday life rather than pulse oximetry devices
11 intended for use in clinical health care settings?

12 MR. KIANG: Same objections.

13 THE WITNESS: I don't have an opinion
14 on that issue in this IPR.

15 BY MR. BISENIUS:

16 Q. Has a court ever precluded you from
17 offering an opinion?

18 A. I don't know. I don't believe so, but
19 I don't know.

20 Q. To the best of your knowledge, has a
21 court ever criticized one of your opinions?

22 A. Again, as I said, Counsel, there are

1 hundreds of opinions out there, and I'm not sure
2 I've reviewed each and every one. I just don't
3 know.

4 Q. Between Tuesday and today, did you
5 speak with counsel from Masimo regarding the
6 substance of your testimony during this deposition?

7 A. After the deposition, I haven't even
8 spoken to him about anything.

9 (Reporter seeks clarification.)

10 THE WITNESS: No, after the deposition
11 started, I haven't had any conversation or
12 any other communication with the attorney.

13 MR. BISENIUS: That's all the
14 questions from Petitioner.

15 MR. KIANG: Thank you. I have no
16 questions.

17 THE WITNESS: I would like to review
18 the transcript and sign. And, also, I
19 understand it's confidential.

20 MR. KIANG: Is this transcript going
21 to be marked confidential?

22 MR. BISENIUS: Yeah, we're going to

1 submit it as confidential. There was
2 discussion of some testimony of the Apple
3 engineers.

4 THE WITNESS: Yeah, that's why I was
5 trying to say that. Yeah.

6 MR. BISENIUS: So --

7 THE WITNESS: Because I signed the PO,
8 yeah.

9 MR. BISENIUS: Yeah. We will send it
10 over to -- yeah, and, Daniel, you've signed a
11 PO. We'll send it over to you to provide to
12 Dr. Madisetti for review and signature.

13 Our plan is to submit the nonredacted
14 version. And then, you know, similar in the
15 first round, we'll have to figure out what it
16 is we're going to redact together.

17 MR. KIANG: Okay. Just to make it
18 easy, I did not see any Masimo -- well, you
19 know what, let me just wait, and I'll read
20 the transcript. I'm pretty sure there's not.

21 MR. BISENIUS: Okay.

22 We're done. Thank you so much.

1 (Examination concluded. The time is
2 3:13 p.m.)
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1 STATE OF NEW YORK)
2) ss:
3 COUNTY OF WESTCHESTER)
4

5 I, EILEEN MULVENNA, CSR/RMR/CRR/RDR, a
6 Certified Court Reporter, Registered Merit Reporter,
7 Certified Realtime Reporter, Registered Diplomate
8 Reporter, and Notary Public in and for the State of
9 New York, do hereby certify:

10 That I reported the taking of the
11 deposition of the witness, VIJAY K. MADISETTI,
12 Ph.D.,
13 commencing on the 7th day of February , 2025, at the
14 hour of 11:00 a.m.

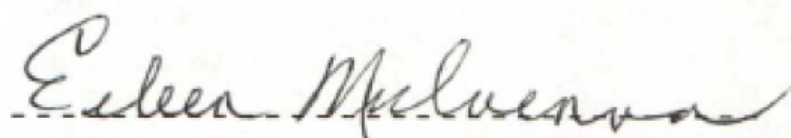
15 That prior to being examined, the witness
16 was duly sworn by me to testify to the truth, the
17 whole truth, and nothing but the truth.

18 That I thereafter transcribed my said
19 shorthand notes into typewriting and that the
20 typewritten transcript of said deposition is a
21 complete, true and accurate transcription of my
22 said shorthand notes taken down at said time, and
that a request has been made to review the
transcript.

I further certify that I am not a relative
or employee of an attorney or counsel of any of the
parties, nor a relative or employee of any attorney
or counsel involved in said action, nor a person
financially interested in the action.

IN WITNESS WHEREOF, I have hereunto
set my signature this 9th day of Februarv, 2025.

20
21
22



EILEEN MULVENNA, CSR/RMR/CRR

1 Vijay K. Madisetti, Ph.D., Vol II, c/o
KNOBBE MARTENS OLSON & BEAR, LLP

2 2040 Main Street, 14th Floor
Irvine, California 92614

3

Case: Apple, Inc. v. Masimo Corp.

4 Date of deposition: February 7, 2025

Deponent: Vijay K. Madisetti, Ph.D., Vol II

5

6 Please be advised that the transcript in the above
referenced matter is now complete and ready for signature.

7 The deponent may come to this office to sign the transcript,
8 a copy may be purchased for the witness to review and sign,
9 or the deponent and/or counsel may waive the option of
10 signing. Please advise us of the option selected.

11 Please forward the errata sheet and the original signed
12 signature page to counsel noticing the deposition, noting the
13 applicable time period allowed for such by the governing
14 Rules of Procedure. If you have any questions, please do
15 not hesitate to call our office at (202)-232-0646.

16

17

18 Sincerely,

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5 Witness Name: Vijay K. Madisetti, Ph.D., Vol II
Deposition Date: February 7, 2025

6
I do hereby acknowledge that I have read
7 and examined the foregoing pages
of the transcript of my deposition and that:

8
9 (Check appropriate box):
() The same is a true, correct and
10 complete transcription of the answers given by
me to the questions therein recorded.
11 () Except for the changes noted in the
attached Errata Sheet, the same is a true,
12 correct and complete transcription of the
13 answers given by me to the questions therein
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7

8 Case: Apple, Inc. v. Masimo Corp.

9 Witness Name: Vijay K. Madisetti, Ph.D., Vol II

10 Deposition Date: February 7, 2025

11 Page No. Line No. Change

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22 Signature

Date

A				
a.m 348:16 349:5 505:11	438:21 439:3 439:18 441:15 442:13 443:7 444:11 466:18 468:2,4,7,10 470:6 473:2,11 473:13 480:19 489:10,14	393:19 398:12 406:21 408:2,3 410:21 449:6,7 answered 358:22 378:21 385:8 409:4 410:13 411:11 433:10 435:14,22 436:19 437:2 answers 507:10 507:13	507:9 approximately 349:5 arbiter 380:13 area 372:7 443:16 458:13 465:3 areas 377:8 arguments 440:21 arranged 355:8 355:20 361:17 364:7,10,13,15 364:18 366:1 366:22 372:5 388:8 404:9 405:15	407:3 408:13 408:16 409:3 409:11,18 410:12,16 411:10 413:3 414:2 432:14 435:13,21 436:18 437:1 456:20 462:12 470:4 asking 359:8,12 367:17 372:17 374:14,15 375:12,21 376:8 384:22 385:2 401:16 403:12 411:6 414:16 415:22 422:19 433:4 435:7 445:8,10 445:20 446:7 446:19 447:11 447:17 469:2,5 470:6,7 472:9 474:8,15
able 483:8 499:17		appeal 348:3 appear 368:9 405:21 406:3 407:8 438:13	array 355:8,20 361:17 365:15 366:2 367:1 371:14,22 372:5 376:7 388:8 391:20 394:18 395:10 401:8 402:8 404:4,9 405:15	assertions 415:7 415:10,12,17 415:18
above-titled 349:3	ahead 359:19 373:20	appearance 353:7 APPEARANC... 350:1 appears 429:4 442:12 444:9 486:22 495:22 498:10	art 384:19 411:3 429:7 462:19 483:2 496:4 article 481:17 asked 358:21 365:4 377:4 378:20 383:18 384:2,4 385:18 386:2 389:12 390:1 392:4,13 393:8,12,20 395:2,13,16 396:10,18 397:10,14,15 398:1,6,15 399:8,13 401:15,20 406:11,22	assume 374:9 383:19 assumed 407:13 assumes 472:15 attached 507:11 attenuated 372:8 attorney 502:12 505:17,17 authors 483:8 automotive 416:20 Avenue 350:15 aware 371:5 411:7 437:11 438:6 474:21 498:21 axis 461:11 462:8
absent 506:21	allow 483:2 487:13	Apple 348:5 350:3 353:13 418:11 470:19 493:1,4,12 503:2 506:3 507:4 508:8 Apple's 440:20 441:3,7,18 442:4,9 462:14 470:15,17 494:6 500:4		
absorption 499:9 499:16	allowed 384:2,4 386:2 397:16 407:3 506:13	Apple's 440:20 441:3,7,18 442:4,9 462:14 470:15,17 494:6 500:4		
accurate 505:14	alternative 417:17	applicable 506:13		
achieve 423:15 423:22	analysis 359:22 376:13 378:5 381:6 384:5,6	application 356:17 357:16 358:14 362:13 362:14,15 416:17		
acknowledge 507:6	analyze 392:14 393:8	applications 416:21		
acting 442:21	and/or 506:9	apply 357:17 363:11 368:12 368:18		
action 349:4 505:18,18	angular 446:3	appropriate		
actual 369:21 442:12	annular 364:4,7 364:11,19 434:6,15,18,18 437:4,12,19 438:7,18,22 439:8 442:14 442:16,17 443:4,8,11,16 443:17,19,21 444:7,9,12,15 444:19,22 445:2,5,11,18 446:16,21 447:4,20,22 448:4,11,22 454:4,4 464:9 464:14,19 465:3,5,14			
add 435:6				
additional 357:14 472:19				
admission 403:8				
admissions 381:3				
admitted 385:6 411:12				
adoption 356:20				
advantage 414:12				
advantages 413:21 414:5 418:5				
advise 506:10				
advised 506:6				
affect 418:4 428:8,20				
ago 362:11				
agree 353:2 354:12 367:4 367:17 368:4 369:14 380:5,9 380:18 381:12 386:18 387:4 388:12 390:17 394:6 421:11 421:13,21				
				B

B 352:6	370:8,19	476:1,7,16,20	411:4,9	Cai 476:8 477:1,3
back 374:17	371:12,19	477:12 478:1,7	block.' 355:11	477:9,13,17
387:21 388:18	372:12 374:13	478:21 479:10	blood 480:9,13	478:2,8,14,17
398:19 399:22	376:21 378:15	479:20 481:12	480:17,20	478:22 479:5
400:3 401:21	380:1 381:18	482:3,8,19	482:21 492:11	479:12,22
419:22 438:18	382:20 383:7	483:18 484:4,9	499:10,18	480:3,4 481:2
442:11 446:9	384:11 385:12	484:11,21	blue 463:1,2,3	calculate 496:1
450:13 454:9	389:16 390:8	485:6,15 486:1	board 348:3	calculating
based 432:13,21	391:16 392:17	486:7,13 487:4	456:22 465:8	480:20
492:11	393:15 395:7	487:18 488:4	board's 356:19	calculation 481:1
bases 411:18	396:12 397:1	488:14 489:4	357:15	499:13
basis 368:17	397:20 398:8	490:1 491:1,20	boards 378:12	calculations
Bear 351:4 353:9	398:18 399:17	493:17 494:7	bodies 419:10,17	499:6
506:1	400:2 403:9	494:19 495:2,7	body 425:17,20	California 351:7
beginning 354:7	406:13 407:16	495:14 496:5	bold 415:5	506:2
355:6	408:4,20	497:2,16 498:3	bottom 404:14	call 364:17
behalf 350:3	409:12,20	498:13 500:8	451:18,20	506:15
351:3	410:8,20	501:6,15	454:3 458:22	called 402:7
believe 357:13	411:19 412:6	502:13,22	463:5,8 496:13	calls 386:17
360:10 362:2,7	412:14,17	503:6,9,21	boundary 464:21	446:16 447:22
368:12,14,17	413:19 415:9	bisenius@fr.com	464:22,22	480:16 489:12
370:14 371:8	416:6 417:3	350:9	465:1,9	calories 490:15
372:10 377:16	418:13,19	bit 450:9	bounded 355:10	capabilities
377:20 378:11	419:21 420:10	block 356:2,5	356:5 361:19	468:22 469:7
379:1 382:4	425:6 427:7	361:20 363:5	363:4 366:4	471:1,9 472:4
385:9 389:4	428:19 429:10	366:5 367:3,6	367:3 404:12	477:4,15 482:5
390:6 391:22	430:16 431:5	367:20 368:7	405:6,17 463:4	485:10,18
393:1,21 396:7	432:8 433:16	370:10,22	463:5	486:9 489:19
396:19 397:12	434:1 435:17	371:6 374:20	bounding 463:6	494:13,16
398:14 399:10	436:7 437:3,10	375:6,10,13	box 378:14 507:9	495:4
402:17 407:10	437:17 438:5	376:10 378:2	boxes 374:11	capability 481:21
423:2 439:10	438:16 440:9	378:19 382:22	Brady 488:15	capture 372:7
458:12 459:17	444:4 445:9	383:11 384:17	489:11,18	care 416:14
488:2 501:18	446:1,8 447:12	384:20 385:4	490:2,5,8,12,17	500:22 501:11
belts 474:11	448:9,20 449:9	385:16 389:1	492:14 493:5	case 415:11
benefits 437:11	449:21 450:8	389:18 390:12	493:14	480:7 499:11
437:19 438:6	450:14 453:10	392:9,19	break 373:8	506:3 507:4
best 379:14	455:18 456:13	393:17 396:2	399:19 450:10	508:8
465:18 501:20	458:3 459:6	396:14 397:4	450:20	cases 407:15
beyond 410:18	460:12,21	398:3,10 399:1	bring 463:11	468:15
465:17	462:2 463:15	399:7 402:21	broader 426:5,16	CCFL 427:12
Bisenius 350:5	464:3 465:4	402:22 404:12	burned 490:15	cellular 471:8
352:4 353:4,11	467:12,18	405:2,7,18,20	BW 480:11	477:14 482:5
353:12,15	468:1,12 469:4	406:6,16		485:17 489:19
354:6,21	471:6,14 472:2	407:18 408:7	C	494:16
359:11 360:8	472:10 473:1,7	409:1,2,15	C 351:1	center 444:2
361:1 366:12	474:4 475:14	410:1,11 411:2	c/o 506:1	centered 461:10

