

Darrin Young, Ph.D. - 2/17/17
UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

FITBIT, INC.,
Petitioner,

v.

ALIPHCOM, INC., D/B/A JAWBONE
Patent Owner

Case IPR2016-00607
Patent 8,529,811 BS

DEPOSITION OF DARRIN YOUNG, PH.D.

February 17, 2017 * 9:06 a.m.

Location: Holland & Hart, LLP
222 South Main Street, Suite 2200
Salt Lake City, Utah

Reporter: Heidi Hunter, RPR, CCR
JOB NO. 119715

1 Darrin Young, Ph.D. - 2/17/17

2 A P P E A R A N C E S

3
4 FOR THE PETITIONER FITBIT:

5 Michael Hendershot

PAUL HASTINGS

6 Attorneys at Law

1117 South California Avenue

7 Palo Alto, CA 94304

8
9
10 FOR THE PATENT OWNER ALIPHCOM, INC., D/B/A/JAWBONE:

11 Michael Guo

WILSON SONSINI GOODRICH & ROSATI

12 Attorneys at Law

One Market Plaza

13 Spear Tower

San Francisco, CA 94105

14
15
16 ALSO PRESENT:

17 (None)

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I N D E X

DARRIN YOUNG, PH.D.

PAGE

Examination by Mr. Hendershot

4

E X H I B I T S

NO.

DESCRIPTION

FITBIT 1001 US Patent No. 8,529,811 to
Drysdale et al

FITBIT 1003 US Patent Application Pub.
No. 2006/0264756 to Lo et al

ALIPHCOM 2002 Darrin Young Curriculum Vitae

Paper 14

ALIPHCOM 2001 Darrin Young Declaration

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2 P R O C E E D I N G S

3
4
5 (ALL EXHIBITS PREMARKED.)

6 * * *

7 DARRIN YOUNG, PH.D.,

8 called as a witness, being first duly sworn, was
9 examined and testified as follows:

10 EXAMINATION

11 BY MR. HENDERSHOT:

12 Q Good morning.

13 A Good morning.

14 Q I'm Mike Hendershot. I'm counsel for Fitbit.
15 Can you do me a favor and state your name for the
16 record.

17 A Darrin Young.

18 MR. GUO: And before we get too far, let me
19 enter an appearance.

20 MR. HENDERSHOT: Certainly. Sorry.

21 MR. GUO: Michael Guo of Wilson, Sonsini,
22 Goodrich & Rosati for patent owner Aliphcom, Inc., d/b/a
23 Jawbone.

24 Please. Sorry.

25 MR. HENDERSHOT: And Michael Hendershot of

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2 Paul Hastings, LLP, for Petitioner Fitbit.

3 Q So, Dr. Young, you understand you're under
4 oath today?

5 A Yes, I understand.

6 Q And the oath you take obligates you to tell
7 the truth in response to my questions. Do you
8 understand that?

9 A Yes.

10 Q Sitting here today is there anything that
11 would prevent you from understanding my questions?

12 A Nothing particular.

13 Q Not taking any medication or anything like
14 that?

15 A No, I have not.

16 Q Have you had your deposition taken before?

17 A I had it once.

18 Q So I will walk through some of the ground
19 rules, and feel free to stop me or ask me questions if
20 you don't understand. I'll be asking questions. You'll
21 hopefully be providing answers.

22 We have a court reporter here who will be
23 taking things down. So I ask that you do two things and
24 I'll endeavor to do the same. Provide clear, audible
25 answers. We often nod in conversation, but the

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2 transcript can't pick that up. And we do our best. It
3 happens, but we do our best to avoid talking over one
4 another or talking at the same time because it makes it
5 difficult for the court reporter to take things down.

6 Do you understand that?

7 A Yes, I understand.

8 Q You said were deposed once before; is that
9 correct?

10 A Yes.

11 Q Can you describe the case in connection with
12 which you were deposed?

13 A It was a case between a patent -- for patent
14 infringement lawsuit between a U.S. company and another
15 company based in Australia.

16 Q Have you ever testified at trial or any other
17 live proceeding outside of a deposition?

18 A Yes, I have.

19 Q Was it also in that patent case?

20 A Yes, it was.

21 Q And I don't want you to reveal any potentially
22 confidential information from that case, but can you
23 describe generally what technology was at issue in that
24 case?

25 A It was about a cochlear prosthesis, a cochlear

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2 implant technology.

3 Q Had you worked with cochlear implant
4 technology prior to that case?

5 A What do you mean by "have I worked with
6 cochlear implant technology"?

7 Q Did any of your research prior to that case
8 involve cochlear implant technology?

9 A Yes, I have.

10 Q In that case you were testifying on -- strike
11 that.

12 I assume you're offering expert testimony in
13 that case involving the cochlear implant technology; is
14 that correct?

15 A That's correct.

16 Q Were you an expert on behalf of the patent
17 holder or the accused infringer?

18 A Patent holder.

19 Q In connection with your work on this petition
20 between -- filed by Fitbit, are you being compensated
21 for your time?

22 A Yes, I have.

23 Q At what rate?

24 A \$450 per hour.

25 Q Is that your usual rate?

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2 A That's right.

3 Q Did you do anything to prepare for today's
4 deposition?

5 A Yes, I did something to prepare.

6 Q Who did you meet with -- strike that.
7 Did you meet with anyone to prepare for
8 today's deposition?

9 A I met with counsel.

10 Q Did you meet with any nonattorneys in
11 preparation for the deposition?

12 A No, I did not.

13 Q And how many times did you meet with counsel?

14 A I met once.

15 Q When was that?

16 A Yesterday.

17 Q And approximately how long did you guys meet
18 to prepare for today's deposition?

19 A We met about three -- three hours.

20 Q And outside of meeting with counsel for about
21 three hours yesterday, did you do anything else to
22 prepare for today's deposition?

23 A Yes, I did.

24 Q What was that?

25 A I read the documents.

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2 Q About how long did you spend reading the
3 documents?

4 A Five, six hours.

5 Q Do you know how many hours to date in total
6 you billed to this case for this petition?

7 A About somewhere between 30 to 40 hours.

8 Q And you prepared a declaration in connection
9 with this -- strike that.

10 You understand that the patent owner has
11 submitted a declaration from you in connection with this
12 petition; is that correct?

13 A That's correct.

14 Q And the declaration you submitted in this --
15 strike that.

16 Your declaration in connection with this
17 petition, did that contain all the opinions you've
18 developed and intend to offer in connection with this
19 petition?

20 MR. GUO: Objection. Form.

21 THE WITNESS: Could you repeat the question
22 again.

23 Q In preparing your declaration, did you set
24 forth in that declaration all of the opinions you intend
25 to offer?

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2 A I offered my opinions with respect to the
3 issues in my declaration.

4 Q Okay. And all of your opinions in connection
5 with this are written in your declaration; is that
6 correct?

7 MR. GUO: Objection; form.

8 THE WITNESS: I wouldn't say all. It was all
9 the issues that I was presenting. I provided my
10 opinions.

11 Q Okay. So on the issue you were presented and
12 asked to provide an opinion on, all of your opinions
13 with respect to those issues are written in your
14 declaration; is that correct?

15 A I would say so.

16 Q And with respect to those opinions that are
17 written in your declaration, does your declaration cite
18 to all of the support you relied upon to form those
19 opinions?

20 A That's correct.

21 Q Dr. Young, I'm going to hand you what's been
22 marked in this proceeding as 2002. I believe it's your
23 curriculum vitae. Take a minute to review it.

24 Dr. Young, is what's been marked as
25 Exhibit 2002 in front of you your CV?

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2 A That's correct.

3 Q Okay. Would you do me a favor and describe
4 your educational background following high school.

5 A I had a bachelor degree from electrical
6 engineering and computer science from the University of
7 California, Berkeley. And I had a master and the Ph.D.
8 from the same field from UC Berkeley.

9 Q What year did you obtain your Ph.D.?

10 A 1999.

11 Q And what did you do professionally after you
12 obtained your Ph.D. in 1999? What was your next job?

13 A My next job was assistant professor at the
14 Case Western Reserve University.

15 Q How long were you an assistant professor at
16 Case Western?

17 A I taught there for 10 years.

18 Q You may have taught a colleague of mine
19 actually, come to think of it.

20 So that take -- so after -- after those 10
21 years of being an assistant professor at Case Western,
22 what was your next role?

23 A I moved to University of Utah.

24 Q Are you also a professor at the University of
25 Utah?

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2 A That's correct.

3 Q And what do you teach at the University of
4 Utah?

5 A Electrical and computer engineering.

6 Q And do you teach both undergraduate and
7 graduate students or just one or the other?

8 A I teach both.

9 Q And you're currently a professor at the
10 University of Utah?

11 A That's correct.

12 Q Did any of your work as a student in
13 connection with either your bachelor's, master's, or
14 Ph.D. involve the study of injection molding technology?

15 MR. GUO: Objection; form.

16 THE WITNESS: Well, my research was in
17 microfabrication, you know, making semiconductor
18 devices, and in order to task the device, I need to
19 package the device. And for the package, we outsourced
20 to external companies who make the package for us.

21 Q What sort of packaging was -- strike that.

22 For the packaging you just described that was
23 outsourced in connection with the microelectronic
24 devices, do you know what sort of packaging was applied
25 to those?

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2 A It was like ceramic packaging.

3 Q Can you be more specific?

4 A It's a typical standard ceramic package used
5 to encapsulate sensors and integrate the circuit chips.

6 Q Do you know how that ceramic packaging was
7 applied to the microelectronic devices?

8 A The microelectronic would be packaged inside
9 the ceramic package as a protection as a way easier for
10 users to handle it.

11 Q Do you know how that ceramic package was
12 applied to it, the application process?

13 MR. GUO: Objection; form.

14 Q Strike that. Do you understand -- strike
15 that.

16 Do you know what the application process was
17 that was used to apply that ceramic package you just
18 referenced?

19 A I know.

20 Q What was it?

21 A It was a uniform package base, and you put the
22 chip or your semiconductor device in the package. You
23 do the wire bonding. Then you inject plastic, we call
24 it encapsulation layer, over the package and basically
25 there's a temperature, you know, cycling, cool it down.

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2 Then you take it when you're done with it.

3 Q And during that period -- strike that.

4 And with respect to this ceramic packaging
5 that was applied to microelectronic devices during your
6 studies, were you ever present when that injection
7 process went on?

8 A No, I was not.

9 Q In connection with your studies for either
10 your bachelor's, master's, or Ph.D., did your studies
11 involve wearable sensor technology?

12 A It involved a sensor, but not at the time.
13 We're now focusing on wearable.

14 Q When you say "it involved a sensor," what sort
15 of sensor did it involve?

16 A Exometers, gyroscopes, precious inserts.

17 Q So moving on to your work at Case Western, did
18 any of your research at Case Western involve injection
19 molding technology?

20 A We used the injection molding technology as a
21 fabrication step to make molds, and if the molds will be
22 used by us to make sensors.

23 Q So did you have an injection mold at your lab
24 at Case Western that you used?

25 A We outsourced.

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2 Q And when you say -- correct me if I'm wrong or
3 misstate any of this.

4 As I understand it, at Case Western, during
5 your time there, some of your research involved using a
6 mold to make molds that were then used to make sensors?

7 A Yes.

8 Q What -- strike that.

9 Can you just walk through me what that process
10 involved, from your end personally?

11 A For example, when we make sensors, if we want
12 to make a -- like a 3D features, you know, typically you
13 need to make a mold. Then you pour materials in the
14 mold and then you pour that material out of the mold to
15 form that shape. Then -- so that could be a particular
16 layer, you know, used in your sensor.

17 Then we go on with other, you know, related
18 fabrication steps to finish making a sensor. Then we
19 typically put the sensor on to a substrate and covered
20 the sensor. So assembly we call it on the substrate to
21 form a, you know, usable final module for people to
22 test.

23 Q And in that process that you described, would
24 you or other people you researched with at Case Western
25 decide what material would be used for a mold?

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2 A Yes. I, you know, was in the process of
3 deciding certain material for making the mold or making
4 the sensor.

5 Q In terms of the design of the 3-dimensional
6 feature you were discussing, was that you or your
7 researchers did at Case Western, or was that done by the
8 party you outsourced it?

9 A We did the design, a sym fabrication process.
10 We just didn't do it, you know, in the university. We
11 outsourced to external foundries to do the job.

12 Q Did any of your research at Case Western
13 involve wearable sensor technology?

14 A It was mainly implantable at that time.

15 Q And then in your work as Berkeley has any of
16 your research involved injection molding technology?

17 A We used injection molding technology, as I
18 said earlier, fabrication step to make -- you know, to
19 make the package to cover or encapsulate integrated
20 circuits in the sensors.

21 Q When you're covering integrated circuits or
22 sensors like that, is that an entire -- strike that.

23 What application are those integrated circuits
24 and sensors you described used?

25 A They used it for sensing applications. They

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2 used it for communication applications.

3 Q Would you explain to me what you mean by
4 "sensing applications" on that answer?

5 A For example, if you make an exometer, that
6 detects vibration acceleration, and the exometer, you
7 know, can be placed in vehicles or airplanes that
8 detects that acceleration.

9 Q I believe you said there was communication
10 applications as well.

11 A Yes.

12 Q Could you explain what you meant by that?

13 A Well, for example, we build integrated
14 circuits as -- like a high-frequency transmitter to
15 transmit signal -- like wireless communication. When
16 you transmit a signal from one side to the other, you
17 need to have some, you know, transmittal
18 modulation/demodulation circuits.

19 Q Did any of the projects you described -- I'm
20 going to take a step back in time and ask the same
21 question for each phase.

22 So in your work at -- in connection with your
23 studies at Berkeley, and for either your bachelor's,
24 your master's, or your Ph.D., did any of the projects
25 you discussed that involved injection molding involve

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2 applying more than one molding layer to the device?

3 MR. GUO: Objection; form.

4 THE WITNESS: It certainly involves applying
5 multiple layers, but different layers may be carried out
6 or done differently. Some of them may be injection
7 molding. Some may be not using injection molding
8 process.

9 Q Fast track this. Did any -- did any of your
10 work -- I'm going to ask a long question but try to save
11 us some time doing it.

12 A Sure. Sure.

13 Q Did any of the work or projects that you've
14 referenced, either in your studies at Berkeley, your
15 work at Case Western, or your work as a professor at
16 Berkeley -- sorry. Strike that. Utah. So let me ask
17 the question again.

18 Did any of the projects you've described that
19 involved injection molding from your studies at
20 Berkeley, your work as a professor at Case Western, or
21 your work as a professor at the University of Utah --
22 strike that.

23 It's actually -- you've got a good objection
24 on that. I haven't got to Utah yet, have I?

25 MR. HENDERSHOT: Have I asked him about

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2 research, his research about Utah?

3 MR. GUO: It's up to you.

4 Q Has any of your work at the University of
5 Utah -- strike that. I can scroll back.

6 Has any of your research at the University of
7 Utah involved injection molding technology?

8 A Yes.

9 Q Could you describe what portions or
10 projects -- strike that.

11 Could you describe what aspects of your
12 research at the University of Utah involve injection
13 molding technology?

14 A Okay. So when we build sensors, for example,
15 you know, flexible sensors, we -- we need to make a
16 mold. And the mold, again, is designed by us and made
17 or manufactured by external companies. And injection
18 molding process often were used to make those molds.

19 Q Has any of your research at the University of
20 Utah involved wearable sensor technology?

21 A Yes.

22 Q Could you describe what aspects of your
23 research at the University of Utah involved wearable
24 sensor technology?

25 A I've been working on a number of projects, you

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2 know, involving wearable sensor technology. One of them
3 is a -- you know, called a wearable pressure pad, go
4 inside the shoe. And actually I started that project at
5 Case Western. I moved it here, so the project moved to
6 here with me. You know, that was used to provide
7 personal navigation tracking.

8 Okay. And other project is based on building
9 flexible patch that can be, you know, attached to the
10 surface, you know, human body skin to detect
11 physiological signals. For example, your heart rate,
12 blood pressure waveform.

13 Q So for the project you described that involved
14 a pressure sensor that's in a shoe --

15 A Okay.

16 Q -- you said that started at Case Western; is
17 that correct?

18 A Yes.

19 Q Roughly when would you have started that
20 research? What year?

21 A 2007, 2009 -- no. Sorry. 2007, 2008.

22 Q When did you start the work on the flexible
23 patch research that you described?

24 A That start about 2000 -- around 2012 or so.

25 Q Now I'll try to fast track things.

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2 Has any of your research -- either in
3 connection with your work as a student at Berkeley, as a
4 professor at Case Western, or as a professor at
5 University of Utah -- involved the application of one
6 molding that is then encapsulated by a second molding?

7 MR. GUO: Objection; form.

8 THE WITNESS: You know, my work involved using
9 the molds to build sensors. And in order to make the
10 molds, you know, you need to use different molding
11 technique to make the mold. And that process involved
12 multiple steps or different steps. Some can be
13 injection molding; some may not be injection molding.

14 Q Has any of your research as either a student
15 at Berkeley, a professor at Case Western, or professor
16 at the University of Utah involved the application of
17 one mold to a sensor and then another mold on top of
18 that that encapsulates it?

19 MR. GUO: Objection; form.

20 THE WITNESS: It involves sensors -- it
21 involves like a protection layer, a molding layer on top
22 of a sensor. Sometimes it also involves another --
23 another coating, you know, like a -- it's a coating that
24 coats all around it, using like a vapor deposition
25 method. A very thin layer coating.

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2 Q Has any of your work as either a student at
3 Berkeley, a professor at Case Western, or a professor at
4 the University of Utah involved the application of a
5 molding to a sensor via an injection molding process and
6 then the application of a second molding that
7 encapsulates that first molding via an injection molding
8 process?

9 MR. GUO: Objection; form.

10 THE WITNESS: We didn't use the injection
11 process to provide that coverage. You know, we used,
12 for example, sort of as a research prototype, we used --
13 for example, we manually applied the protection layer on
14 top of the sensor to protect the sensor. Then for a
15 like hermetically sealed or water-resistant protection
16 layer, we can't do it by hand. We have to go to using a
17 machine to do that coating.

18 MR. HENDERSHOT: Can you read my question back
19 please?

20 (The last question was read back.)

21 Q Did you understand that question?

22 A It's a very long question.

23 Q Have you ever in your life -- we will
24 eliminate the first part.

25 Have you ever been involved in a project that

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2 involved applying successive moldings to a device where
3 both moldings are applied by an injection molding
4 process?

5 MR. GUO: Objection; form.

6 THE WITNESS: When we make the molds to make
7 the sensor, there will be multiple, you know, steps to
8 make the mold. Some of them will be or can be injection
9 molding. And once we use the mold to make the sensor,
10 then we use a different techniques to passivate the
11 sensor or cover the sensor.

12 I'm not sure if I, you know, answered your
13 questions.

14 Q When you say "different techniques to
15 passivate the sensor," are any of those -- strike that,
16 do any of those involve injection molding?

17 A For example, the electronic chip that we use,
18 that we design and fabricate, our package is using, you
19 know, the injection molding packaging technique to cover
20 that chip. That is a standard -- as I mentioned
21 earlier, like a ceramic type of packaging to package
22 semiconductor device.

23 Q At some point in your research from your time
24 at Berkeley through your time at Utah, have you worked
25 on a project -- strike that.

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Have you ever designed an item that required the application of a molding that is applied via an injection molding technique?

A Could you repeat the question?

MR. HENDERSHOT: Can you read that back?

(Record read.)

THE WITNESS: I designed integrated circuit chip that needs to be packaged by a standard packaging, for example, ceramic package that does need an injection molding technique to package that chip.

Q Other than that example, can you think of any others?

A I designed molds that will be used to make the sensor. And that mold will be manufactured by using injection molding techniques.

Q Any others?

A Not that I can think of now.

Q In your work either as a student at Berkeley or a professor at Case Western or Utah, have you ever designed an item that required the application of more than one coating that is applied by injection molding?