462:8	406:2,5 444:16	375:5,8,9	386:10,12	compatible
central 443:15	circumference	377:13,13,22	387:20,22	398:10 399:1,7
464:21 465:10	450:16 452:14	382:8 383:10	388:2 400:3,5,6	complete 505:14
certain 375:18,21	452:22 454:13	384:16,16,19	405:10,11	506:6 507:10
382:10,11,17	454:20 455:13	389:5 391:19	412:18,19	507:12
393:6 411:3	457:15 458:16	402:12,15,16	413:4,5,12	completely
470:7	461:4,10,17	402:20,20,20	414:3 417:5,13	467:21
Certified 349:6,7	462:5,8,21	402:22 404:17	418:1 419:7,14	complicated
505:5,6	463:6	405:10,11,12	419:22 420:1,4	459:18
certify 505:7,16	circumferential	405:13,14,19	420:15 421:10	component
change 422:20	451:22 452:9	405:22 406:3	422:18 423:13	439:11,12
423:2,3,5 450:2	452:10,13,18	411:1,1 447:7	424:5,19 426:8	computer 428:17
480:8 508:11	454:15 455:2,4	447:10,14	426:21 429:4,7	431:1 442:21
changed 426:18	455:8,20,22	claimed 385:15	429:12 431:8	computers
428:4	456:5,15 457:2	claims 358:16	432:14,22	427:22 430:3
changes 507:11	457:3,9,15	359:6 363:14	433:5 434:2,12	concentric
changing 421:22	459:7,14 460:4	365:16,16,22	435:1 443:2,3	444:10,16
422:22 433:14	citations 357:14	367:15 379:2	450:21,22	445:3
450:1	359:10	379:16 382:5	451:1,8,11,14	concluded 504:1
characteristics	cite 356:16,19	383:4,21	452:5 454:11	conclusion
417:16 419:9	357:1,16	385:10,19	454:12 457:22	380:22 383:2
419:12	cited 357:10	390:7 392:2	458:21,22	428:11
characterization	360:3 377:20	393:3,22 396:8	460:13 463:16	confidential
383:15 390:14	citing 357:13	396:20 397:13	463:20 466:5,6	502:19,21
393:1 397:8	441:18 442:9	401:5 402:9,10	466:8	503:1
403:6 406:21	498:10	404:5,6 407:11	Columns 413:17	configuration
408:12 416:13	claim 355:7,14	clarification	come 506:7	355:9,21
432:2	356:9,13,13,15	444:3 464:17	commencing	361:18 364:13
characterized	356:21 357:8,8	468:6 490:22	349:4 505:10	364:15 366:2
403:6	357:9,9,12,21	493:8 502:9	comment 381:11	367:1 372:6
Check 507:9	358:1,5,9,15,20	clarify 384:14	468:16 469:13	388:8 391:21
checked 378:14	359:15 360:10	clearly 432:4	commercial	404:10 405:16
checks 374:11	360:12 361:15	clinical 500:11	475:10,18	460:1
circle 463:4,6	361:16 362:2,3	500:21 501:11	479:6,15 484:8	configured
circles 443:21,22	362:8,9,10,18	collected 487:5,9	484:15 487:20	391:20
444:10,17	362:19,22	color 471:19	488:9 498:22	confirm 372:22
445:3	363:8,8,20	482:10 486:3	500:20 501:9	confirmed
circular 355:11	364:2 365:18	490:3 494:21	common 382:11	430:12
356:1,5 361:20	365:22 366:6	colored 477:18	444:1,2	conflating 447:9
363:4 364:3	366:14,18,20	column 366:15	communication	confused 467:19
365:15 366:4	366:20,21	366:17 372:2	468:21 469:7	confusing 497:14
367:7,20 368:8	367:4,5,6,11,15	372:14,19,21	470:22 471:8	conjunction
368:9,15	367:18,19,19	373:3,12,13,15	477:4,14	409:10
370:22 375:6	367:21,21	374:17 375:13	481:21 482:5	connected 379:9
402:8,21 403:1	368:4,6,7,10,18	376:10 377:1,3	485:10,17,17	connection
404:4,12 405:2	370:20,21	377:12 378:2	489:19 494:13	412:20
405:6,20,21	374:6,16 375:5	378:17 386:7	494:16 502:12	consent 506:22

consider 359:13 391:17 430:17 442:17 considerations 475:17 479:13 484:14 488:7 500:20 considered 358:9 409:22 410:6 448:22 consistent 363:17 363:19 371:9 420:20 421:1 421:15 423:8 423:12,16,22 424:7,17 429:9 430:11 431:2,3 432:6 433:2,7 constraints 475:5 475:18 478:9 479:14 483:13 484:15 486:14 488:8 490:8 495:9 501:8 construction 356:15,20 357:2,12 358:6 358:20 359:15 363:8 370:21 374:16 375:5 377:12,22 402:17 411:1 consumers 476:3 contain 408:15 context 378:22 391:3 430:22 431:14 441:13 443:20 444:8 449:7 450:17 452:21 454:19 455:13 456:5 457:18 458:16 460:5,6 461:5 461:17 464:15 470:7 continue 354:12 426:21 441:22	Continued 348:13 349:1 351:1 353:19 continuing 414:2 425:22 429:11 continuous 420:20 421:1 421:15 422:4 423:8,12,16,22 424:7,17 429:9 430:12,14 431:3,16 432:16,20 433:2,7,12 contour 417:14 418:3,15,22 control 421:4,19 422:12 424:11 conversation 502:11 convex 425:8,10 425:11,13,18 convey 382:14 copy 506:8 Copying 506:21 Copyright 506:20 Corp 506:3 507:4 508:8 Corporation 348:8 351:3 353:10 correct 355:16 355:21 356:2 360:13 361:11 361:21 362:4 363:22 365:20 368:1 370:22 372:15,20,22 373:3 377:3 380:16 381:21 383:11 385:16 385:17 386:15 389:18 390:12 394:14 395:11 397:4 400:12 402:4,13	403:19 404:18 405:2,20 406:17 408:9 412:9,14 413:21 414:10 414:22 416:9 417:21 419:1 420:12 424:1 424:13 425:8 425:15 426:12 427:9,16 429:14,19 431:20 432:12 434:16 437:21 441:6,17 442:8 444:13 445:1 446:22 450:3 452:7 456:6 457:7 458:5,10 461:1,18 462:6 462:18 464:5 465:15 466:3,9 467:16 475:1 476:22 481:18 489:5 490:21 491:5,12,14 492:7 496:19 497:10 498:5 507:9,12 correlated 483:5 corresponding 355:9 356:3 361:18 366:3 367:2 372:6 404:10 405:16 corresponds 405:5 counsel 353:1,6 361:3,14 371:18 374:1 375:14 376:12 377:16 381:1 383:5 384:2 385:6,7 386:20 387:18 389:3 389:22 391:14 392:12 393:20	394:20 396:4 397:8 398:5,12 400:22 401:15 403:6 409:18 410:6,15 411:11,13 412:4 415:21 416:2 428:12 429:2,21 433:10 436:17 437:9,16 438:11 445:8 446:7 448:7 450:7 451:8 453:6 456:3,20 457:6 467:11 468:11 469:3,9 471:3,13 472:1 473:6 474:9 475:13,22 476:6 477:16 478:6 479:9 482:2 498:7 501:5,22 502:5 505:17,18 506:9,12 Counselor 407:22 COUNTY 505:3 court 501:16,21 505:5 covered 390:22 covers 454:2 create 431:2 created 421:4,18 422:12 credible 496:2 criticized 501:21 Cross 455:17 cross-section 439:21 466:19 cross-sectional 439:15 cross-sections 466:12 CSR/RMR/CRR 505:22	CSR/RMR/CR... 348:17 349:6 505:5 current 384:5 curvature 417:14 418:3,14,21 curved 425:17 cylindrical 417:7 417:11,15 418:3,15,22
D				
D 352:1 D.C 348:21 350:16 507:2 508:3 Daniel 351:5 353:8 503:10 daniel.kiang@... 351:9 data 483:7 date 495:21 506:4 507:5,17 507:22 508:10 508:22 David 404:19 day 353:16 374:9 384:3 505:10 505:19 decision 357:15 363:16 377:20 Declarant 349:3 declaration 354:17 357:3,5 360:10,15 361:8 362:6 364:22 365:10 367:9,10,14 368:5 370:13 375:8 376:19 378:9 381:7,9 384:6 388:5,11 389:13 390:4 391:8 393:14 394:3 395:6,22 396:10,17 397:11 398:15				

399:10 401:22	354:13	490:11 495:3,8	designed 426:2	405:15 463:2
402:7 403:11	demonstrate	499:14	426:14 430:10	detects 491:8,9
403:14 404:1	470:1	described 364:1	500:10,12,12	determination
404:16 407:1,6	dependent	379:6,8 387:10	500:15,18	480:2 487:13
407:9 408:17	365:16,22	390:15 415:14	desirable 414:4	499:6
410:17,18,22	366:20 367:15	418:4,5,15	desire 422:2,3	determinations
411:15,17	367:18 368:6,6	424:3,17	424:16 432:3	482:16 484:2
415:15 416:4	404:5	429:16 436:1	desired 421:6	486:21
418:12 419:5	depends 449:6	465:8,19	422:6,14 423:4	determine
437:16 440:8	450:17 460:6	472:11 475:9	424:15	468:18 472:17
440:14 453:8	depict 370:10	475:16 476:2	detail 416:5	474:6,16 479:3
453:13,18	382:22 385:4	479:5,12,21	456:9 457:12	482:21 483:8
461:7,13	388:22 392:9	484:13 487:6	460:1	492:11 499:10
462:11,16	396:2 441:9	487:19 488:6	detailed 376:13	499:18 500:6
469:8,9,15	depicted 391:10	492:3 495:16	381:6	determines 481:3
470:10 472:19	depicting 386:19	describes 356:3	details 432:4	determining
473:22 474:20	depiction 438:22	369:17 370:7	detected 492:12	358:9 472:20
477:2 482:15	439:19 462:15	370:18 406:15	detecting 491:22	474:1,1 478:19
483:11 486:20	depicts 371:6	408:6 417:6	detection 492:4	487:3,16
499:14	389:18 390:12	423:11 425:12	detector 370:1,7	490:13
declarations	392:19 464:8	426:1 429:15	371:13,14,21	device 366:21
384:13,15	deponent 506:4,7	435:16 439:8	371:21 373:15	398:10 405:14
386:5 440:3,11	506:9	454:13 464:18	376:6,6 380:19	468:21 469:6
453:12 468:14	deposition	465:9,22 466:4	381:21 387:14	470:22 471:8
defer 370:17	348:13 349:1	473:3 491:11	387:20 388:2	471:19 472:4
374:1,4 376:15	353:16 384:14	492:6	388:12,13	472:11 475:9
378:7 380:11	390:4 415:21	describing	391:9,18	475:16,18
381:2,8,15	502:6,7,10	420:11,21	394:13,16,17	476:2 477:3,14
382:13 383:4	505:9,14 506:4	432:4 434:17	394:17 395:9	477:18 478:3
386:21 387:8	506:12 507:5,7	459:19,22	395:10 400:12	479:5,12,14,21
388:16 390:19	508:10	description 358:2	400:20	481:20 482:4,9
391:2,14	describe 373:14	374:8,11,15	detectors 355:8	484:13,15
392:11 393:10	391:22 406:5	376:17 381:13	355:16,18,20	485:9,16 486:2
394:9,22 396:6	407:18 408:22	383:19 389:7	356:8 361:17	486:8,16 487:6
400:16,21	409:14 414:12	392:15 394:1	362:15 363:21	487:19 488:6,8
406:8 409:6	422:3,22 425:9	399:12 401:6	364:2,4,5,6,10	489:11,13,15
420:16 431:13	432:3 436:8,10	407:12 428:8	364:12,14,18	489:18 490:2,5
435:9 436:5,12	438:14 439:7	456:14 480:15	365:15 366:1	490:10 492:6,7
436:20 438:13	440:20 446:14	descriptions	366:22 371:2	492:9 494:13
439:20 447:21	446:21 461:6	355:15 432:11	371:15,22	494:16,21
453:8 454:22	462:17 465:18	458:14	372:3,4,11	495:4,10,16
455:15	473:17 478:8	design 475:5,17	376:7 384:18	500:21,21
define 417:15	478:20,22	478:9 479:13	384:21 388:3,7	devices 427:21
defined 464:20	483:6 484:1,7	483:9,13	388:14 391:20	427:22 430:3
464:21	485:9,16 486:2	484:14 486:14	394:18 395:10	501:9,10
definition 475:2	486:14,20	488:7 490:8	400:18 401:8	differed 500:21
definitions	489:18 490:2,5	495:8 500:20	402:9 404:5,9	difference 402:19