A I have designed integrated circuit chips that needs to be packaged by a standard, you know, package. And in that package process there will be multiple -- as

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2 protection layers needs to be provided. And some of
3 those layers will be formed by using injection molding
4 techniques.

5 Q In any of those examples were multiple of
6 those layers applied by using injection molding
7 techniques?

8 MR. GUO: Objection; form.

9 THE WITNESS: Typically you need at least two
10 layers to finish the encapsulation.

11 Q When you say "two layers," are both of those
12 layers applied by injection molding techniques, or are
13 some applied by some different technique?

14 A Depends on -- depends on the process that you
15 pick. Some process may require a different technique
16 than injection molding. Some process may use a standard
17 injection molding technique to provide encapsulation.

18 Q List for me every project you have worked on
19 in your career that you can recall where an item had one
20 layer or coating applied to it via injection molding and
21 then another layer applied to it via injection molding
22 on top of it?

23 MR. GUO: Objection; form.

24 THE WITNESS: For example, when I designed the
25 integrated circuit chip, that chip needs to be packaged.

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2 And that package is formed by injection molding, and
3 that package may require multiple layers coverage to
4 cover the sensor's surface.

5 Q When you say "multiple layers" in that answer,
6 are you referring to multiple layers applied by
7 injection molding?

8 A I think at least the top layer is done by
9 injection molding.

10 Q Can you recall any time in your career either
11 as a student or professor where you designed an item
12 that included one coating that is applied by an
13 injection molding technique followed by a second coating
14 that is applied by an injection molding technique?

15 MR. GUO: Objection; form.

16 THE WITNESS: I've looked into details about
17 the specific package that I used at that time to make
18 sure whether there are multiple injection moldings used
19 to form the encapsulation.

20 Q Without going back to look at that, do you
21 remember an example of any such circumstance today?

22 A To give you the correct answer, I need to look
23 into it to make sure. I don't want to say wrong things
24 to you.

25 Q Can you any of any other example outside of

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2 that -- strike that.

3 With respect to that packaging example that
4 you've discussed -- strike that too. Third time's a
5 charm.

6 The packaging of an integrated circuit and
7 microelectronic device that you've discussed as the
8 example of your work with injection molding, that
9 packaging was used for what purpose?

10 MR. GUO: Objection; form.

11 THE WITNESS: Packaging used for handling
12 purpose.

13 Q When you send it off for testing?

14 A Even when I -- when I touch it, test it by
15 myself.

16 Q Okay. Would that packaging remain on the
17 device after the testing?

18 A The package -- the package stays there because
19 your -- your semiconductor device is already packaged
20 inside. So it stays there.

21 Q So it's not a temporary packaging that's used
22 for shipping, for example, like many people use in the
23 semiconductor industry; it's permanent packaging?

24 MR. GUO: Objection.

25 THE WITNESS: I'm not sure I understand your

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2 question about "used for shipping."

3 Q After the packaging was applied to the device
4 as you've been discussing, was it ever removed?

5 A Typically we don't remove it, but there are
6 few times where things don't work right. We trying to
7 remove, for example, the very top cap underneath
8 microscope to look at to see if there's any breaking of
9 bond wires or if there's any damage, for example, you
10 know, you pushing too much current into the chip, you
11 may see a blocked out somewhere on the surface, just for
12 us to study the failure mechanism.

13 Q At either -- strike that.

14 Have you ever taught a course that involved --
15 strike that.

16 Have you ever instructed students on injection
17 molding technology?

18 A No, I have not taught them how to use
19 injection molding technology because it's a standard
20 process typically.

21 Q Do other professors to your knowledge within
22 the electrical engineering or computer engineering
23 department teach injection molding technology as part of
24 their courses?

25 MR. GUO: Objection; relevance.

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2 THE WITNESS: No, not that I know of.

3 Q Do any of the courses you've taught involve
4 the subject of wearable sensor technology?

5 A Yes.

6 Q Can you identify those courses?

7 A I teach a graduate level course. I think
8 somewhere in my CV I list the courses that I teach.

9 On page 29 of my CV, you know, I list the
10 courses that I teach. And the course called ECE 6960,
11 title is Electrical Interface for MEMS. It's a graduate
12 level class. And in that class I talk about, you know,
13 sensors and its related application, and a part of the
14 related application is wearable sensing applications.

15 Q Does that course you identified involve the
16 design of wearable sensing devices?

17 A We mainly focus on the sensing principle, how
18 does the sensing mechanism -- like we focus on the way
19 of sensing. And sort of based on, you know, equations
20 to talk about how things works. But the specific sensor
21 design, you know, is done in my own research lab where I
22 have more interaction with the master students, Ph.D.
23 students and at that stage to get to design things,
24 building things, testing things.

25 Q So we've talked about your work as a student

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2 and professor at various universities. Has any of your
3 work outside of your work at Case Western, Berkeley, or
4 Utah involved injection molding technology?

5 A No, I have not worked elsewhere.

6 Q And have you done any work outside of the
7 University of Utah, Case Western, or Berkeley, that
8 involved wearable sensor technology?

9 A There are people in the industry, you know,
10 coming to visit the university, ask me, you know, my
11 thoughts regarding the current status of the wearable
12 sensor technology, so -- but I have not worked with it.

13 Q Do you recall -- strike that.

14 Have you written any publications on wearable
15 sensor technology?

16 A Yes, I have.

17 Q Do you recall roughly how many?

18 A Conference paper, journal paper, added
19 together maybe around 8 to 10.

20 Q Can you describe for me generally what the
21 subject matter was of those 8 to 10 conference and your
22 other papers -- strike that. I'll rephrase it. It was
23 a bad question.

24 Can you describe for me generally the subject
25 matter of those papers you just referenced?

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2 A Okay. The paper's mainly focusing on, you
3 know, we call it a wearable pressure pad that go inside
4 the shoes that can be detecting person's walking when
5 the foot is on the ground, when the foot is in the swing
6 phase, meaning off the ground, and that can be used to
7 detect, you know, how you walk, number of steps that you
8 walked. And those information are very important for,
9 you know, tracking for personal navigation applications.

10 And, you know, other areas are calling the
11 wearable sensors on the wrist or on the neck or
12 different parts of the body where you can detect, you
13 know, heart rates and blood pressure waveforms. So
14 these are the general area in which I publish the
15 research papers.

16 Q And do those research papers that you just
17 referenced relate to the research you discussed earlier
18 about the pressure pad in the shoe and the wearable
19 patch?

20 MR. GUO: Objection; form.

21 Q Yes or no?

22 A Could you say that again?

23 Q The papers you just discussed, do some of them
24 relate to the pressure pad in the shoe that you
25 referenced earlier and your work on that?

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A Yes.

Q And do the other papers relate to the research you described earlier about a wearable patch?

A For like a human physiological signal?

Q Yes.

A Yes.

MR. HENDERSHOT: Off the record for a couple minutes.

(Recess.)

BY MR. HENDERSHOT:

Q Dr. Young, earlier you discussed applying via injection molding a packaging around a semiconductor device. Do you recall what applications those semiconductor devices you described related to?

MR. GUO: Objection; form.

THE WITNESS: You know, I designed a number of electronic chips, and they actually for a wide range of applications, some force sensing, some for, you know, high frequency wireless communication. And they required this type of package to just provide protection and easy handling.

Q I'm going to hand you what's been marked in this proceeding as Exhibit 2001, which should be a copy of your declaration. If can you take a moment and

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2 review it for me please.

3 Have you had a chance to review Exhibit 2001?

4 A Yes, I have.

5 Q Do you recognize it?

6 A This is my declaration.

7 Q So in your declaration that's been marked as
8 Exhibit 2001, you provide your opinion as to what you
9 view the proper construction of an outer molding element
10 in Claim 16 of what the 811 patent should be, correct?

11 MR. GUO: Objection; form, foundation.

12 THE WITNESS: Could you say it again.

13 Q In your declaration --

14 A Try to speak a little bit slow.

15 Q Yeah, sure.

16 Your declaration addresses claims of a certain
17 patent; is that correct?

18 A No, that's not correct.

19 Q How is that incorrect?

20 A My declaration was to -- was to really respond
21 to a number of claims in the patent and also respond to
22 Dr. King's declaration.

23 Q And you were responding to points in certain
24 claims of a patent; is that correct?

25 On the face of your declaration, in the middle

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2 of the page there's a Patent Number 8529811. Do you see
3 that?

4 A Yes, I see that.

5 Q What is that referring to?

6 A That is a patent number for a U.S. patent.

7 Q I'm going to refer to that as the 811 patent,
8 if that's okay, in my question.

9 A Sure.

10 Q Do the opinions you set forth in your
11 declaration, that's been marked as Exhibit 2001 in this
12 proceeding, address the subject matter of the 811
13 patent?

14 A I provide opinions with respect to certain
15 subject matters from 811.

16 Q So the opinions you offer are about the 811
17 patent. And when I say "the opinions," I mean the
18 opinions in your declaration?

19 A If you look through my declaration and, you
20 know, I talk about -- I give some opinion, you know,
21 about the 811 -- 811 patent, and I also give opinions
22 with respect to Dr. King's declaration.

23 Q Does your declaration include opinions about
24 Claim 16 of the 811 patent?

25 A Can you be a bit more specific in terms of

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2 which part of the declaration that you are asking me?

3 Q Sure. Why don't you look at Paragraph 22 on
4 Page 9 of Exhibit 2001.

5 A Okay.

6 Q Paragraph 22 provides quote: "As explained in
7 further detail below, it is my opinion a person of
8 ordinary skill in the art viewing the 811 patent claims
9 in view of the specification would understand the 'outer
10 molding of the wearable device that covers all or
11 substantially all of the one or more inner moldings' as
12 recited in Claim 16 as enclosing or encasing the inner
13 moldings."

14 Do you see that?

15 A I see that.

16 Q Is that an accurate statement of your opinion
17 as to the meaning of the quoted phrase there from
18 Claim 16?

19 A This is my opinion when I -- when I -- when I
20 view claim 16 as an ordinary skill in the art in
21 conjunction with the rest of the specification of 811
22 patent.

23 Q And in view of those materials that you
24 identified in that answer, it's your opinion that outer
25 molding of the wearable device that covers all or

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2 substantially all of the one or more inner moldings as
3 recited in Claim 16 would be understood by one of skill
4 in the art to mean enclosing or encasing the inner
5 moldings; is that correct?

6 A That's correct.

7 Q And I may be able to save us some time. You
8 discuss later in your declaration at various points the
9 use of the outer molding in the 811 patent to provide a
10 decorative surface on a wearable band. Do you recall
11 that?

12 A Would you point me to the specific passage?

13 Q Paragraph 51 on Page 22. Specifically about
14 one, two, three -- four lines down. You reference the
15 outer molding as having protective and ornamental
16 features. Do you see that?

17 A I see that.

18 Q Is it your opinion that the proper
19 construction of the outer molding element in Claim 16
20 requires that the outer molding have protective or
21 ornamental features?

22 MR. GUO: Objection; scope, form.

23 THE WITNESS: If you read that sentence
24 carefully, in my opinion the claim in the specification
25 of the 811 patent described in the outer molding as

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2 having protective and ornamental features. So the claim
3 of the 811 patent described that.

4 Q In your opinion, would a person of ordinary
5 scale in the art understand the phrase "an outer molding
6 of the wearable device that covers all or substantially
7 all of the one or inner moldings as requiring a
8 decorative surface"?

9 MR. GUO: Objection; form, scope.

10 THE WITNESS: I didn't give specific opinion
11 on that, as I recall.

12 Q Okay. You offer an opinion in your
13 declaration as to what you think the proper construction
14 of the outer molding element in Claim 16 is, correct?

15 MR. GUO: Objection; form.

16 Q And I can direct you to paragraph 22 again.

17 MR. GUO: Objection; form.

18 Q I don't think I have a question pending.

19 MR. GUO: I wasn't sure. Just to be safe.

20 Q Does -- keep reading. I don't want to
21 interrupt you.

22 Does paragraph 22 state your opinion as to
23 what the proper construction of the outer molding
24 element from Claim 16 should be?

25 MR. GUO: Objection; form.

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2 THE WITNESS: It is not my construction. I
3 put myself as an ordinary skill in the art. When I look
4 at the claim, when I look at the diagrams, you know,
5 presented in the patent, I was -- I derived that
6 conclusion.

7 Q Okay. This paragraph 22 of your declaration
8 accurately state your opinion as to what a person of
9 ordinary skill in the art at the time of the invention
10 would have understood the outer molding element of
11 Claim 16 to require?

12 MR. GUO: Objection; form.

13 THE WITNESS: As I stated in the declaration,
14 it is my opinion a person of ordinary skill in the art
15 viewing the 811 patent claims in view of the
16 specification will understand the outer molding of the
17 wearable device that covers all or substantially all of
18 one or inner molding as recited in Claim 16 as enclosing
19 or encasing the inner moldings.

20 Q So is it correct that in your opinion a person
21 of ordinary skill in the art would not understand
22 Claim 16, specifically its outer molding requirement
23 that you just read as requiring a decorative or
24 ornamental surface?

25 MR. GUO: Objection; form.

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THE WITNESS: I did not give that opinion.

Q So you've not offered an opinion that the outer molding requirement of Claim 16 requires that -- strike that.

Is it correct that you have not offered an opinion that the outer molding requirement of Claim 16 recited here in paragraph 22 of your declaration requires that the outer molding provide an ornamental surface?

MR. GUO: Objection; form.

THE WITNESS: In paragraph 22, I did not offer that opinion.

Q Did you offer it anywhere in your declaration?

MR. GUO: Objection.

THE WITNESS: I have to look through my declaration.

Q Please.

A So in paragraph 51.

Q Sure. Go ahead.

A It reads: "As in my opinion the claims and a specification of 811 patent describe in outer molding as having protective and ornamental features that will now be provided by by Lo's transmission medium."

That's the opinion that I give.

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Q Can you point out for me where in Claim 16 it describes these ornamental features?

MR. GUO: Objection; form.

THE WITNESS: Well, if you . . .

Q Anywhere.

A Will you please --

If you look at page 22.

Q Sure.

A At the bottom: "In addition, the patent claims the outer molding as providing certain and the protective and ornamental features." In the patent it describes it.

Q And my question is: Where in Claim 16 does it do so? And the language of Claim 16 is reproduced at pages 8 and 9 of your declaration.

A Can you please pass me the patent to look at.

Q Sure.

MR. HENDERSHOT: I'll give you a copy of the patent. I think I may be able to do this a little quickly.

Q Hand you a copy of Exhibit 1001 in this proceeding, a copy of the 811 patent. Can you set the patent aside for a moment. I'll withdraw my last question.

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2 Within your declaration, which is
3 Exhibit 2001, I direct your attention to page 9 please.
4 There's a heading entitled "Claim Construction." Do you
5 see that?

6 A I see that.

7 Q The section continues on for a number of
8 pages. But specifically at the end of paragraph 23, you
9 provide: "I discuss the term 'covers all or
10 substantially all' below and what I understand as the
11 construction of this term."

12 Do you see that?

13 A Let me look at it.

14 Yes, I see.

15 Q I want to ask you a question about the
16 construction of this term. I want to understand what
17 your opinion is as to the construction of that term here
18 as references in paragraph 23.

19 A Uh-huh.

20 Q Is it correct that your opinion as to the
21 construction of the "outer molding of the wearable
22 device that covers all or substantially all of the one
23 or more inner moldings" as recited in Claim 16, is
24 enclosing or encasing the inner moldings?

25 A When I put myself as ordinary skill in the

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2 art, read the patent claim, read a specification of the
3 claim, I will understand the outer molding covers the
4 inner molding completely as a complete enclosing or
5 encasing of the inner molding.

6 Q And is that what you're referencing here on
7 paragraph 23 as the construction of the term?

8 MR. GUO: Objection; form.

9 THE WITNESS: Well, paragraph 23 reads "I
10 discussed the term covers all or substantially all
11 below, and what I understand as the construction of this
12 term."

13 Q What do you understand the construction of
14 that term "covers all or substantially all" to be?

15 A I think in the document there is somewhere, if
16 you allow me to look for it, is an implied construction
17 provided by the board, which institute this inter-party
18 review, there is an implied construction given by the
19 board.

20 Q Do you have an opinion expressed in your
21 declaration as to the proper construction of the outer
22 molding element of Claim 16?

23 A My opinion is as an ordinary skill in
24 reviewing the patent, specification drawings as the
25 entirety of the patent, one will understand that the

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2 outer molding completely covers the inner molding, which
3 is consistent with what the patent teach. And that
4 means it's totally completely enclosing, encasing the
5 inner molding.

6 Q So in paragraph 24 of your declaration, does
7 24 -- strike that.

8 Does paragraph 24 accurately and fully state
9 your opinion as to what a person of ordinary skill in
10 the art would understand the outer molding element of
11 Claim 16 to mean?

12 MR. GUO: Objection; form.

13 THE WITNESS: Let me read it.

14 Q Yeah, please.

15 A Could you repeat your question again?

16 Q Does paragraph 24 of your declaration
17 accurately and fully state your opinion as to what a
18 person of ordinary skill in the art would understand the
19 outer molding element of Claim 16 to mean?

20 MR. GUO: Objection; form.

21 THE WITNESS: It talks about in ordinary
22 person skill in the art, when that person reviews the
23 patent claim and that person will understand the outer
24 molding, the outer molding of the wearable device that
25 covers all or substantially all of one of the inner

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2 molding as enclosing or encasing the inner molding, that
3 is -- that is the focus of this sentence. It's about
4 the encapsulation, the encasing the inner molding.

5 Q How was your declaration prepared? Describe
6 the process to me.

7 A That's a very general question. Can you be
8 more specific?

9 Q Who was involved in the declaration
10 preparation of your declaration?

11 A Myself and counsel.

12 Q Which counsel did you deal with preparing your
13 declaration?

14 A Mr. Michael Guo.

15 Q It's good company to keep.

16 Who typed the document that appears at your
17 declaration?

18 A We exchanged the emails in that process. I
19 offered them my opinions and, you know, we talk over the
20 phone. This -- this document was a -- sort of a -- a
21 final document that produced by us.

22 Q And I presume but want to confirm, you
23 reviewed every word in the document before signing it;
24 is that correct?

25 A That's correct.

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Q You agree with every word in the document; is that correct?

A That's correct.

Q And the document reflects your opinions; is that correct?

A That's correct.

Q So with respect to the outer molding element of Claim 16, does paragraph 24 state your opinion as to what a person of ordinary skill in the art would understand it to mean?

A Ordinary skill in the art when reviewing that patent will understand the outer molding that covers the wearable device means a completely enclosed inner molding. That's what my understanding of how an ordinary skill in the art would view the patent and will understand what the patent teaches.

Q And here in this claim construction section of your declaration, you do not offer an opinion that a person of ordinary skill in the art would understand the outer molding element of Claim 16 to require an ornamental design; is that correct?

MR. GUO: Objection; form.

MR. HENDERSHOT: What's the basis of that objection?

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2 MR. GUO: Well, we're not allowed to give
3 speaking objections.

4 MR. HENDERSHOT: I'll invite the basis. I
5 want to correct my question if I need to.

6 MR. GUO: I say it's vague. Also asked and
7 answered.

8 MR. HENDERSHOT: Okay.

9 Q You can answer it.

10 MR. HENDERSHOT: Can you read it back.

11 (Last question was read back.)

12 A I was not asked to offer that opinion.

13 Q Okay. And in your declaration is it correct
14 that you do not offer that opinion?

15 A In my declaration I recite what the patent
16 claim talks about in 811, the specification where I
17 states that the outer molding can have a surface
18 ornamentation. So I describe what the patent says. I
19 did not give an opinion as what the surface should be.

20 Q So do you in your declaration offer an opinion
21 that a person of ordinary skill in the art would
22 understand the outer molding element of Claim 16 to
23 require an ornamental design, yes or no?

24 A I talk about the ornamental design feature
25 required by the patent that was clearly describing the

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2 811 patent, but I did not provide further opinion.

3 Q With respect to -- strike that.

4 Do paragraphs 23 through 38 of your
5 declaration under the heading "Claim Construction" set
6 forth all the opinions you were offering as to how a
7 person of ordinary skill in the art would understand the
8 outer molding element of Claim 16?