different 379:18 408:8 415:12 415:18 430:6 430:19 431:12 433:6 437:5,13 437:20 438:8 439:12 447:9 448:3,13 449:1 449:15 467:3 467:21 470:4 475:17 479:13 484:14 488:7 501:8 differs 367:4,18 367:21 368:5 difficulties 470:18 diffuses 434:8,21 diffusing 414:4 418:4 419:8 diffusion/irrad... 451:20 452:1 452:15,18 454:16 455:5,8 455:20 456:16 Digital 348:20 506:19,20 507:1 508:1 Diplomate 349:8 505:6 direct 384:13 387:21 427:15 427:19 430:1 direction 421:5 421:19 422:13 423:3 424:11 disagree 383:14 390:13 392:22 395:12 397:7 403:5 406:20 408:11 416:12 422:1 432:1 disclose 365:14 372:10 384:20 391:3 394:10 394:22 402:8 404:4 414:15	417:1 421:12 disclosed 393:8 411:4 435:5 465:17 482:22 499:7 discloses 375:1 378:7 379:21 381:5 384:19 390:5 394:10 395:1 401:5 424:4 497:15 497:15 disclosing 421:21 disclosure 376:3 387:11 390:21 418:10,18,21 419:3,3,20 423:7,7,18,19 423:20 424:3 426:20 428:4 428:13 430:13 431:13,14 433:5,14 461:15 492:14 disclosures 369:21 374:6 382:14 391:6 391:17 430:9 432:21 498:19 discuss 368:2 374:19 375:8,9 375:13 376:10 377:9 378:2 395:2 404:7 411:1,20 417:1 418:12 440:14 454:3 456:20 470:6 490:8 discussed 354:8 363:10 377:21 387:14,20 388:5,10 390:10 393:4 396:21 402:12 402:15 405:4 409:9 411:3 429:3 432:22	453:7 494:5 discusses 355:15 356:1 370:21 378:18 384:17 413:20 425:7 427:14 429:12 431:9 452:8,12 473:12 483:12 490:18 491:2 491:21 496:18 497:8 discussing 356:12 361:15 362:9 365:17 365:19 367:5 367:11,14 368:4 372:13 373:2 376:5 377:2,14 380:19 383:10 386:6 388:2 400:11,15 402:11,19 427:8 431:8 434:15 440:2 443:2 450:19 451:2,3,16 454:10 464:4 466:1,8 469:21 470:14,16 discussion 403:2 423:9 424:9 426:9 428:1 461:22 483:1 503:2 discussions 368:10,13 381:9 474:12 display 471:19 477:18 478:3 482:10 486:3 490:3,6 494:21 disposed 461:10 462:7 dissimilarity 381:15 distance 465:2	distribution 421:7 422:7,15 423:4 424:16 426:3,5,15,16 document 413:15 420:8 425:3 427:5 442:13 459:4 460:19 464:1 498:9 documentation 500:4 documents 377:18 416:1 doing 374:2 400:14 498:8 dome 416:21 Dose 407:17 dot 371:3,3,3 downsides 438:7 Dr 450:15 468:13 503:12 due 362:17 duly 354:2 505:12 E E 351:1,1 352:1,6 443:16 e.g 406:5 earlier 376:22 377:14 380:8 387:14 389:21 390:15 393:4 396:8,21 397:15 399:11 402:12,14 409:9 422:18 443:2 470:10 492:3 easily 497:20 easy 503:18 Eileen 348:17 349:5 354:2 505:5,22 either 370:9 371:6 390:20 395:14,20	electronic 427:22 electronically 506:21 element 355:14 357:3,12,21 358:1,10 360:11 361:15 362:2 363:21 365:18 367:5 367:11,14,18 368:1,4 370:21 375:6,9 377:13 384:16 402:11 402:15 404:17 417:6,10 425:10 464:9 464:19 465:7 465:15 466:1 elements 382:11 383:10 384:20 391:19 411:1,4 416:17 embodiment 383:8 386:19 396:13 397:3 398:2,9,20,22 419:12 427:10 440:22 441:10 467:2,3 embodiments 382:10 emitted 434:7,20 449:14 emitting 434:7 434:20 employee 505:17 505:17 enablement 358:3 374:8,12 374:15 376:17 383:20 389:7 394:1 399:13 401:6 407:12 engineers 470:15 470:17 503:3 English 406:3 entire 377:17
--	--	---	---	---

379:1 459:11 459:15 476:21 481:15 485:7 494:10 entities 379:18 envelope 421:7 422:15 424:16 equal 445:16 equation 480:5,8 480:13,18 equations 480:19 480:20 errata 506:11 507:11 508:6 errors 495:22 ESQUIRE 350:5 351:5 evaluate 415:6 everyday 476:3 501:10 evidence 348:20 376:16 377:18 389:5 392:1 418:11 472:15 495:21 496:3 506:19,20 507:1 508:1 Examination 352:2 354:5 504:1 examined 354:4 374:10 378:11 379:17 389:9 407:14 505:11 507:7 example 364:6,9 364:12,14,17 373:4 377:5,11 394:15 415:16 440:12,13 443:1 444:2 450:21 453:11 461:6 464:9,11 466:2,19 469:10 470:11 482:14 483:3 examples 357:19	358:18 359:13 363:7 374:16 388:9 491:11 exclude 363:1 excluded 356:8 362:16 exhibit 352:9,10 352:11,12,13 352:14,15,16 352:17,18,19 354:18,19 360:17,18 366:8,9 403:11 403:15,20 412:1,2,13 413:2 433:18 433:20 450:20 463:10,12 467:7,13,16,18 467:20 468:5,8 468:9 469:18 469:22 476:9 476:11 477:9 478:17 481:6,8 481:11 482:15 483:11 485:1,3 488:16,18,22 488:22 489:6 492:16,18 493:19 494:4 exhibits 469:18 493:6,7,15,16 existing 386:5 exiting 427:16,20 430:1 expectation 470:2 478:15 478:18 490:13 500:3 experience 450:1 expert 355:1 409:21 414:16 418:11 456:22 458:9,12 explain 435:3,8 explicitly 422:3 express 506:22	expressed 370:13 480:10 extent 377:21 385:19 441:18 493:1,4,12 499:3 exterior 464:16 464:20 F F 402:7 fact 360:5 415:4 factor 489:15 facts 472:15 fairly 378:17 feasibility 487:2 487:16 feature 401:10 February 348:15 349:4 505:10 505:19 506:4 507:5 508:10 field 409:21 414:17 figure 369:9,11 369:12,14,15 369:19 370:2,2 370:9 371:5,13 371:21 373:16 375:15,15 376:5 380:2,5,6 380:15,20 381:6,20,21 382:21 383:9 385:3,3,14,14 386:15,18 387:2,4,5,15 388:13,18,21 388:22 389:18 390:12,16,17 390:18 391:10 391:18 392:9 392:14,19 393:5,9,17 394:4,6,7,13,15 395:20 396:2 396:13 397:3	398:3,9,19,20 398:22 399:6,6 399:6,6 427:11 438:19,21 439:2,7,7,8,8 439:11,14,16 439:16,18,21 439:22,22 440:2,14,17 441:5,16 442:3 442:7,9,12 446:9,13,15 447:15,18 449:10,12 451:9 452:19 464:4,6,7,8 465:22 466:18 466:20,21 489:10,12,15 503:15 figures 358:8,19 359:14 363:7 368:20 369:18 370:18 380:9 380:14 381:14 382:11,18 383:16 385:18 395:14 399:5 399:16 417:9 425:20 434:18 439:13 440:20 440:22 441:8 441:10,11,19 451:2 461:12 462:20 466:8 466:10 467:1 file 357:13 360:1 363:13 368:11 377:17,19 392:1 final 357:15 363:15 377:19 380:13 financially 505:18 find 440:11 finished 413:14	425:2 459:3 460:18 first 386:14 440:22 441:10 464:20,22 465:2,9 503:15 Fish 350:4,13 353:12 flat 451:18 Floor 351:6 506:2 fluorescent 427:12,13 428:5,16 fly 374:3 376:20 395:19 focus 429:3,6 focused 490:15 focusing 375:15 follows 354:4 Fontaine 492:15 493:19 494:12 494:15,20 495:3,8,16 496:7 497:4 498:20 499:7 forbidden 506:21 foregoing 507:7 form 370:11 373:18 385:5 417:6,10 418:7 418:17 419:18 425:10,10 428:10 430:7 430:20 433:8 440:4 445:6,21 446:4 448:5 453:1,4 456:12 457:17 460:9 473:4,20 479:16 483:15 483:21 484:18 486:18 487:11 489:15 491:15 499:20 501:2 formed 419:9 452:17 455:7
--	---	---	---	--

forming 359:15 391:18	future 384:3 386:3 397:16 407:3	437:19,20 438:7,8,18,22 439:3,9,19 440:1 442:13 442:16,18,20 443:4,8,11,17 444:13 445:4 445:10,12,17 446:2,12,15,17 446:18,21 447:5,16,18,21 448:1,2,4,12,14 448:22 449:2 449:12,13,14 450:2,2 451:3,5 451:16,21 452:2,16 453:14 454:4,5 454:9,17,18 455:6,21 456:16,18	history 356:17 357:14 358:13 360:1 363:13 363:19 368:11 377:17,19 392:1 home 500:15 homogenize 427:15,19 429:4,16,22 homogenizes 429:13 homogenizing 430:4,17 431:11,18 hospital 500:10 hospitals 500:22 hour 399:18 450:9 505:11 hundreds 502:1 hypothetical 448:16 449:17 450:5 499:21 501:3	implementation 464:11 466:2 466:19 implementations 466:14 important 458:13 impossible 415:6 inaccurate 384:8 inaudible 441:19 468:3 include 364:5 381:6 396:14 included 440:16 440:16 441:2,5 441:16 442:2,7 includes 355:14 380:15 393:17 397:3 398:3 425:14,16 438:21 439:19 including 354:9 392:1 468:17 469:18 506:21 incomplete 448:16 449:17 450:5 499:21 501:3 inconsistent 382:18 incorporate 408:3 incorrect 462:16 incorrectly 403:7 Independent 365:15 402:9 402:10 404:5 index 459:21 indicate 487:2,16 indicates 480:13 indicating 499:15 indication 483:4 inform 363:8 377:12 436:3 456:17 information 448:18 472:13
forms 451:19	G			
formulas 480:16 480:22 481:1,1	general 448:10 460:1,4 492:21 493:3,11 494:2			
formulate 399:8	generation 491:17			
forth 459:21 465:10	geometrical 445:15			
forward 364:21 506:11	give 415:16 476:14			
foundation 370:5 472:14	given 430:8 458:8 507:10 507:13			
four 445:16 463:4,7	glad 375:3			
frame 457:16	go 359:19 373:20 398:19 399:19 400:3 401:21 413:3 419:22 438:18 446:9 450:10			
frequency 490:19 490:20 491:3,4	goal 432:5			
Friday 349:4	goes 421:2			
front 412:8	going 399:17 400:22 404:15 442:11 450:8 454:9 502:20 502:22 503:16			
full 383:19 389:6 390:21 398:14	good 399:18			
fully 368:14 378:11 379:2 379:15 382:5 382:13 385:10 389:5 390:7 393:2,22 394:9 396:8,19 397:12 401:5,5 407:10 408:15 439:7	governing 506:13 Group 348:20 506:19,20 507:1 508:1			
function 418:14 418:21 419:16 421:12 431:10	guess 384:8 385:21 393:13 395:4 397:19 429:2 438:3			
functionability 475:6	guidance 414:20 415:4			
functional 406:6 406:16 410:1 410:10 411:8	guide 434:6,15 434:18,19 435:3,8,11,19 436:4,10,15,16 437:5,6,12,13			
functionality 478:10 483:14 486:15 490:9 495:10				
functions 419:3 436:16				
further 470:16 505:16				
	H			
	H 352:6 404:3 434:9,22 443:15 Harry 404:3 health 416:14,14 500:22 501:11 hear 453:2 heart 416:19 held 349:4 helpful 369:5 hereunto 505:19 hesitate 506:15 high 365:21 369:19 459:21 high-level 380:13 381:11,13 387:12 500:1 highlighted 441:12 highly 414:4 hindsight-based 462:14			
	I			
	idea 414:8,9 identical 356:20 360:11 362:3,8 identified 359:5 377:9 identify 357:19 358:7,18 359:9 363:6 370:1 391:2 415:10 identifying 439:3 446:13 IEEE 481:17 II 506:1,4 507:5 508:9 ill 498:12 illustrate 417:10 441:11 illustrated 434:17 440:22 452:19 illustrates 427:11			