9 A As I said, if I read the patent as an ordinary
10 skill in the art, this is what I will understand what
11 the patent is all about, what the patent is trying to
12 teach.

13 Q I don't think that answered my question. I'm
14 talking about your opinions as to the question of how a
15 person of ordinary skill in the art would understand the
16 outer molding element of Claim 16. With respect to that
17 question, does the claim construction section of your
18 declaration set forth all of your opinions, yes or no?

19 A These are the opinions that I provided.

20 Q In your opinion, would a person of ordinary
21 skill in the art understand the outer molding element of
22 Claim 16 to require that that outer molding have an
23 ornamental design?

24 A It is a -- it is a feature that that's being
25 disclosed in the patent. And allow me to go through --

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2 I remember somewhere, you know, in the claim it talks
3 about -- and I want to saying -- it talks about
4 something related to that surface feature.

5 Claim 7 the method of Claim 1 wherein a patent
6 is formed on the outer molding.

7 Q So that's in Claim 7, understood. I'm talking
8 about the outer molding element of Claim 16. Would a
9 person of ordinary skill in the art, in your opinion,
10 reading that and the context of the patent, understand
11 that that outer molding element of Claim 16 requires
12 that the outer molding have an ornamental design?

13 A You cannot look at the patent -- I mean, you
14 cannot look at the Claim 16 as an isolated claim. You
15 know when I was given that patent, I read the whole
16 thing, the entirety. And I connect all the claims
17 together to try to teach me or help me understand what
18 the patent was trying to teach. I did not look at them
19 in sort of isolated basis.

20 Q So you did not analyze what a particular
21 element, say the outer molding element of Claim 16,
22 itself would mean to a person of ordinary skill in the
23 art; is that correct?

24 A I don't understand your question.

25 Q I'm trying to understand your answer.

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2 Do you have an opinion as to how a person of
3 ordinary skill in the art would understand the outer
4 molding element of Claim 16, yes or no?

5 A That falls back to the previous paragraph
6 that -- the paragraph 22 in my declaration. "It is my
7 opinion a person of ordinary skill in the art viewing
8 811 claims in view of the specification will understand
9 that the outer molding of the wearable device that
10 covers all or substantially all of the one or more in
11 inner molding as recited in Claim 16 as enclosing or
12 encasing the inner molding." That is the opinion that I
13 provided here.

14 Q Okay. And that opinion does not reference an
15 ornamental design or a pattern; is that correct?

16 A In Paragraph 22 I did not mention anything
17 related to the patent.

18 Q So in your opinion, a person of ordinary skill
19 in the art reading the outer molding element of Claim 16
20 in the context of the entire disclosure of the patent,
21 would understand it to mean what you state in that
22 paragraph you just read; is that right?

23 A Yeah. If -- if a ordinary person reading the
24 entire patent will understand what I'm talking about
25 here.

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2 Q Is it your opinion that a person of ordinary
3 skill in the art would understand the outer molding
4 element of Claim 16 to mean what you state here in
5 paragraph 22 of your declaration?

6 A I would say what I stated in my declaration
7 paragraph 22 is or will be a part of the understanding
8 in ordinary skill in the art will understand what it
9 means by outer molding, the outer molding covering the
10 wearable sensor as enclosing the inner molding.

11 Q Did you intend in your declaration to set
12 forth the opinion that Claim 16 requires that the outer
13 molding have a pattern on it?

14 A That was not opinion that I give.

15 Q Okay. With respect to the outer molding
16 element of Claim 16, your declaration discusses the 811
17 patent describing protective properties for the outer
18 molding. Do you recall that?

19 A Let me look through this.

20 Q I can direct you to paragraph 26 and 27 and
21 28.

22 A You said 26?

23 Q 26 through 28.

24 Part of the reason -- strike that.

25 In your declaration part of the support for

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2 your opinion that the outer molding must completely
3 enclose and encase the inner molding in Claim 16 is that
4 this fully closed outer molding will provide some
5 protection for the device; is that correct?

6 A You know, you have to look at -- you have to
7 look at the patent, the specification and the drawings
8 or the schematics which will provide you with a much
9 clearer picture to understand what the -- what the
10 patent is all about in the complete sense. So when I
11 look at the specification and also the figures described
12 in the patent, I come to the conclusion that the outer
13 molding completely covers the inner molding.

14 Q In paragraph 26 of your declaration, you
15 state: "A person of ordinary skill in the art" --
16 strike that.

17 In paragraph 26 of your declaration, you
18 state: "A person of ordinary skill would understand a
19 wearable device as including fitness or monitoring-type
20 devices having electronics and hardware components, and
21 those components would benefit from protective aspects
22 of an encasing molding."

23 Do you see that?

24 A I see that.

25 Q What sort of protective aspects are you

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2 referring to there?

3 A You know, the protection can come in from
4 multiple directions or multiple aspects in particular
5 for -- for wearable device. The one is -- is like, you
6 know, mechanical scratching. Other can be, you know, if
7 you -- you know, wear something like in swimming, you
8 wanted to make sure that the protection provides
9 water -- water resistance so that your device does not
10 like all the sudden stop functioning because it's in the
11 water.

12 And also if you have something contacting the
13 body like surface of skin, typically, you know, in this
14 field of research and development people using something
15 as a biocompatible materials, antibacterial materials
16 to -- to protect, just to protect the skin of the
17 wearer.

18 Q Makes sense.

19 You would want those properties that you
20 talked about there on the outer casing of a device?

21 A Depending on the specific applications.

22 Q In the context of a fitness wearable, would
23 that be expected to be on the outside of the device, the
24 outer layer?

25 MR. GUO: Objection.

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2 MR. HENDERSHOT: Strike that. That's a good
3 objection. That's a really good objection. Bad
4 question.

5 Q These -- these properties you discussed in
6 terms of biocompatible materials, antibacterial
7 materials, scratching resistance, are those properties
8 you would typically expect on the outermost layer of a
9 wearable device?

10 A You know, it was typical application, you
11 would have to have at least one layer, one -- one of the
12 layers provides this type of capability.

13 Q So the biocompatible -- strike that.

14 I'm just trying to understand. So if you had
15 an antibacterial layer in a wearable device and that was
16 on an inner layer and you completely enclosed that,
17 would that antibacterial benefit still apply even though
18 it's completely enclosed?

19 MR. GUO: Objection; form.

20 THE WITNESS: That's not opinion I give in my
21 declaration.

22 Q Okay. Let's -- I am not trying to be tricky.
23 In paragraph 51 you talked about some of these
24 properties.

25 A Sure.

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2 Q You talk about Claims 2 to 8 there towards the
3 bottom of page 22. If you look at claims -- not trying
4 to be tricky at all. Look at Claims 2 to 8 if you want.

5 So Claim 2 talks about antibacterial
6 properties. Do you see that?

7 A I see that.

8 Q Were you those the sort of antibacterial
9 properties you were referring to earlier?

10 A I didn't give that opinion in my dec.

11 Q What do you understand the antibacterial
12 properties in Claim 2 to be referring to?

13 A I didn't provide any opinion regarding
14 Claim 2.

15 Q Well, you cite to in paragraph 51.

16 A I cite what the patent describes.

17 Q And you say it describes the outer molding as
18 having certain protective and ornamental features?

19 A Uh-huh.

20 Q Then you cite to Claims 2 to 8. And I just to
21 talk to you about 2 to 8, which you cite here in support
22 of that statement.

23 Do you have familiarity with oleophobic
24 material as recited in Claim 3?

25 A Can you repeat your question again.

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Q Do you know what oleophobic material is as recited in Claim 3 here?

A Yes.

Q What's that?

A It is a layer that locks, like affinity to oil. Doesn't want to stick with oil.

Q And then hydrophobic material is described in Claim 5. Do you understand what hydrophobic material is?

A Yes, I understand that.

Q What's that?

A It is a type of material who doesn't like water.

Q Okay. And then in Claim 2 it references antibacterial material. Do you understand what antibacterial material is?

A It's a type of material who will resist bacterial development.

Q And would that typically be used -- strike that.

In your experience, would antibacterial material usually be used on a surface that's in contact with skin?

A Yes. If, for example, you have a Band-Aid.

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2 You have a cut. You wear a Band-Aid. That Band-Aid
3 will have an antibacterial coating on the surface.

4 Q And is oleophobic material, just so I
5 understand, is that something that's usually used in
6 connection with the surface that's in contact with skin
7 as well due to skin oils?

8 A For example, you know, your -- your phone or
9 this type of screen, right, may have that layer coat on
10 it so when you touch it just does not accumulate, you
11 know, finger oils under -- under screen surface all the
12 time.

13 Q So if I can point you to, let's say, Claim 22
14 and the 811 patent.

15 A Claim 22.

16 Q It says, the method of Claim 16, which we've
17 been discussing, wherein the protective property is
18 being antibacterial. Do you see that?

19 A Yes, I see that.

20 Q Do you understand that to be a protective
21 property to be referencing something similar to what we
22 just discussed in connection with Claim 2?

23 A Claim -- the antibacterial term will be the
24 same as the antibacterial term described in Claim 2.

25 Q And would the -- the oleophobic term in 21 be

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2 the same as what's described in Claim 3?

3 A You know, as a person reading the claim,
4 right, you start from beginning, you're going down, you
5 will form that connection, right? Previously I talk
6 about this. Now this will surface up again. So likely
7 to an ordinary skill in the art they mean the same
8 thing.

9 Q They looked that way to me too. I just wanted
10 to confirm you agreed with me.

11 A Okay. Yeah, I agree.

12 Q So -- and then with respect to Claim 20, do
13 you understand the term "hydrophobic" there to be
14 similar to the term "hydrophobic" in Claim 5?

15 A Yes.

16 Q Okay. So Claims 20, 21, and 22 that we just
17 talked about, the hydrophobic and oleophobic and
18 antibacterial portions refer to a protective property
19 from Claim 16. Do you see that?

20 A Yes.

21 Q Now, if you look back at Claim 16, the term
22 "protective property" is the last line of the element
23 that starts with forming one or more inner moldings. Do
24 you see that?

25 A Last line of Claim 16?

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2 Q Sorry. So Claim 16 -- the protective property
3 in Claim 16 that is referenced in Claims 20, 21, and 22
4 is referenced in the inner molding element of Claim 16.
5 Specifically it says at least one of the one or more the
6 inner moldings having a protective property. Do you
7 recognize that?

8 A I see that.

9 Q So the -- at least for Claim 22, it discusses
10 the inner molding having antibacterial properties.
11 Would you agree with me on that?

12 A I wouldn't look at it that way.

13 Q Why so?

14 A If you look at the inner molding, look at this
15 an ordinary skill in the art trying to understand what
16 the patent teaches, the inner molding contacts, for
17 example, the surface of the PC board or the underneath
18 components. So the protection could mean you protect --
19 you protect some mechanical properties, maybe you have
20 softer bands (phonetic) there, you have band wires. You
21 don't want -- you don't want those things to break.
22 That's my understanding, you know, when I read the
23 passage.

24 Q So Claim 22, and I'm -- the claim language as
25 it's written. Claim 22 says wherein the protective

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2 property -- strike that.

3 Claim 22 recites in full: "The method of
4 Claim 16, wherein the protective property is being
5 antibacterial."

6 Do you understand that protective property in
7 Claim 22 to be referencing the protective property of
8 the inner molding in Claim 16?

9 A The inner molding of Claim 16 could have the
10 particular antibacterial term property, but the outer
11 molding may have that property as well.

12 Q So Claim 21 likewise says "the protective
13 property is being oleophobic." Do you agree that the
14 protective property being referenced in Claim 21 is the
15 protective of the inner molding of Claim 16?

16 A The inner molding of Claim 16 could have that
17 particular property, but the outer molding of Claim 16
18 may also have that property.

19 Q On Claim 21 it has to have that property, you
20 would agree, right, because the claim says so?

21 MR. GUO: Objection; form.

22 THE WITNESS: When I read the passage, it
23 describes the features that particular layer, you know,
24 may possess.

25 Q So for Claim 21 it says, "the protective

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2 property is being oleophobic," and that protective
3 property is referencing the inner molding's protective
4 property, correct?

5 A My understanding is the inner molding
6 property -- the inner molding as was the outer molding
7 may carry these properties.

8 Q If the inner molding of claim -- so you -- let
9 me take a step back.

10 Do you understand that Claim 21 -- let's start
11 with Claim 22. Do you understand that Claim 22
12 incorporates all of the elements of Claim 16?

13 A Claim 22 is a dependent claim.

14 Q Yes.

15 A It -- it's a depending upon what is claimed in
16 Claim 16.

17 Q So if the inner molding of Claim 16 is
18 completely encased by the outer molding, why would you
19 make it -- and when I say "it," the inner molding --
20 antibacterial term?

21 A Let me try to answer your question in a way
22 that that's clear. When I read the passage as an
23 ordinary skill in the art, I understand that these are
24 the properties that go to the protection coating could
25 be inner molding -- the inner molding coating or outer

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2 molding. And you asked me why the inner molding needs
3 to have that specific property.

4 My interpretation is, you know, often when you
5 wear this type of wearable devices, assuming the outer
6 molding will have this type of properties, sometimes the
7 outer molding or the outer surface may get scratched
8 over time. As the user, we may not get a new device.

9 So under that circumstances, you know, the
10 inner molding, a part of the inner molding may get
11 exposed to your skin. So having that antibacterial
12 property per se will be beneficial, sort of adds an
13 additional safety feature per se.

14 Q Do you recall the specification of the 811
15 patent ever discussing scratching or exposure like you
16 discussed?

17 A I have to read through this carefully to
18 answer your questions. But I think the talk about they
19 may not use a scratch. I think they may mention the
20 mechanical damage.

21 Q Is it fair to say that antibacterial and
22 oleophobic properties as discussed in Claims 22 and
23 Claims 21, would be more typically associated with an
24 exterior surface of a device that might be exposed to
25 someone's skin rather than an interior surface, to a

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2 person of ordinary skill in the art?

3 A What comes to my mind is to the person of
4 ordinary skill in the art, usually these type of
5 properties would be implemented in outer layers,
6 possibly multiple layers, including the -- we call it
7 the inner layers. In application we have multiple
8 layers. So if you can incorporate this type of property
9 from -- from application or user point of view, it's a
10 plus.

11 Q In your career have you ever come across a
12 design where an inner molding that's fully encapsulated
13 and not exposed is antibacterial?

14 A You know, my work mainly, it's sort of focus
15 on research proof of concept. And even when we build
16 something in our lab, I touch on my skin or the students
17 put on their risk to get the blood pressure pulse
18 waveform. So these are kind of short-term, you know,
19 demonstration, not for like long-term product
20 development. But if you want to build a commercial
21 product, people wear that all the time over a large
22 period of time. So these type of properties becomes
23 very critical from user application point of view.

24 Q Can you name for me any product you're aware
25 of where there is a fully encased inner molding that is

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2 either antibacterial or oleophobic?

3 A I have to think about that. That's not an
4 opinion that I -- that I offer in my declaration.

5 Q So sitting here you can't think one off the
6 top of your head?

7 A Not at this point.

8 MR. GUO: It's been a little more than an
9 hour. Do you want to take a break?

10 MR. HENDERSHOT: Let me finish up this line
11 and we can certainly take one.

12 MR. GUO: Sure.

13 Q Is the description in Claim 22 of the inner
14 molding having antibacterial properties in your view
15 consistent with the inner molding being exposed to a
16 user's skin?

17 A If the outer molding breaks, the inner molding
18 can be -- can see the skin, and that's where the
19 antibacterial property will be a plus from user point of
20 view.

21 Q Okay. Let me ask it another way.

22 If a device had an inner molding that was only
23 partially encased and part of the inner molding touched
24 a user's skin, would it be beneficial to have that inner
25 molding be antibacterial?

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2 A Well, you're asking me a very hypothetical
3 question.

4 And this is not an opinion that I -- that I
5 provided in my declaration. And, you know, you asked me
6 a very hypothetical question. But with respect to the
7 context of the 811 patent, as an ordinary skill in the
8 art reading through the patent in its entirety, whether
9 they are looking at, you know, one specific passage in
10 isolated manner, I would say that all these layers for
11 wearable applications will be extremely beneficial if
12 not critical to carry these type of properties.

13 Q In your opinion, it would be critical for an
14 inner molding that is completely encased in an outer
15 molding to be antibacterial?

16 A Well, it would be very beneficial to have all
17 these layers, the inner molding and outer molding, to
18 have the -- to have these properties.

19 Q But you can't think of an example sitting here
20 right now of any commercial product where an inner
21 molding that's fully encased is antibacterial or
22 oleophobic?

23 A I can't come with an example this point.

24 MR. HENDERSHOT: Take a break.

25 (Recess.)

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BY MR. HENDERSHOT:

Q Dr. Young, did you talk to anyone during the break?

A I talked with him.

Q Did you talk about your testimony at all?

A No, we didn't.

Q And is the same true for the break earlier?

A That's true.

Q If I could direct your attention back to paragraph 51 of your declaration, specifically the fifth line of that paragraph provides: "The specification explains that the outer molding is a 'protective layer.'"

Do you see that?

A I see that.

Q And then you cite to the 811 patent at column 6, lines 29 to 34. Do you see that?

A I see that.

Q Can you look to column 6, line 29 to 34?

At the end of that passage provides: "In order to form protective layers inner molding 312, outer molding 412." Do you see that?

So the passage you cite in paragraph 51 there, the 811 patent, actually describes both the inner

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2 molding and the outer molding as protective layers; is
3 that right?

4 A That's correct.

5 Q If I direct your attention to column 5,
6 line 17 to 18, provides: "Another protective layer or
7 coating (e.g. inner molding 312) may be applied."

8 Do you see that?

9 A I see that.

10 Q And do you understand the 811 patent to be
11 describing the inner molding as a protective layer there
12 as well?

13 A All these moldings are there to protect
14 electronics.

15 Q So the inner molding is a protective layer,
16 just like the outer molding?

17 A I wouldn't -- I wouldn't put it that way. If
18 you look at the description of the patent, you have the
19 framework, that's the PC board. You have the
20 components, electronic components placed on top of the
21 PC board. They may be covered by some other protection
22 layers. Then the inner molding goes as a first layer,
23 encapsulates that entire unit. So it does provide
24 certain protection to those units.

25 Q And if you look at column 5, line 20 -- so

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2 actually line 19, it describes types of materials that
3 may be used for inner molding. "Those include plastics,
4 thermoplastics, thermoplastic elastomers, polymers,
5 elastomers, or any other organic or inorganic material
6 that be molded in mold cavity."

7 Do you see that?

8 A I see that.

9 Q And then if you look at column 6, line 8, it
10 says: "The use of thermoplastics or TPE material may be
11 used to form outer molding."

12 Do you see that?

13 A I see that.

14 Q Would you agree with me that the 811 patent
15 describes using the same sort of materials for both the
16 inner molding and the outer molding?

17 MR. GUO: Objection; form.

18 THE WITNESS: As you just read, the inner
19 molding as -- the materials used to form the inner
20 molding as described by the 811 patent are listed as a
21 number of materials: Plastic, thermoplastic,
22 thermoplastic elastomer, polymer, elastomer, or any
23 other organic or inorganic material that can be kind of
24 shaped or molded, right, to provide that inner molding
25 coating. And the passage that column 6 and the line

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2 number -- please remind me again.

3 Q Begins on line 8.

4 A Line 8. The use of thermoplastic, right, or,
5 you know, TPE material may be used for -- may be used to
6 form outer molding. So the outer molding as described
7 by the patent may use by thermoplastic elastomer and the
8 inner molding could use different materials in addition
9 to the TPE.

10 Q Okay. So the 811 patent describes at least
11 using thermoplastic elastomer or TPE for both an inner
12 molding and an outer molding; is that correct?

13 A That's correct.

14 Q And you have experience with thermoplastic
15 elastomers?

16 A Yes.

17 Q Are they a protective material?

18 A They do provide protections. You don't want
19 to use a razor to scratch the surface, but if you coat
20 your PC board containing sensitive electronics with
21 those materials, at least when you put your finger on,
22 it's not going to break.