487:9 499:15 499:18 informed 358:20 374:16 informs 383:10 infrared 482:22 490:20 491:4,9 491:12,14,18 491:22 492:2 492:12 496:18 497:9,18 498:15,17 499:1,10,16 inner 451:22 452:9,14,17 454:15 455:4,7 455:19 456:15 457:1 input 475:5 478:9 483:13 486:15 490:9 495:9 inside 366:2 integral 419:10 427:17 intended 475:10 475:18 476:3 479:6,14 484:8 484:15 487:20 488:8 500:10 500:15,22 501:9,11 intensity 420:20 421:1,15 422:4 423:8,12,16 424:1,7,18 429:5,9 430:11 430:14 431:3 431:16 432:6 432:16 433:3,7 433:12 480:9 intention 500:17 interested 505:18 interior 416:21 interpretation 462:18 interpreted	461:8 intrinsic 376:16 377:18 389:5 392:1 393:2,21 409:7 invention 438:15 465:19 involve 458:14 involved 505:18 IPR 363:16 412:13,16,20 415:5 461:13 468:8 472:7 477:10 481:11 483:10 489:1,3 493:2,6,15,16 494:5 501:14 IPR2022-01291 356:22 363:17 IPR2024-00241 353:17 IPR2024-00243 348:11 353:17 IPR2024-00244 348:11 353:18 IPRs 467:17 468:9 477:11 IR 482:18 IRP2024-00241 348:11 irradiated 372:7 443:17 irradiates 434:8 434:21 irradiation 443:16 Irvine 351:7 506:2 isolated 452:16 455:6 isolation 379:5 issue 357:8 362:18 370:17 374:4 377:16 383:22 384:2 385:9 386:21 390:2,6,15	392:13 394:21 395:5 396:5,11 396:17 397:11 397:15 398:7 398:13 399:14 401:14 406:10 407:2,22 409:6 409:17 410:5 410:15 437:9 438:3,11 446:6 448:7,19 449:19 450:7 456:19 459:17 471:13,17 472:1 473:6 475:8,13 476:6 477:7 478:13 479:9,19 480:2 482:2 485:14 485:21 486:6 486:12 488:2 488:13 501:5 501:14 issued 379:17 389:8 issues 360:6 376:18 378:14 384:10 389:13 401:18 402:17 418:9 483:9 Iwamiya 365:14 404:4 433:17 434:3,14 435:4 435:12,20 437:4 438:13 438:19 441:8 441:16 442:3 442:11,12 446:10 447:16 448:8 449:10 449:19 450:19 454:9 455:19 456:14,21 457:1,19,21 458:4,22 459:15 460:5 460:14 461:5,9	461:17 Iwamiya's 438:14 440:21 441:8,11 458:16 Iwaniya 402:8 J July 409:22 410:9 411:7 448:11,21 474:17,22 498:21 499:8 499:12 500:5,9 500:14 501:7 K K 348:14 349:2 352:3 354:1 505:9 506:1,4 507:5 508:9 keep 460:10 KHAN 350:14 khan@fr.co 350:18 Kiang 351:5 353:5,8,8 358:21 359:18 359:20 370:4 370:11 371:7 371:16 372:1 373:18,19,21 376:11 378:3 378:20 380:21 381:22 383:1 383:12 385:5 389:2,19 391:12 392:10 392:20 394:19 396:3,15 397:5 398:4,11 399:2 403:3 406:7,18 407:20 408:10 409:3,16 410:3 410:12 411:10 412:11 415:1 415:20 416:10	418:7,17 419:18 428:10 428:22 430:7 430:20 431:21 433:8 435:13 435:21 436:18 437:1,7,14,22 438:9 440:4 445:6,21 446:4 447:1 448:5,15 449:3,16 450:4 453:1,3,4 456:11 457:17 460:8 461:19 467:11,15,20 468:4,7 469:1 471:2,10,20 472:5,14 473:4 473:20 475:11 475:20 476:4 476:14,18 477:5,8,20 478:4,11 479:7 479:16 481:10 481:22 482:6 482:11 483:15 483:21 484:17 485:11,19 486:4,10,17 487:11,21 488:10,21 489:20 491:15 492:20 493:9 494:2,17,22 495:5,11,17 496:20 497:11 497:22 498:6 499:20 501:2 501:12 502:15 502:20 503:17 Knobbe 351:4 353:9 506:1 know 354:22 360:4 378:18 386:11 390:11 395:16 397:9 397:22 398:2
--	--	--	---	---

400:15 411:21 413:14 420:5 425:1 427:4 435:19 436:15 443:19 444:7 445:12,14,19 450:1 455:22 456:4 457:8 458:15 459:3 459:14 460:18 463:21 476:16 481:13 483:2 493:20 499:12 500:16 501:18 501:19 502:3 503:14,19 knowledge 449:22 474:21 501:20 known 457:14 474:5,16,22 482:20 492:10 499:9	layer 452:17 455:7 legal 380:21 383:1 428:10 lens 417:7,11,15 417:16 418:3 418:15,22 425:8,11,13,16 425:18 426:13 lenses 417:17 418:16 let's 374:17 433:17 440:11 449:10 450:9 level 365:21 369:19 Li 484:22 485:9 485:16 486:2,8 486:14,21 487:6,19 488:6 life 501:10 light 355:11 356:2,5 361:20 363:5 366:5 367:3,6,20 368:7 370:10 370:22 371:6 372:8 374:19 375:6,10,13 376:10 378:2 378:19 382:22 383:11 384:17 384:20 385:4 385:15 388:22 389:18 390:12 392:9,19 393:17 396:2 396:14 397:3 398:3,10 399:1 399:7 402:21 402:22 404:12 405:2,7,18,19 406:6,16 407:18 408:7 408:22 409:2 409:15 410:1 410:11 411:2,4	411:9 414:4 418:4 420:19 420:22 421:5,5 421:6,14,19,20 421:20,22 422:6,13,13,14 422:21 423:3,4 423:5,10,15,21 424:6,11,12,12 426:3,5,10,14 426:16 427:12 427:13,15,19 428:5,9,16,21 429:8,13,19 430:1,5,5,18 431:11,11,19 431:20 432:11 432:19,20 433:2,6 434:6,7 434:7,9,15,18 434:19,19,20 434:21 435:3,8 435:11,19 436:4,11,15,16 437:4,5,12,12 437:19,20 438:7,8,18,22 439:3,8,19,22 442:13,16,18 442:20 443:4,8 443:11,17,17 444:13 445:4 445:10,12,17 446:2,12,14,16 446:18,21 447:4,8,14,16 447:18,20 448:1,2,3,4,4 448:12,12,13 448:14,22 449:1,2,2,12,13 449:14,14 450:1,2 451:3,5 451:16,19,21 452:1,13,16 453:13 454:4,5 454:9,14,16,18	455:3,5,21 456:16,18 459:20 461:1,3 461:9,11 462:9 464:10 466:1 480:9 487:1,8 487:10,15 490:19 491:3 492:13 499:1 499:10,16 lightpipe 427:9 427:11,15,16 427:18,20,21 428:8,16,20 429:13 430:1,2 431:8,10,18,20 lights 416:21 limit 381:10 401:12 limitation 356:21 358:15 360:11 362:3,18 364:8 371:1,2,4 404:8 404:18 405:1,3 405:3 limitations 357:8 364:11,19 limited 376:2 473:22 limits 401:1,9 line 364:14,16 372:14,19,21 373:3,5,10,12 373:13 374:18 375:12 376:10 376:22 377:2 377:12 378:2 378:16 379:20 386:10,12 387:22 388:2 400:5,6,8,20 401:8 412:19 413:5,12,13,18 414:3 417:5,13 417:19,22 419:7 420:4,14 422:10 423:12	424:5,21,21 426:1,11 427:2 429:12 431:7 434:3 443:3,4 451:14 454:12 456:20 459:1 460:17 461:2 463:20 464:6,7 466:7,11,16 508:11 line-by-line 378:5 lines 360:3 372:2 419:14 421:9 421:15 422:17 424:15,18 425:9,11 426:7 429:16 434:12 435:1 439:15 452:5 457:22 465:20 466:4 linked 379:11 links 382:17 literally 405:22 little 399:18 442:22 LLC 508:1 LLP 351:4 506:1 location 377:10 long 371:4 385:1 look 359:2,2,9 365:7 374:17 380:10,14 387:8,12 391:1 394:12 439:16 439:16 449:10 456:8 469:21 476:14 looked 358:11,12 358:14 363:12 363:12,13,14 363:15 looking 356:6 358:2,3 365:2 367:8 414:1 417:12 430:22 458:19 473:8
--	---	--	---	---

480:4 489:10 496:9 497:17 lot 495:22 499:2 loud 366:19 405:12	488:19 492:18 492:19 502:21 Martens 351:4 353:9 506:1 Masimo 348:8 351:3 353:10 363:18 502:5 503:18 506:3 507:4 508:8 match 364:2 material 459:20 matter 404:16 407:4,6 416:4 458:12,13 461:8 474:3 506:6 mean 358:1,3,4 359:3 363:10 367:22 373:17 375:20,22 377:4,5 381:4 387:7 391:3 400:19 414:13 414:18 423:10 424:15 426:10 428:2 440:7 442:19 447:3 449:4 452:22 454:20 455:13 459:8 461:5 462:22 464:14 492:5 495:19 means 414:22 416:8 417:1 418:10 432:10 443:19,21 444:8,15 445:13 456:5 457:16 458:16 459:14 460:4 461:17 meant 414:11 measure 479:22 measured 472:12 473:17 474:6 479:1 495:15 measurement	355:10 356:4 361:19 363:4 366:4 367:3 372:9 404:11 405:6,14,17 measures 483:20 measuring 470:18 473:3,9 473:12,13,15 474:10,13 490:15,19 491:2 meet 364:7,11,19 memorized 369:22 371:10 380:11 392:3 395:19 436:14 439:6 458:7 mention 368:15 379:7 428:17 447:5 466:22 468:20 470:21 471:7,18 472:3 477:3,13,17 478:2 481:20 482:4,9 486:8 494:12,15,20 mentioned 374:9 384:3 397:15 399:11 400:19 405:22 464:7 499:7 mentions 414:4 420:17 461:2 469:6 Merit 349:7 505:5 merits 415:6 micro-optical 419:11 micro-sculpted 420:17 micro-structures 419:8,16 420:12,18,22 421:3,12,14,18 422:11,20	423:21 424:5 424:10 425:14 425:19 426:2,4 426:15 427:9 427:18 429:15 430:10 431:1,9 431:15,18,19 432:12,15,19 433:1,5 microstructures 429:19 middle 426:4,16 464:10 496:13 Minneapolis 350:7 Minnesota 350:7 minus 480:11 minutes 362:10 mischaracterizes 461:20 missing 373:8 misstates 381:22 383:12 389:19 392:20 397:5 403:3 406:18 415:1 416:10 431:21 447:1 modifying 440:21 443:8 443:14 molded 419:9 monitoring 366:21 416:15 489:12 mounted 451:5 451:21 move 364:21 492:20 multiple 407:14 Mulvenna 348:17 349:5 354:2 505:5,22	nanometer 490:20,21 491:5,13,13 nanometers 491:3,18,19 narrow 426:3,14 nature 420:19 near 454:3 nearly 356:20 360:11 362:2,8 need 497:5 Neo-Reflective 481:18 new 349:9 354:3 377:8 386:4 388:16 393:13 395:3 407:8 411:16 457:11 505:1,7 non-annular 448:2,13 noninvasive 497:5 nonredacted 503:13 Notary 349:8 354:3 505:6 507:22 noted 507:11 notes 505:13,15 notice 359:5 noticing 506:12 noting 506:12 novel 419:8 number 354:8 355:15 401:12 440:14,16,17 453:12 454:2 469:18 480:11 480:11 numbers 467:19 467:20 496:13 numeral 380:16 381:20 439:10 439:12 446:12 numerous 474:12 NW 348:20 507:1
M				
M 348:20 507:1 508:2 Maattala 467:6,9 467:10,13 468:2,7,17,20 469:5,19,21,22 470:6,8,21 471:7,15,18 472:3,12,17,18 472:20 473:2,8 473:11,16,21 474:19 475:4 475:10,16 476:3 macro-optical 417:16 Madiseti 348:14 349:2 352:3 354:1 450:15 468:13 503:12 505:9 506:1,4 507:5 508:9 main 351:6 387:10 506:2 Maine 350:15 manner 382:18 415:20 421:4 421:19 422:12 424:3 430:12 marked 352:9,10 352:11,12,13 352:14,15,16 352:17,18,19 354:19,20 360:18,19 366:9 412:2,3 433:20 463:12 463:13 476:11 476:12 481:8,9 485:3,4 488:18				
				N
			N 351:1 352:1 Name 507:5 508:9	