23 Q If we could -- if we flip to the back of the
24 811 patent again, I want to talk to you about Claim 22.

25 A Okay.

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2 Q Actually strike that. Let's look at Claim 24
3 first. Claim 24 is also a component claim. It depends
4 from Claim 16. Do you see that?

5 A Yes, I see that.

6 Q It says: "Wherein at least one of the one or
7 more inner moldings comprises a medical grade
8 thermoplastic elastomer."

9 Are you familiar with medical grade
10 thermoplastic elastomers?

11 A I read about it.

12 Q From your readings do you recall why someone
13 would use medical grade thermoplastic elastomers in a
14 given application?

15 A You know, when you build medical devices, I
16 guess the -- for lack of better term, there is a -- like
17 a standard you have to meet so people typically using --
18 trying to use materials at each layer to meet the
19 medical grade standard.

20 I can give you one example. For example, when
21 we -- you know, when we put the chips inside the
22 package, you know, we typically using aluminum band
23 wire, just a trace from the electricity connections.
24 But when you start to do the same thing for medical
25 device, most of the time people do not use that type of

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2 aluminum band wire. They will go to gold and platinum.

3 The reason why is that you may get some
4 moisture leaked into it because, you know, just the
5 sweat, the body fluid. And if you have aluminum wire,
6 which is a highly active metal, it will get oxidized
7 over time. It kind of breaks. But if you use gold or
8 platinum, these are considered medical grade band wire.
9 They can resist, you know, the moisture, just things
10 that slowly gets inside the package.

11 Q And with respect to a thermoplastic elastomer
12 that is medical grade, do you have any understanding of
13 when or where you would use that?

14 A When you build in medical device, if you have
15 the option of choosing a medical grade thermal --
16 thermoplastic elastomer, which is a regular, you know,
17 thermoplastic elastomer, I would say most people will go
18 for the medical grade.

19 Q And is the medical grade thermoplastic
20 elastomer in a medical device or a device that's in
21 contact with a human usually applied to an exterior
22 surface of a device?

23 A You can also -- it can also be, you know,
24 interior. For example, it may provide certain vapor
25 resistance so the moisture does not penetrate from

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2 outside to the inside as quickly as, you know,
3 nonmedical grade material.

4 Q Are you aware of any device where a completely
5 encapsulated layer is made of medical grade
6 thermoplastic elastomers?

7 A I do not have a specific, like, product in my
8 mind per se. But, you know, as a person conducting
9 research in this field, if one come to me and say that
10 you need to put some elastomer or some type of coating,
11 protection layer, inside a medical device, I will
12 personally choose medical grade material, just to
13 eliminate future hassles.

14 Q Is it fair to say with respect to devices
15 where medical grade thermoplastic elastomers are used,
16 they're commonly associated with a surface of the device
17 that may contact a patient?

18 A Again, this is a hypothetical scenario that
19 you're proposing. And I would say all medical grade
20 materials will be highly preferred, you know, as a -- as
21 a selection of material -- as a part of the selection of
22 material process to build medical devices.

23 Q In Claim 21 where it talks about the
24 protective property being oleophobic, would it be
25 reasonable to expect that an oleophobic surface would be

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2 used on the exterior of a device that's exposed to a
3 user's skin in the context of Claim 16?

4 MR. GUO: Objection; form.

5 THE WITNESS: Again, this is -- it's a
6 hypothetical question that you asking me, which I didn't
7 give opinion in my declaration, but let me try to digest
8 your question and give you a correct answer, is, you
9 know, this type of property are commonly required
10 properties for medical devices. You know, if you -- if
11 you touch the skin, you just don't want to oil gets on
12 there.

13 But even if you do not touch the skin, if you
14 have oils or other vapors, so oil and vapors that may
15 penetrate -- because when you wear this device, you
16 always have this surrounding materials -- oil, water,
17 vapor - penetrates through from the outside from the
18 inside of the device. It will be -- it would be highly
19 desirable to have this type of property as a -- we call
20 it a barrier, like a stopping layer so that those oils
21 or vapors, ions do not further diffuse from outside to
22 the inside because inside are very sensitive electronic
23 components.

24 Q In your experience is the use of antibacterial
25 material commonly applied to an exterior surface of a

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2 wearable device?

3 A I would say antibacterial materials is a
4 common material in medical grade devices. It may
5 directly contact the skin, or it may not directly
6 contact the skin. As I mentioned earlier, when you --
7 when you -- when you use multiple layers or multiple
8 materials, you're trying to meet the medical standard
9 every step you can just to -- just to build a safe
10 device.

11 Q Would you agree with me the most common use of
12 a oleophobic material is treating the surface of
13 something that may come in contact with someone's skin?

14 A You know, I wouldn't say most commonly
15 devices. You know, certain type of devices when it come
16 to contact with the skin, you don't want to -- you want
17 to have this type of properties. But it doesn't mean
18 that -- a layer that has this type of property will must
19 contact the skin.

20 Q Are you aware of any particular application
21 that you've seen throughout your career where a interior
22 coating that's completely encased in something else is
23 nonetheless oleophobic?

24 A No, I don't have an example now in my mind.

25 Q Would a person of ordinary skill in the art in

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2 your opinion understand that an oleophobic layer would
3 commonly be on the exterior of a device, if they knew it
4 had an oleophobic layer?

5 MR. GUO: Objection; form.

6 THE WITNESS: I would say when an ordinary
7 skill person looking -- looking at the -- 811 patent
8 will understand that, you know, these type of protective
9 properties will be very useful or necessary for
10 different layers used to encapsulate medical devices.

11 Q Would a person of ordinary skill in the art
12 understand that an oleophobic layer, if applied to a
13 device, would commonly be applied to an exterior surface
14 that might contact skin?

15 A If you have something -- if you have something
16 contacting the skin, it will be desirable to have that
17 property. But as I said previously, having that
18 property doesn't mean that layer possessing that
19 property must contact the skin in a medical device
20 setting.

21 Q How about in a wearable device setting?

22 A A wearable device is a medical device.

23 Q Okay. So looking at the language of Claims 16
24 and it's dependent Claims 21, 22, and 24.

25 A 21?

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Q 21, 22.

A And what was the other one?

Q And 24. The oleophobic antibacterial and medical grade protective properties.

A Okay.

Q Based on the claim language here, would it at least be reasonable, I'm not saying that's the only reading, but at least be reasonable to expect that the medical grade or antibacterial or oleophobic properties of the claimed wearable would be imparted on a surface that is exposed to an individual's skin?

MR. GUO: Objection; form.

THE WITNESS: I would put myself as ordinary skill in reading the patent, when I come to these properties, I already tell myself, if I build this device, these are the properties that I need to select for the materials used to coat the device. It could be the outside layer. It could be the inside layer. But if I have the choice picking these properties, I would use them throughout the whole, you know, manufacturing process.

Q Given that Claim 21 says the inner molding in Claim 16 is oleophobic, is it at least reasonable to a person of ordinary skill in the art that a portion of

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2 the oleophobic inner molding might be exposed to an
3 individual's skin?

4 A If you -- if you look at the properties of the
5 material, these properties are -- I call it common, you
6 know, properties used for -- used for building medical
7 devices or wearable devices. But, again, as an ordinary
8 skill in the art, just a common person looking at this,
9 I don't want to be the common person looking at this
10 just as isolated package -- or isolated passage. I look
11 at the entire context.

12 Then it tells me that the inner molding layer,
13 according to the specification, the drawing in the
14 patent, right, is completely encapsulated by the outer
15 layer. So, therefore, these type of properties are
16 preferred -- are preferred to use to build that layer.
17 But that doesn't mean -- it does not imply, Oh, this
18 layer will contact a person -- I mean, contact the skin,
19 because if you look at -- if you look at the figures --
20 for example, I think I also point out those figures in
21 my declaration is --

22 Q Figures are found in Figure 4.

23 A As well I think Figure 8 and Figure 9 where
24 they give a more concrete example of a wristband,
25 clearly shows that if you have an outer molding, that

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2 outer molding completely covers the inner molding.

3 Q In those examples?

4 A In those examples.

5 And these are the examples illustrated by the
6 patent, and these are the examples inventor use to teach
7 us about the patent.

8 Q Now, I understand your opinion, having read
9 it, that there are teachings in the specifications that
10 you rely upon. We'll get to those.

11 A Okay.

12 Q I want to focus on the language of the claims.

13 A Uh-huh.

14 Q Claim 16 says "the outer molding of the
15 wearable device covers all or substantially all of the
16 inner moldings." That language itself, does the use of
17 the phrase "all or substantially all" to you suggest
18 that the outer molding can cover less than all of the
19 inner molding?

20 A You know, when you look at the claim language,
21 you need to look at the claim language with respect to
22 the entire context of the -- of the patent. You know
23 often if you just focusing on one sentence or a few
24 sentences in isolated manner, it can mislead you, you
25 know, from what the patent is trying to teach you in the

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2 complete sense.

3 Q I'm asking you about the claim language.

4 Independent of what you say is in the
5 specification in your declaration, does the use of the
6 phrase "all or substantially all" to you suggest that
7 less than all of the inner molding may be covered?

8 A When I look at the language, I look at the
9 drawings to see what they mean. When I look at the
10 drawings, figures, maybe 4, Figure 8 and also Figure 9
11 it teaches me as an ordinary person skilled in the art
12 reading the patent that outer molding completely covers
13 the inner molding.

14 Q So in the context of this patent, reading it
15 all together, "all or substantially all" to you to means
16 "all"?

17 A It means complete coverage.

18 Q All?

19 A All. Okay.

20 Q So let's talk about the specification a little
21 bit. If I direct you to paragraph 34 of your
22 declaration.

23 A Okay.

24 Q Circle back to my last question. Your opinion
25 that "all or substantially all" in the outer molding

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2 element of Claim 16 means "all" is based on the
3 teachings of the specification?

4 MR. GUO: Objection; form.

5 Q Is that right?

6 A It's based on the teaching of the patent,
7 everything presented in the patent. I reach that
8 conclusion, meaning completely encasing covering the
9 inner molding. As you look at those figures, you will
10 agree the outer molding does completely cover the inner
11 molding. It's just crystal clear.