508:2	482:6,11	480:1	476:18 485:5	395:5,13,14,17
O	483:15,16,21	offered 362:19	489:7 490:18	395:18,22
objection 358:21	484:9,17,18	370:16 371:11	493:9,18 494:1	396:5,9,16
359:18,20	485:11,12	376:13 379:3	496:8,15	397:10 398:6,7
370:4,11 371:7	486:18 487:11	382:6,12 391:8	503:17,21	398:13,16
371:16 372:1	487:21 488:10	396:9 401:3,7	Olson 351:4	399:5,8,10,14
373:18,21	489:20 491:15	408:17 411:14	353:9 506:1	399:16 401:7,9
376:11 378:3	492:21 493:3	437:16 438:2	once 360:16	401:14,17
378:20 380:21	493:11 494:3	438:12 471:4	442:6 481:13	406:10,12
381:22 383:1	494:17,22	offering 382:9	open 365:4	407:2,7,8,21
383:12,13	495:5,11,17	387:12 457:10	366:13 368:19	408:12,17,18
385:5,6 389:2	496:20 497:11	465:16 472:8	369:2,3,4	409:5,8,17
389:19 391:12	497:22 498:6	501:17	403:14 481:13	410:4,7,15,18
392:10,20	499:20 501:2	office 348:1	opened 361:6	411:14,16
394:19 396:3	objections 382:1	378:12,13	365:7 366:16	418:20 431:14
396:15 397:5	449:3 485:19	379:18 407:14	369:7 403:20	432:9,13,15,18
398:4,11 399:2	486:4,10,17	506:7,15	481:14	437:9,15 438:2
403:3 406:7,18	501:12	offices 389:9	opening 413:2	438:11 444:18
407:20 408:10	objective 432:22	offset 465:2	464:21 465:10	446:6,17 448:6
409:3,16 410:3	433:11	Oh 373:6,9	opine 396:10	449:8,18 450:6
410:12 411:10	observation	okay 353:15	398:15 406:11	456:2,19 457:5
411:11 412:12	434:7,9,19,21	355:1,5 360:21	406:22	457:11,13,20
415:1,20	443:16	361:4,5,6,12,14	opined 376:3	458:1,11,20
416:10 418:7	obtain 496:19	365:12,13	384:16 456:8	459:10,11,13
418:17 419:18	497:9,19	366:10,16	458:7 462:10	459:16 462:13
428:10,22	498:17 499:1	369:6,6,10,12	opinion 358:17	462:14,18
430:7,20	obtained 499:4	373:9 380:4	359:15 362:19	465:11,11,16
431:21 433:8	obviousness	386:12 387:3	363:20 364:20	467:4 471:4,12
435:13,21	440:21	388:20,21	370:12,16,20	471:16,22
436:18 437:1,7	offer 358:16	400:10 402:3,5	371:1,11 374:3	472:8,16 473:6
437:14,22	364:20 375:5	403:17,20	374:7,21	474:3,19 475:7
438:9 440:4	375:17 376:1	404:2 405:11	375:17 376:1	475:12,21
445:6,21 446:4	376:19 378:5	412:5 413:1,8	376:18,19	476:6 477:6,16
447:1 448:5,15	379:21 380:13	413:10,16	377:15 378:8	477:21 478:5
449:16 450:4	383:15 385:18	420:2,7 425:4	379:4,13,15,19	478:12 479:2,3
453:1,4 456:12	385:20,21	427:1,6 433:21	380:13 382:6,9	479:8,11,18
457:17 460:8	386:4,4 388:15	434:4,10	383:5,16 384:1	480:1 482:1
461:19 467:15	389:12 390:1	438:20 442:11	384:9,13 385:9	485:13 488:1,5
469:1 471:2,10	392:5 393:13	443:6 446:11	385:13,18,20	488:12 495:12
471:20 472:5	395:18 396:16	450:18 451:12	385:21 386:1,4	495:19 497:13
472:14 473:4	397:10,13,14	451:15 453:15	386:21 388:16	499:22 501:4
473:20 475:11	397:17 399:14	453:17,21	389:12,14	501:13,17
475:20 476:4	399:15 408:16	459:5 460:15	390:1,3,5,14	opinions 359:4
477:5,20 478:4	410:17 411:15	463:14,18	391:7,13,18	368:17 377:21
478:11 479:7	444:17 457:10	464:2 467:15	392:7,13 393:5	382:12 384:18
479:16 481:22	472:19 474:2	469:12,16	393:13 394:2	391:7 392:5
	475:7 479:8	470:13 476:13	394:21 395:2,3	397:14,17

401:3 406:1	overall 359:22	481:14,20	460:16,17,22	457:21 458:7
410:19 411:17	override 391:5	482:4,9,13,15	463:19,21	458:19 478:13
448:18 472:18	Owner 348:9	482:22 483:6	464:4 465:6	particularly
472:20 473:19	349:3 351:3	483:10,12,19	466:6,7 469:14	461:22
477:1 478:14	353:10 354:9	484:5,7,13	469:17,20	parties 353:2
482:7,12,13	oximeter 416:18	492:22 493:13	470:11 477:2	505:17
483:17,22	473:9,14,17	Pang's 483:9	478:20 482:14	patent 348:1,3,9
484:10,19	474:6,11,13,16	paper 474:13	483:6,10 484:1	349:3 351:3
485:20 486:5	481:18 500:10	parabolic 425:8	486:20 489:16	353:10 354:9
486:11,19	500:13,15	425:11,13,18	490:12,16,18	354:10,10
489:22 490:4,7	oximetry 472:13	paragraph 355:4	491:2,7,16,19	356:13,21
490:11 494:14	473:12 492:7,9	355:6 356:7	491:21 492:3,6	357:2,6,9,11,17
494:18 495:1,6	498:22 500:6	360:9 361:7,12	496:9,17,17	357:20 358:8
495:18 501:21	500:18 501:9	361:14 362:1	497:3,4,8,18	358:13,19
502:1	501:10	364:22 365:11	paragraphs	359:3,14
opposite 425:19	oxygen 468:18	365:13,17	358:12 359:9	360:12 362:4,8
optical 416:17	470:18 472:17	367:13 368:2,5	360:7 363:11	362:10,19
417:6,10 425:9	472:20 474:2,6	372:13,18,19	365:19 375:4	363:7 366:7,13
448:10 458:9	474:17 478:16	373:2,8,10,11	377:22 379:2	366:17 368:19
461:11 462:8	478:19 479:3	374:17,19	417:4 424:20	368:21,21
492:8	480:3,10,13,17	375:1,7,12,21	425:1 440:15	369:15,15
optically 452:16	480:20 482:16	376:4,9,14	440:17 442:6,8	370:2,3 371:17
455:6	482:21 483:8	377:1,2 378:1	461:7 462:1,6	371:20 372:14
Optimum 473:9	484:2 486:22	378:16,17	462:15,17	372:20 373:1
option 506:9,10	487:3,13,17	379:5 386:10	470:16	373:12 374:10
order 364:1	490:14 492:11	387:19,21	parameters	378:12,13
ordinary 362:20	499:10,18	400:4,8,11	479:1	379:16,18
429:6 462:19		401:21 402:3,5	parent 356:17	380:6,6,15,20
483:2	P	402:12,18	359:7 360:6	382:21,22
original 506:11	P 351:1,1	403:22 404:2,7	362:13 368:12	383:9,9 385:3,4
outcomes 423:15	P.C 350:4,13	404:22 405:4	parse 379:10	385:14,15
outer 452:9,12	p.m 504:2	413:11,13	part 359:17,21	386:8 387:2,5,5
454:13 455:2	packing 452:2	414:1,9 417:12	378:9,10 386:4	388:22,22
output 420:19,22	page 352:2,7	419:6 420:3,5	389:13 394:3	389:7,8,9
421:5,6,14,20	353:19 365:14	420:11,14	395:5,21 404:3	390:18,18,20
421:21 422:6	404:15,15	426:1 427:2,3	411:22 442:1,4	394:7,8 395:20
422:13,14	442:1 454:3	427:14 429:11	454:18	400:4,17
423:4,10,15,21	461:12 462:20	429:12 431:7	partially 364:3	401:11 403:18
424:6,11,12	463:3,5,7,8	434:5 438:17	368:15	403:21 404:8
429:8 433:2	480:4,20 496:6	440:6,19 441:6	particular	404:20 405:9
472:12 475:6	496:10,10,12	441:15 442:1	370:15 374:22	406:4,4,15,15
478:10 483:14	496:14,17	443:1 450:22	375:2,15 377:7	407:14,17,18
483:20 486:15	497:3 506:12	451:1,4 452:8	390:2 401:10	408:6,6,21,22
490:9 495:9	507:4 508:11	452:12 453:14	407:1,5 408:7	409:13,14
outputting	pages 454:2	453:19,20,22	408:22 409:14	412:8
473:17 479:1	458:8 507:7	454:11,12	411:2,5,8	patents 369:9
outside 460:4	Pang 481:5,10,14	458:22 459:2,8	419:12 453:7	370:10 371:3,6

371:14 380:3	464:9,19 465:7	441:9,20	479:11 482:20	474:17,22
381:17 382:15	465:15 466:1	PO 503:7,11	484:12 488:5	496:4 498:21
388:19 390:17	491:7	point 378:8 384:9	492:10 498:14	499:8 500:9,14
392:8 394:5,10	photodetectors	384:14 385:22	498:16 499:8	501:7 505:11
398:20 407:13	363:2 441:9,21	392:4 407:5,12	499:12,15,17	privileged 385:2
patient 474:7	photodiode 491:8	438:4 457:6	500:2,19	problem 407:19
479:22 492:11	492:1	458:6,20 467:5	POSITA's	408:8 409:1
495:16 497:10	photodiodes	471:5	456:17	Procedure
499:17	401:12	pointed 377:5	positioned	506:14
Patrick 350:5	phrase 355:17	387:19 388:1,9	443:15	proceeding
353:11	physiological	portion 355:10	positions 363:18	354:17,18
pattern 421:7	366:21 405:13	356:4 361:19	possibility	355:2 360:16
422:7,15 423:4	416:15,18	363:3 366:3	449:20	360:17 365:1,5
424:16 426:5	479:1	367:2 373:1,14	PPG 466:13	365:9 397:17
426:17	pick 376:4	375:2 376:1	496:19 497:9	403:11,15,16
peer 498:9	picking 375:20	378:6 400:17	497:19 498:4,5	403:17,21
peer-reviewed	place 440:15	401:11 402:6,6	498:15,18	412:22 415:13
495:20	473:9,15	404:11 405:5	499:1	415:17,19
perform 418:16	498:10	405:17 413:20	precluded 501:16	453:13,15,16
419:17	places 440:15	425:7,12 427:8	preferably	469:11,14,19
performance	plan 503:13	434:14 443:15	489:16	476:10 481:7
475:17 479:14	plane 451:19	444:16 445:2	preparing 468:14	485:2 488:17
484:14 488:8	please 353:6	446:13 450:22	present 449:20	489:6 492:17
501:8	354:22 366:13	451:21 452:1	482:16 484:2	493:20
performed	366:18 368:19	452:15,19	presented 384:18	proceedings
418:21	373:19 378:18	454:10,16	presents 409:15	353:17 366:8
period 389:10	386:7,10 387:1	455:5,9,21	482:17	433:19 463:11
506:13	394:5 405:12	456:10,16	presume 401:4	467:8,14
periphery 464:20	412:18 413:11	459:19 461:5	presumed 389:8	processed 499:5
permitted 385:1	420:4 424:22	498:2	pretty 503:20	produce 420:19
person 362:20	427:3 434:2	portions 356:16	previous 382:1	420:19 421:14
462:19 465:18	455:16 459:2	357:1,11 358:7	408:2 416:4	424:6 429:8
483:2 505:18	460:11,13,17	363:6 375:18	previously 352:9	433:1 448:3,12
petition 415:7,11	463:11,20	379:12 382:7,8	352:10,11,12	449:1
415:19 441:4,7	490:16 496:6	383:17 392:5	352:13,14,15	producing
442:5,10	506:6,10,11,14	393:6 413:17	352:16,17,18	420:22
Petitioner 348:6	plural 388:3	442:7	352:19 354:19	production
350:3 353:13	plurality 355:7	POSITA 354:10	360:18 366:9	480:16
354:9 502:14	355:15,17,19	410:9 411:6	379:6,7 412:2	project 488:3
petitions 494:6	361:16 364:2,4	418:2 422:19	433:20 463:12	498:11
Ph.D 348:14	366:1,22 371:2	423:14 428:7	476:11 481:8	promise 441:14
349:2 350:14	372:3,4,11	430:4,17 432:9	485:3 488:18	prosecution
352:3 354:1	384:17,20	448:11,21	492:18	356:16 358:13
505:10 506:1,4	388:7,14	457:14,20	prior 384:19	362:14 363:19
507:5 508:9	391:20 400:20	459:13 461:8	409:22 410:9	368:11 377:19
photodetector	404:9 405:14	474:5,15,22	411:3,7 448:10	prototype 500:12
441:12,13	425:14,18	475:3,15	448:21 468:14	500:13,17,18

prove 481:2	410:22 428:14	424:14 426:7	recognized	477:13,17
provide 364:9	432:14 435:18	434:12 435:1	410:10 475:15	478:2,8,22
376:16 381:13	440:5 443:10	451:6 452:5	479:12 484:12	481:6,15 485:1
384:5,8 390:21	444:6,15 449:5	459:15 466:16	488:6 500:19	485:7 488:16
395:2,3,14,17	454:19,22	498:1	record 353:7	488:22 489:8
398:6 407:8	455:11,12	reads 375:22	393:2,22	490:17 492:16
408:13 409:19	462:12 465:12	ready 506:6	399:19,20,21	492:22 493:5
410:16 414:19	470:5,21 500:1	realize 410:21	400:1 409:8	493:14,14,19
415:4 419:8	questioning	really 391:3	412:12 450:10	494:4,8,10
423:8 426:4,16	494:3	444:20 454:22	450:11,12,13	496:3,7 497:4
428:3 432:3,6	questions 368:22	460:7	456:11 477:8	497:14
433:11 462:1	375:21 381:8	realtime 349:7	481:10 488:21	referenced 376:5
462:12 474:19	381:16 385:1	460:9 505:6	recorded 507:10	376:9,22
475:2 503:11	399:4 401:17	reason 389:15	507:14	439:12 506:6
provided 358:5	409:10 412:15	reasonable 470:1	rectangular-sh...	references
371:1 418:11	415:22 462:11	478:15,18	446:2	468:17
458:11	472:8 492:22	490:13 500:3	red 482:18,21	referencing
provides 385:15	502:14,16	reasons 368:18	490:19 491:3,9	386:14 402:9
providing 416:1	506:14 507:10	390:10,15	491:12,13,17	464:6 466:10
431:15 432:15	507:13	393:3 396:21	491:22 492:2	referring 375:2,4
432:20 433:6	quite 450:8	399:11 408:2	492:12 496:18	375:7,16
480:15	quote 397:21	409:9 419:4	497:8,18	380:18 381:20
Public 349:9	398:1 443:4	recall 354:7	498:15,17,22	387:18 420:13
354:3 505:6		387:16 402:14	499:9,16	425:20 438:17
publication	R	402:19 403:2	redact 503:16	439:1,11 440:7
495:20	R 351:1	440:2 475:4	refer 357:6	441:3,7 443:11
pull 387:1	radius 444:1	483:12	369:20 379:11	444:12,22
pulse 416:18	465:3	received 354:20	404:17 440:19	451:8,10 456:1
472:12 473:9	raised 483:10	360:19 412:3	442:18 462:7	457:3 459:18
473:12,13,17	random 420:18	463:13 476:12	465:6 467:12	461:22 465:14
474:6,11,13,16	rate 416:19 480:9	481:9 485:4	469:17 476:5	467:2 469:8,9
481:18 492:7,9	ratios 499:9	488:19 492:19	480:5,10	480:7,8 489:5
498:22 500:6	read 366:18	receiving 461:9	reference 357:9	492:2 496:12
500:10,13,15	378:18 379:4	Recess 399:21	377:11 380:16	496:22 498:5
500:18 501:8	405:12 413:11	450:12	381:19 411:21	refers 379:8
501:10	414:2 417:22	recitation 362:7	411:22 412:7	386:16 405:1
purchased 506:8	420:5,9 422:18	362:9 434:11	433:18 439:2	422:1 439:14
put 384:12	424:22 427:3	recitations 431:7	439:10 446:12	439:22 443:3
	458:4 459:2	recite 405:19	450:19 461:9	445:2 447:20
Q	460:17 463:20	411:2	463:10 467:7	457:1,9 480:17
qualifier 447:4	464:2 476:21	recited 364:7,11	467:13 468:2,3	reflectance 480:9
question 357:5	481:15 485:7	364:19	468:14,20	reflected 372:8
363:11 368:3	489:8 494:8,10	recites 361:16	469:5,19,22	reflecting 365:15
377:4,7 382:2	503:19 507:6	375:6,9 402:21	470:9 471:7	reflection 452:17
385:8 388:4	reading 404:14	404:8	472:12 473:16	455:7
390:22 394:11	417:19 419:14	reciting 391:19	475:4,10 476:9	refractive 459:21
401:8 404:21	421:9 422:17	recognize 384:12	476:21 477:1,9	refrain 358:6

regarding 353:16 359:15 391:19 470:17 493:5 493:13 494:3 502:5 region 443:22 Registered 349:7 349:8 505:5,6 related 356:21 357:6,16 360:12 362:3 362:13 363:16 411:8 412:21 415:11,17 416:14 relating 492:22 relationship 359:7 relative 505:16 505:17 relevance 374:5 471:11,21 472:6 485:12 487:22 488:11 489:21 492:21 493:12 496:21 relevant 373:15 391:4 457:16 reliable 496:3 reliance 442:9 relied 391:22 relies 483:7 rely 369:20 440:21 relying 441:19 REMOTE 348:13 349:1 remotely 353:3 repeat 368:22 408:3 replaced 449:13 report 359:2 375:1,3 377:6,9 462:16 486:21 490:12 reported 348:17 505:9	reporter 349:6,7 349:8,8 353:1,6 399:20,22 444:3 450:11 450:13 453:2 460:10 464:17 468:6 490:22 493:8 502:9 505:5,5,6,6 represent 363:3 364:3,5 487:10 representing 353:9,12 364:13,15 378:13 represents 395:9 request 505:15 require 366:1 367:6,19 368:7 368:14 402:22 499:3 required 499:2 requires 355:7 363:21 requiring 468:21 469:6 470:22 471:8,18 472:3 477:3,14,18 478:3 481:20 482:4,9 485:9 485:17 486:2,8 489:19 490:3 494:12,15,20 495:3 respect 361:9 362:10,21,21 365:19 368:11 375:11,18 380:8,20 401:18 403:8 407:22 412:15 415:7,13 416:3 434:9,22 448:7 470:18 474:18 475:5 478:9 482:13 483:13 486:15 490:9	495:9 respective 382:14 respond 462:11 responding 456:21 response 377:7 388:4 399:3 401:7 430:21 responsive 377:10 388:9 390:22 394:11 rest 396:20 restart 493:9 result 409:15 review 359:22 413:15 420:8 425:3 427:5 457:12 459:4 459:10 460:19 464:1 468:13 502:17 503:12 505:15 506:8 reviewed 358:13 377:16 379:14 413:16 425:4 460:20 498:9 502:2 Richardson 350:4,13 353:12 right 361:10 369:8 373:11 387:1 389:22 402:15 422:9 447:15 ring 451:20 452:1,15,19 454:16 455:5,9 455:21 round 503:15 Rules 506:14 S S 351:1 352:6 sale 475:10,19 479:6,15 484:8 484:16 487:20	488:9 samples 408:13 Sarantos 411:20 463:9,17 464:5 465:18 466:17 saturation 468:18 470:19 472:17,21 474:2,7,17 478:16,19 479:3 480:3,10 480:14,18,21 482:16,21 483:8 484:2 486:22 487:3 487:14,17 490:14 492:11 499:10,19 save 368:21 saying 359:1 414:8,10 424:4 446:19 453:6 454:17,21 455:10 456:10 says 402:7 404:3 417:9 421:13 421:17 422:6 422:11 424:15 425:16 426:13 426:17 427:17 429:7,20,21,22 434:6 443:14 451:5 455:2,19 464:8,16 466:12,21 473:9,14 474:10 480:8 489:16 498:4 scattered 451:18 452:13 454:14 455:3 459:19 461:1,3,11 462:9 schematics 386:17 scientific 495:20 scope 356:8	358:9 362:16 371:7,16 373:21 376:11 378:3 380:21 383:1,10,13 384:16 385:6 389:2 391:12 391:19 392:10 394:19 396:3 396:15 398:4 398:11 399:2 406:7 407:20 408:10 409:3 409:16 410:3 410:12 411:11 437:14,22 438:9 448:15 449:16 450:4 469:1 471:2,10 471:20 472:5 475:11,20 476:4 477:5,20 478:4,11 479:7 479:17 481:22 482:6,11 483:16 484:9 484:17 485:11 487:21 488:10 489:20 494:17 494:22 495:5 495:11,17 496:20 497:11 497:22 498:6 scratch 398:21 484:6 screen 430:15 431:4,15 432:5 432:7,16 433:13 471:19 477:19 482:10 486:3 490:3 494:21 second 356:6 360:20 361:3 361:13 365:12 369:1,10 386:5 395:21 400:6
---	--	---	--	---

402:1,2 403:12 412:4 414:1 417:12 452:2 452:17 455:6 464:22 465:1 470:12 493:21 493:21 section 356:12 359:4 367:16 402:7 404:3 417:13 457:21 458:8,19 480:16 sections 379:8 see 355:12 356:10,18 373:4 379:11 404:13 413:22 414:6 417:8,18 419:2,13,19 421:8 422:5,8 422:16 423:18 423:20 424:7,9 426:6 428:13 429:21 434:5 434:11 440:11 440:18 442:2 443:5 452:4,11 454:6,21 460:9 464:12 466:15 470:3,8 480:2 489:2 497:6,21 503:18 seeks 444:3 464:17 468:6 490:22 493:1,4 493:8,12 502:9 selected 506:10 send 503:9,11 sensor 401:13 416:18,19 474:11 483:14 483:19 484:5,8 492:8 Sensor/Belt 473:10 sensors 411:9	416:16 448:10 458:10 466:13 498:22 sentence 356:6 386:14 388:1 414:3 419:6 421:3 422:5,10 424:10 451:13 453:8 497:17 separate 482:17 separately 429:18,22 session 354:8 set 505:19 settings 501:1,11 settlement 359:16 shape 355:9 356:4 361:18 363:3 364:3,4,7 364:11,19 366:3 367:2 391:9 404:11 405:5,16 406:5 406:16 407:18 408:7,8,22 409:14 410:1 410:11 411:2,5 411:9 421:6,20 421:22 422:14 422:20 423:3,5 423:9 424:12 426:2,9,14,18 427:15,19 428:1,4,9,21,21 429:19 430:1 433:14 437:13 437:21 438:8 442:14,18,19 443:11,14 444:9,12,22 445:14,15 446:14,17,21 447:6,7,8,13,17 448:3,3,12,13 449:1,1,14 450:3 454:8	455:22 456:17 457:3,9 465:6 465:14 shaped 355:11 356:2,5 361:20 363:4 366:4 367:7,20 368:8 370:22 375:6 402:21 403:1 404:12 405:2,7 405:20 437:5 shapes 364:6 409:2 422:6 shaping 413:20 414:5,12,13,17 414:22 416:8 417:2 418:5 423:14,21 430:5 431:11 431:20 432:11 432:18 433:6 sheet 506:11 507:11 508:6 Shie 411:22 412:7,19 413:3 413:20 414:22 415:8,13 416:9 416:13,14 417:5,5,9,14 418:1,5,6,8,16 419:1,4 420:1 420:11 421:11 421:17 423:7,7 424:19 425:7 425:12,21 426:8,22 427:8 429:3,6 430:9 432:2,10,21,22 433:14 Shie's 423:9 426:9 428:1 short 378:17 466:7 474:13 shorthand 349:6 505:13,15 show 374:5 441:8 441:20 463:1	495:22 showing 466:18 483:7 489:11 shown 369:19 381:21 387:15 441:12 461:12 462:20 463:2 466:20 489:14 500:4 shows 394:13 447:16 sic 413:2 476:9 477:10 side 369:7,7 386:17 425:17 425:19 sides 445:16 sign 502:18 506:7 506:8 signal 454:14 473:10 signals 473:3,14 473:18 474:6 474:11,14,16 479:21 483:20 487:5 495:15 496:19 497:9 498:5,18 499:1 499:4,13 signature 503:12 505:19 506:6 506:12 507:4 507:17 508:22 signed 503:7,10 506:11 significance 406:6,17 410:2 410:10 411:8 signing 506:10 silent 418:9 similar 358:15 359:5 369:20 380:10,14 387:8,13 391:1 394:12 409:11 503:14 similarity 357:7	360:5 362:17 363:12 381:14 similarly 463:4 470:1 simplified 386:17 simplifies 382:17 simplify 381:12 387:11 465:20 simply 428:5 429:22 simulated 483:7 Sincerely 506:18 single 371:14,21 376:6,14 388:13 394:17 395:9 441:11 441:13 487:8 sir 412:10 sit 457:13 site 355:10 356:5 361:19 363:4 366:4 367:3 372:9 404:11 405:6,17 499:17 sitting 383:6 386:1,3 389:17 390:3,9,11 392:18 393:16 395:8,22 396:5 397:2 406:14 408:5,19 410:7 416:7 437:18 446:20 457:8 458:1 459:10 465:13 471:16 six 364:6,10,18 Sixth 350:6 skill 362:20 429:6 462:19 483:2 skin 434:9,22 492:13 slow 442:22 smaller 443:22 smooth 420:20 421:1,15 422:3
--	--	---	--	---

423:12,16,22	397:14 402:15	393:2,6,7,10,21	412:19 413:5	420:17
424:6,17 429:8	406:1,10 409:8	394:9,22	413:12,12,18	student 488:3
431:16 432:16	409:17 410:14	395:15,20	417:5 420:4,14	submit 384:4
432:20 433:2,7	410:22 437:8	396:7,19	424:5 427:2	503:1,13
433:12	438:10 458:1	397:12 399:12	431:7 451:10	substance 502:6
smoothing	458:20 459:9	400:16,22	454:12 459:1	substantially
430:11,18	459:16,22	401:1,3,4 402:6	460:16 469:14	369:20 380:10
solve 408:8	465:11,16	406:9 407:10	470:11	380:14 387:13
solved 408:8	475:7 484:19	409:7 413:17	starts 372:14,19	391:1
409:1	495:18 497:12	414:19 415:3	373:2 375:12	substitute 391:5
solves 407:19	499:3,4,5,5	429:20 435:5	376:9 377:2	substrate 419:10
409:1	specifically	435:10,16	378:1,16	419:17 420:12
sorry 373:6	358:15 362:16	436:2,3,6,14,21	387:22 388:1	420:18 425:17
398:21 402:6	364:9 366:14	438:14 439:5,6	400:4 414:3	425:20
404:21 413:12	368:1 386:9	439:21 447:20	417:13 419:7	success 470:2
442:21 450:9	388:1 400:14	447:22 455:15	422:10 426:1	478:15,18
469:13 484:6	400:15 405:9	456:9,21	443:2 450:22	490:13 500:3
496:10 498:15	410:17 412:19	459:15 465:9	451:13 454:11	sufficient 364:5
sort 473:3 488:2	431:6 443:3	465:17	463:20 466:7	419:2
498:11	444:17 447:15	specifications	497:4	suggest 416:16
source 387:10	449:11 450:18	374:22 381:17	state 349:9 353:6	Suite 348:20
421:5,20	451:13 460:16	392:8 401:19	354:3 356:7	350:6,15 507:1
422:13 424:12	470:5 480:5	408:1 459:18	362:1 372:3	508:2
427:12 464:10	491:11	specifics 360:3	419:4 421:3	summarize
466:2	specification	speculation	428:14 452:3	387:11
South 350:6	357:11,20	428:22 437:7	469:22 505:1,6	summarizes
Southwest	358:8,19	SpO2 480:5,10	stated 355:7	382:17
350:15	359:14 360:1	480:13,17	408:2 432:5	support 357:2,12
spacial 355:9,20	363:7,13	481:2,3,3	433:11	357:20 358:1,4
361:17 364:13	369:17,21	spoken 502:8	statement 382:16	376:17 377:21
364:15 366:2	370:6,17 371:9	square 406:5	387:12 396:20	379:2,16
367:1 372:6	371:10 374:2,5	445:4,10,12,14	401:1 406:2	383:20,20
388:8 391:21	375:16,19,22	445:15 449:2	468:10 470:3	385:15,19
404:10 405:16	376:2,14,15	449:13 450:2	statements	392:16 393:22
span 424:21	377:8,17 378:6	square-shaped	384:14	399:13 478:15
speak 502:5	378:7,10 379:1	445:17	states 348:1	478:17 490:12
spec 436:13	379:10,12,14	squares 463:3,4,7	355:19 417:14	supporting
459:11	379:20 380:9	463:8	419:7 429:18	356:15 382:7
specific 358:18	380:11,12	ss 505:2	451:17 492:5	supportive
359:13 360:3	381:2,4,10,16	start 354:16	497:18	363:18
364:17,20	382:5,7,13,19	355:3 369:8	sticking 417:4	supports 382:5
371:11 374:3,7	383:4,17,21	371:20 444:5	450:18	385:10 389:5
374:21 377:15	385:10 386:22	451:6,7 463:16	Street 348:20	390:7 393:3
379:4,19	387:9 388:7,17	496:11 498:15	350:6 351:6	396:8,19
385:20 388:16	389:4 390:6,20	started 502:11	506:2 507:1	397:13 401:5
391:7 392:5,5,7	391:2,4,15	starting 373:12	508:2	407:11
393:5 395:5	392:2,4,6,12,15	374:17 400:8	structures	sure 357:4 358:3

369:1 372:17	484:22 488:15	461:20,21	395:8 396:1,6	trying 441:14
375:1 381:19	492:15 493:18	470:14,17	397:2,18	444:20 465:20
383:8 387:17	496:16	493:4,13 500:5	399:16 402:14	496:1 503:5
400:14 406:15	talked 411:21	502:6 503:2	406:12,14	Tuesday 354:8
431:17 443:13	453:11	text 451:9,10	408:5,19 410:7	502:4
444:14 445:7	talking 355:3	Thank 502:15	416:7 437:18	turn 360:15
445:19 446:6	365:22 369:8	503:22	446:20 457:8	366:7 377:1
452:20 453:5	372:18,18	thing 430:18	458:2 459:10	380:2 386:7
465:13 469:10	388:6 402:16	things 368:16	459:12 465:13	388:18 390:16
474:8 498:8	416:20 427:10	375:17 400:12	502:4	394:4 403:10
502:1 503:20	431:6 447:13	447:8	top 386:17	404:20 405:8
surface 372:7	447:14,15	think 362:12	404:15 427:17	412:18 424:19
419:10 420:17	451:2,17	365:3 378:4	451:1,11	434:2 458:21
425:13,18	460:22 492:4	379:9 415:14	454:10,11	460:13 463:19
427:18 451:18	talks 379:5	432:2 433:10	463:3,7	467:6 490:16
451:18,20,22	400:20 401:8	437:18 452:6	touchscreen	496:6
452:9,10,13,14	428:5,15 447:7	453:7 467:1	472:4 478:3	Turning 450:21
452:18 454:14	491:6,17	third 496:9,17	486:9 490:6	466:6
454:15 455:3,4	teach 416:16	497:3,17	495:4	two 353:16 356:7
455:8,20	technical 458:14	thought 498:12	TRADEMARK	359:9 362:15
456:15 457:2,4	technologies	three 356:8	348:1	363:1 364:12
surfaces 417:15	416:15	362:15 363:1	transcribed	381:17 417:4
418:4,15,22	tell 393:17 395:9	363:21 364:14	505:13	424:20,22
454:18	416:7 460:3	364:20 463:7	transcript 502:18	443:21,22
swear 353:1	term 358:20	463:10 467:7	502:20 503:20	444:10,16,16
sworn 353:3,14	363:9 414:13	467:14,21	505:14,16	445:3 454:17
354:2 505:12	414:17,21	time 368:22	506:6,7 507:7	477:11 483:4
system 458:17	443:8 444:7,11	389:10 399:19	transcription	493:15
481:2	447:7 452:21	457:16 476:14	505:14 507:10	type 370:15
	455:22 457:8	483:4 504:1	507:12	types 411:9 447:8
T	458:15 459:7	505:15 506:13	transition 491:8	499:4
T 352:6	460:2 461:16	times 379:17	transmission	typewriting
tail 416:22	480:12	440:17	491:10 492:5	505:13
take 450:10	terms 354:9,13	tissue 355:10	492:12	typewritten
469:21	368:10 374:6	356:4 361:19	transmitted	505:14
taken 415:21	376:2 417:2	363:3 366:3	497:20	typically 491:8
439:15 505:15	447:9,10,14	367:3 372:8	TRIAL 348:3	
talk 361:2,7	460:4	404:11 405:6	triangle 364:16	U
365:10 366:6	testified 354:4	405:17 499:17	trick 441:14	U.S 366:16
366:14 368:20	testify 505:12	tissues 497:20	444:20	378:12
386:9 403:22	testimony 382:1	title 473:8 474:10	tried 441:20	uh-huh 367:12
405:9 411:22	382:3,4 383:13	titled 481:17	true 392:19	488:20
420:3 424:20	385:17 389:20	today 354:14	393:18 505:14	unable 393:16
433:17 453:13	392:21 397:6	384:22 386:1,3	507:9,11	395:8,15
454:8 455:17	403:4,7 406:19	386:6 389:17	trust 378:13	unaware 408:5
463:9 468:1	415:2 416:11	390:3,9,11	truth 505:12,12	unclear 447:10
476:8 481:5	431:22 447:2	392:18 393:16	505:12	undergraduate

498:11	461:11 462:9	Vol 506:1,4 507:5	way 401:2 465:21	420:9 425:4
understand	UNITED 348:1	508:9	499:4,5	427:6 428:12
357:4,22	units 461:9		we'll 503:11,15	429:1 430:8,21
362:21 375:14	unknown 487:8	W	we're 353:15	432:1 433:9,21
401:16 414:17	unsure 359:8	W 480:11	365:2 372:18	435:15 436:1
422:20 423:14	389:17 392:18	W2 480:9	399:20,22	436:20 437:8
428:7 430:4,9	397:2,9,22	wait 503:19	435:1 450:11	437:15 438:1
432:10 433:9	414:21	waive 506:9	502:22 503:16	438:10 440:6
435:7,11	use 354:13	want 365:7	503:22	445:7 446:5
446:18 448:11	368:14 437:4	366:10,14	We've 399:17	447:3 448:6,17
456:7,9 457:12	443:13 460:1	369:1,8 372:22	450:8	449:4,18 450:6
457:20 459:11	462:22 474:5	381:3 384:8	WESTCHEST...	453:5 457:18
461:14,16	474:16 476:3	385:21 386:3	505:3	459:5 460:20
500:2,6 502:19	493:1,4,13	388:15,18	WHEREOF	461:21 463:14
understanding	499:9,12,18	390:16 393:13	505:19	464:2,18 469:2
436:4,9 456:17	500:11,15,22	395:3 397:18	wireless 468:21	471:3,12,22
480:12 492:1	501:9,11	403:10 405:9	469:6 470:22	472:7,16 473:5
understood	user 427:20	407:7 411:22	473:10,14	473:21 475:12
418:2 498:14	430:2 472:13	412:11 424:20	474:11 477:4	475:21 476:5
498:16	489:13 500:20	438:3 441:15	481:21 485:10	476:13,19
unexpected	user's 492:13	446:9 454:8	494:13	477:6,21 478:5
409:15	uses 369:18	463:16 467:6	wish 387:11	478:12 479:8
unit 434:6,8,15	400:13 492:8	467:12 468:1	391:5 395:18	479:18 482:1,7
434:19,20	USMAN 350:14	469:21 481:5	411:15	482:12 483:17
435:4,8,12,19		488:15 492:15	witness 352:2	483:22 484:10
436:10,15	V	493:18 496:16	353:2,3,14	484:19 485:5
437:5,6,12,13	v 348:7 506:3	wanted 470:8	359:1,19,21	485:13,20
437:19,20	507:4 508:8	wants 429:8	360:20 366:10	486:5,11,19
438:7,8,18,22	vague 449:5	Washington	370:6,12 371:8	487:12 488:1
439:1,4,9,19,22	valid 374:10	348:21 350:16	371:17 372:2	488:12,20
442:13,15	389:8 407:13	507:2 508:3	373:19,22	489:2,22
443:4,8,12,18	various 389:9	watch 470:19	376:12 378:4	491:16 494:18
444:13 445:4	466:13,13	489:17	378:22 381:1	495:1,6,12,18
445:11,13,18	vehicles 416:22	waterproof 452:2	382:3 383:3,14	496:22 497:12
446:3,13,15,22	vein 409:11	waveforms	385:7 389:3,21	498:1,7 499:22
447:16,18	version 503:14	482:18,22	391:13 392:11	501:4,13
448:2,4,12,14	vertices 445:16	483:4	392:22 394:20	502:10,17
448:22 449:2	view 370:15	wavelength	396:4,16 397:7	503:4,7 505:9
449:12,13,14	407:12 439:15	487:1,8,10,14	398:5,12 399:3	505:11,19
450:2,2 451:3,5	462:19	490:20,21	403:5 406:8,20	506:8 507:5,17
451:17,19,21	views 386:17	491:4,5,13	407:21 408:11	508:9
452:2,14,16	Vijay 348:14	492:13	409:5 410:4,14	wondering
453:14 454:4,5	349:2 352:3	wavelengths	411:13 412:4	357:10 373:10
454:9,14,17,18	354:1 505:9	491:9,12,22	412:10 413:16	word 368:9,14
455:3,6,21	506:1,4 507:5	492:2 496:18	415:3,22 416:1	400:13 405:21
456:17,18	508:9	497:9,18,19	416:2,12 418:8	406:2 416:8
459:20 461:1,3	voice 460:11	498:17 499:1	418:18 419:19	428:21 429:21

443:10,13	361:22 365:6	1036 468:5,8	462:15	1730 348:20
444:15,18	373:7,19 383:3	1042 352:17	138 461:7 462:1	507:1 508:2
447:4 454:20	400:8 418:8	492:16,18	462:17	19 373:5,12
455:13 456:4	429:1 448:17	493:19	139 461:7 462:1	374:18 375:12
457:2,15,15	502:22 503:4,5	107 413:2	462:17	376:10 463:16
459:14 460:3	503:8,9,10	109 469:14,17	14 356:9,13 357:9	463:20 466:5
461:4 462:5,21	yes-or-no 435:18	11 372:14,19,21	358:16 361:16	199 358:14
464:14 465:5	York 349:9 354:3	373:3,13,15	362:8,19	362:13
465:14 492:8	505:1,7	377:1,3,12	365:16,18,22	
words 438:12		378:2,17	367:5,11,15,19	2
497:5	Z	387:20,22	367:21 368:4	2 414:3 438:19,21
works 435:4,8,12	0	388:2 400:3,5,6	377:13 402:9	439:2,7,11,16
435:20 436:4		427:11	402:12,15,20	439:16,18,22
worn 489:13	1	11:00 348:16	402:20 434:13	440:2,14,17
wrist 468:19	1 366:21 405:14	349:5 505:11	434:13 435:2	441:5,16 442:3
472:21 478:16	440:20,22	112 482:14 483:6	452:6 454:12	442:7,9,12
478:19 479:4	441:19 480:11	483:10 484:1	457:22 460:13	446:9 447:15
481:4,18	489:10,12,15	113 486:20	14th 351:6 506:2	447:18 449:10
482:17 484:3	10 386:7,10,12	115 469:20	15 356:21 360:12	449:12 480:4
486:22 490:14	425:9,11	116 490:12	362:3 452:17	480:11,20
499:11,14	434:12,13	118 477:2 478:20	454:16 455:7	20 457:22
500:7	10,722,159	12 451:21 452:1	153 408:14	20024 350:16
Wrist-Band	366:17	452:15,19	159 361:9 362:8	20036 348:21
473:10	1000 350:15,15	455:5,9,21	362:19 363:7	507:2 508:3
wrist-worn	1001 352:9 366:8	456:16 458:21	366:7,13	2015 409:21,22
483:14,19	366:9	458:22	368:20 369:4	410:9 411:7
484:5,7	1004 352:10	13 496:6,10,10,12	369:13,15	448:11,21
wristband	433:18,20	496:17 497:3	370:2 371:3,14	474:17,22
474:12	450:20	130 427:11,18,20	371:20 372:14	498:21 499:8
wristbands	1005 352:11	430:1 431:10	372:20 373:1	499:12 500:5,9
473:14	463:10,12	491:7	373:12 380:3,6	500:14 501:7
wristwatch	1007 352:12	132 364:22	382:15,21	202 348:21 507:2
489:11,15	412:1,2	365:11,12,13	383:9 385:3,14	202-626-6383
written 357:15	1014 352:13	365:17 367:13	386:8,13 387:2	350:17
358:2 363:15	481:6,8 482:15	368:2,5 375:7	387:5 388:21	202)-232-0646
374:8,11,14	1015 352:14	401:21 402:3,5	390:17,20	506:15
376:16 377:19	477:10 485:1,3	402:12 403:22	392:6 394:7	202)232-0646
383:19 389:6,6	1016 352:15	404:2,2,7 405:4	400:4,17	508:4
392:15 393:22	476:9,11	427:12	401:11,18	2022-41465
399:12 401:6	1018 467:7,13,16	133 440:15,19	406:4,15	415:5
407:11 506:22	468:9 469:18	441:15 442:1	407:17 408:1,6	2025 348:15
	469:22	134 462:15	408:14,21	349:4 505:10
X	1028 352:16	135 442:6 462:15	409:13	505:19 506:4
X 352:1,6	488:16,18,20	136 427:19	16 366:15,17	506:20 507:5
	489:2,6	429:15 431:10	405:10,11	508:10
Y	1035 477:9	442:7 462:15	452:2 466:6,8	2040 351:6 506:2
yeah 359:19,21	478:17	137 440:15	17 443:4	206 372:7

21 404:6 426:1 2100 352:18,19 354:18,19 355:1 360:17 360:18 365:10 403:11,15,17 403:20 483:11 22 355:7 356:13 357:8,9 358:16 362:10 404:5 466:8,10,18,21 467:1 224 468:9 22d 404:8,18,19 405:1 232-0646 348:21 507:2 24 426:7,11 466:8 466:10,21 467:2 241 354:17,18 355:2 365:2 403:10,14,17 403:21 404:16 433:18 440:3,8 440:10,13 453:12,16 461:8,13 468:5 468:8 477:2,10 478:20 481:11 489:1 493:2,5,7 493:15 494:5 243 360:16,20 361:5,6,6 365:1 365:2,4,6,9,12 366:8 367:10 367:13 368:5 401:22 402:1,2 412:13 433:19 440:3,10 467:17 468:9 469:10,14 476:9 481:6 482:14 483:10 485:1 488:16 489:3,6 492:16 493:19,21	244 366:8 412:15 412:21 413:1 415:13,19 467:17 25 365:16,22 367:15 372:2 402:10 464:4,6 464:7,8 465:22 466:20,21,22 2508 464:10 2512 464:9,19 465:7,15 2532 464:21 465:1 2534 464:22 465:1 2584 465:3 27 424:21 28 426:8,11 29 420:4,14 2a 417:9 2b 417:9 3 3 373:16 434:18 439:7,8,13,14 439:21,22 451:2 452:19 3:13 504:2 30 372:3 417:7,11 417:16 492:8 31 377:2 378:2,16 387:22 400:5,7 400:9 310 370:7 371:13 371:21 372:3,4 372:11 373:15 380:16,18,19 381:20,21 32 419:10,17 421:16 454:5 460:17 3200 350:6 33 421:16 439:15 461:2 463:20 466:4 34 417:15 423:13	424:6,18 461:2 464:7,7 466:4,5 35 422:10,17 423:13 424:15 424:18 465:20 354 352:4,18 36 419:8,17 427:2 429:12 360 352:19 366 352:9 37 417:17 454:3 38 419:17 422:17 424:15 39 373:13 376:22 377:12 388:2 400:21 401:8 3a 425:20 3b 425:20 4 4 385:18 434:18 439:8,13 440:20 441:1 441:19 451:2 40 386:10,12 417:15 421:10 465:20 41 417:17 412 352:12 42 419:11,17 43 429:16 433 352:10 44 412:19 413:7,8 413:9,13,18 417:5,15 429:17 45 421:9 463 352:11 47 489:16 476 352:15 48 419:11 481 352:13 485 352:14 488 352:16 492 352:17 4A 369:9,11,12 369:14,15	370:2,2,9 371:5 371:13,21 375:15 376:5 380:20 381:21 399:5 4B 399:5 5 5 365:16,22 366:6 366:14,18,20 367:4,6,15,18 367:19,21 368:6,7,10,18 375:9 377:13 380:2,5,6,15 381:20 382:21 383:9 385:3,3 385:14,14,18 399:6 402:10 402:20,22 404:6 405:10 405:11,12,13 405:19,22 406:3 420:1,4 420:15 421:10 422:18 423:13 424:5 429:4,7 432:22 452:5 480:5,8,13,19 50 355:4,6 356:7 358:12 360:7 361:7,12,14 363:11 365:19 375:4 425:11 425:16 51 358:12 360:7,9 362:1 363:11 365:19 375:5 52 358:12 425:17 425:20 490:16 491:7,16,19 492:6 54 425:18 55 459:1 55402 350:7 56 425:19 426:4 591 354:10	6 6 412:18,19 413:5 413:6,12,12,17 417:5,13 418:1 419:7,14 431:7 434:2,8,12,20 435:1 443:2,3 480:19 6,483,976 412:8 60 350:6 466:7,11 466:16 61 417:13,19,22 453:14,20,21 454:2 612-337-2510 350:8 62 466:16 63 419:14 64 417:20,22 419:7 66 419:15 660 490:20 491:3 491:13,18 7 7 348:15 349:4 413:4,18 414:3 424:19 426:8 434:3,6,15,18 434:19 435:4,8 435:12,19 436:15 438:18 438:22 439:2,4 439:9,10,12,19 439:22 442:15 443:3,4,18 446:12,22 447:16,18 448:1 449:12 450:22 451:3,5 451:14,17,21 452:2,16 453:14 454:4,9 454:17,18 455:6,21 456:17,18 506:4 507:5
---	---	--	---	--

508:10	398:3,9 399:6			
710 387:14,20	424:21 425:9			
388:2,3,12	425:11 435:1			
391:9,18	450:21 451:1			
400:12,13,20	451:11,14,19			
741 357:5	452:5,14			
743 354:10	454:11,12,14			
356:13 357:2,8	455:3 457:22			
357:11,17,20	459:20 461:1			
358:8,19 359:6	461:11 462:9			
359:10,14	806 394:13,17			
362:10 368:19	395:9			
368:21 369:2,3	812 348:20 507:1			
369:6,12,15	508:2			
370:3 371:3,14	826 394:16			
380:3,6 382:15	86 365:14 404:15			
382:22 383:9	470:11,13,14			
385:3,15 387:2	87 404:15			
387:5 388:22				
390:18,21	9			
392:6 394:7	9 372:2,14,19,21			
401:18 403:18	373:3,12			
403:21 404:8	374:17 375:13			
404:20 405:8	376:10 426:21			
406:4,15	429:12 431:8			
407:17 408:1,6	432:14 433:5			
408:14,21	900 490:21 491:5			
409:13	491:13,19			
745 356:21	92 461:12 462:20			
357:17 360:12	463:3,5,7,8			
362:4 363:16	92614 351:7			
7A 386:15,16,18	506:2			
387:2,4,5,15	93 461:12			
388:13,18,21	949-760-0404			
389:18 390:12	351:8			
398:19,22	97 470:16			
399:6	98 470:16			
7B 386:15,16,18	9th 505:19			
390:16,17,18				
391:10,18				
392:9,19				
393:17 399:6				
7th 505:10				
8				
8 394:4,6,7,13,15				
396:2,13 397:3				