12 Q But you would agree with me that absent those
13 disclosures in the specification, the words "all or
14 substantially all" suggest all or less than all?

15 MR. GUO: Objection; form.

16 THE WITNESS: That's not opinion that I give.
17 Again, I've asked to look at the patent, provide my
18 technical opinions with respect to the specification in
19 the patent. So I am -- my opinion is given with respect
20 to the technical documents presented to me.

21 Q And in view of the specification and its
22 teachings that you pointed out here and in your
23 declaration, you reached the opinion that
24 substantially -- that "all or substantially all" in the
25 outer molding element of Claim 16 means "all"; is that

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2 right?

3 A Actually, I didn't give that statement. I
4 said that it means completely encasing or enclosing the
5 inner molding.

6 Q Does it have to -- in your opinion, does
7 completely enclosing or encasing the inner molding mean
8 enclosing or encasing all of the inner molding?

9 A That's correct.

10 Q And that opinion is based on the teachings and
11 the specification of the 811 patent; is that correct?

12 A Yeah, that's the specification. The drawings
13 clearly tells you it's all.

14 Q Thank you.

15 So in paragraph 34 of your declaration you
16 point to a portion of the board's decision in this
17 matter that cites to column 8, line 65 of the 811
18 patent. Do you see that?

19 A Yes, I see that.

20 Q So I can direct your attention to column of
21 the 811 patent. The board had pointed to -- in its
22 institution decision the portion of column 8 that
23 provides: "Substantially (i.e., partially or
24 entirely)." Do you see that?

25 A Could you point me to which line of -- or

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2 that's the board decision. If you have a copy, I will
3 be happy to look at.

4 Q Sure. Happy to give it to you.

5 I'm going to hand you what's been -- that's
6 the wrong document. I'm not going to hand you that one.
7 I'm going to hand you what's been marked as Paper 14 in
8 this proceeding. It is the board's decision to
9 institute.

10 A Okay.

11 Q I believe you pointed to the board's decision
12 at page 9 in your declaration.

13 So the board provides: "The specification
14 also notes that the term "substantially" includes both
15 partially or entirely." Do you see that? It's on
16 page 9, the bottom of the page.

17 A Page 9, bottom of the page.

18 Could you point it to me where in the bottom
19 of the page -- the passage you just read.

20 Q It's the one you cite to in your declaration.
21 It is the fourth line from the bottom of page 9 of the
22 institution decision. It says: "The specification also
23 notes that the term substantially includes both
24 'partially or entirely,'" citing to Exhibit 1001 at
25 column 8, line 65.

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If you look at column 8, line 65, please. Do you understand the use of the nomenclature i.e. to be definitional?

MR. GUO: Objection; form.

THE WITNESS: Yes.

Q Do you understand the use of the term i.e. here on line 65 of column 8 to be definitional?

MR. GUO: Objection; form.

THE WITNESS: It means in other words.

Q So if I understand your opinion correctly, this -- strike that.

Do you understand this use of i.e. on line 65 of column 8 to be defining "substantially" as including "partially or entirely"?

A The line is placed substantially, i.e., like in other words, partially or entirely.

Q So do you take that use of i.e. here on this line, 65, column 8, to be defining substantially to include partially or entirely?

A That's right.

Q That's a yes?

A Yes.

Q Okay. Are you aware of any other use of the term "i.e." to define the term "substantially" elsewhere

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2 in the 811 patent?

3 MR. GUO: Objection; form.

4 THE WITNESS: There are a lot of places where
5 they use the i.e.'s, and I would have to go through to
6 find out where they use the i.e. referring to the topic
7 that you are referring to.

8 Q The word "substantially"?

9 A I think there are multiple places where they
10 surface them.

11 Q So if I understand your opinion correctly, and
12 this is set forth in paragraph 34 of your opinion, it is
13 that this definition of "substantially" provided here on
14 line 65 of column 8 applies to something other than the
15 protective moldings?

16 MR. GUO: Objection; form.

17 THE WITNESS: Can I look?

18 Q Yeah, please.

19 A This passage is related to Figure 6C, right?

20 Q Uh-huh.

21 A In patent 811.

22 Q Yes, sir.

23 A If you look at Figure 6C on page 8 of the
24 patent, there are two steps -- there are two steps, 642
25 and a 644. And the passage you just read is regarding

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2 the first step. The very next -- second step talk about
3 forming molding, you know, securing molding, components
4 and the framework. So you're looking at the first step
5 of that, of the flow chart.

6 Q And that first step refers to applying like
7 the protective coatings on the elements like we talked
8 about earlier, not the forming of an outer molder or an
9 inner molding?

10 A That's correct.

11 Q And just so I understand your opinion, that
12 i.e. statement on line 65 of column 8 in your opinion
13 applies to the application of the protective coatings on
14 the elements prior to applying a molding, not the
15 application of a molding; is that correct?

16 A That's correct.

17 Q Okay. And I don't think you did, but I want
18 to confirm. You were not asked to formulate or offer an
19 opinion as to whether the Lo reference anticipates
20 Claim 16 if that definition of substantially in line 65
21 of column 8 partially or entirely was applied to the
22 outer molding element of Claim 16; is that right?

23 A Can you please -- it's a very long question.

24 Q Yeah, it is. I was trying to make sure I had
25 all the facts in it.

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2 A If you break it down, that way I can
3 understand.

4 Q So you've offered opinions as to whether Lo
5 anticipates Claim 16 of the 811 patent?

6 A That's correct.

7 Q And you offered opinions based on certain
8 constructions of the outer molding element of Claim 16.

9 A Based on my opinion, one ordinary skilled in
10 the art will understand how the outer molding
11 encapsulates the inner molding, based upon the
12 specification of 811 patent.

13 Q So you offered an opinion as to Lo and whether
14 or not it an anticipated Claim 16 under what you thought
15 the proper construction was, based on the 811 patent; is
16 that correct?

17 A Based on my understanding one ordinary skill
18 would understand the passage, what the patent teach.

19 Q And no one asked you to offer an opinion as to
20 whether or not Lo anticipates Claim 16 if the outer
21 molding element and its use of "substantially" carry the
22 definition here, partially or entirely; is that right?

23 A Not that I remember.

24 Q Can you take a quick look through your opinion
25 and just confirm for me. I don't think you did. I just

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2 want to confirm that you didn't do it.

3 A So paragraph 45?

4 Q Yes, sir.

5 A I have -- I have also been asked to consider
6 whether the Lo describes all aspects of the Claim 16
7 through 19, 23 and the 26 when analyzed under the
8 implied construction of covers all or substantially all
9 noted above, i.e., in passing a layer that is only on
10 top of the underlying layer.

11 So I was asked to give opinion to -- with
12 respect to those patent, whether Lo's patent anticipates
13 16, 19, 23, and 26.

14 Q Yes, under those two constructions?

15 A That's correct.

16 Q And those two constructions do not include one
17 where "substantially" is defined to be "partially or
18 entirely"; is that correct?

19 A Well, when I look at a "substantially," right,
20 i.e., "partially or entirely," I don't look at these
21 words as isolated words. I look at these words in
22 conjunction with the rest of the patent, then I reach my
23 conclusion.

24 Q And I read your conclusion and I've read what
25 you've been asked her to do, as I understand it. I just

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2 want to make sure that I understand what you were asked
3 to do.

4 Were you asked to assess whether Lo
5 anticipated Claim 16 and these other claims in the 811
6 patent if "substantially" meant "partially or entirely"?

7 A I don't remember.

8 Q Okay. Do you see it expressed here?

9 A I do not see it expressed here.

10 Q Okay. And you don't recall anyone asking you
11 to do that?

12 A Not that I remember.

13 Q So if I could direct your attention back to
14 Claim 16. Just so I'm clear on your opinion, we've
15 talked about forming an outer molding, that last element
16 that says "that covers all or substantially all of the
17 one ore more inner moldings."

18 And your opinion with respect to that
19 definition of "substantially" in column 8, row 65, is
20 that it does not apply there; is that correct?

21 A It does not.

22 Q Okay. Let me rephrase that. I think I can
23 make it simpler.

24 Your opinion is that definition from column 8,
25 line 65, where it substantially is referencing partially

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2 or completely, is not applicable to the inner molding or
3 outer molding elements. It's referencing this
4 protective material?

5 MR. GUO: Objection to form.

6 THE WITNESS: The previous steps.

7 Q Okay. The steps before the inner and outer
8 moldings?

9 A It's the first step in the box of Figure 6C,
10 the steps 642.

11 Q Okay. And that we discussed I believe --
12 strike that.

13 And that box is referring to, in connection
14 with Claim 16, the selectively applying at least one
15 protective material, not the inner or outer moldings; is
16 that correct?

17 A That's my understanding when I read the
18 passage.

19 Q So that definition of "substantially" from
20 column 8, row 65 would apply to the "substantially" here
21 and the protective material element, but not in the
22 inner or outer molding elements; is that right?

23 A Not the way I understand the patent.

24 Maybe you repeat your question.

25 Q So your opinion as we just discussed in

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2 connection with the definition of substantially in
3 column 8, line 65, is that that definition of
4 "substantially" applies to the first element of Claim 16
5 where you're applying a protective material
6 substantially over one or more elements, but it does not
7 apply to the term "substantially" in the molding -- the
8 inner molding or outer molding elements; is that
9 correct?

10 A That's correct.

11 Q Okay. We do better when I ask good questions.
12 I should strive to do better.

13 MR. HENDERSHOT: Off the record.

14 (Lunch recess.)

15 BY MR. HENDERSHOT:

16 Q Dr. Young, I want to talk you to more about
17 some of the passages in the specification of the 811
18 patent. If you could look at column 7 of the 811
19 patent, specifically starting at line 7 in column 27,
20 the first sentence starting at line 27, provides: "In
21 some examples the protective layer, inner molding, and
22 outer molding may be selectively, partially, or
23 completely applied to a given item."

24 Do you see that?

25 A I see that.

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2 Q Do you understand that sentence to be stating
3 that the outer molding may be selectively, partially, or
4 completely applied in the context of the 811 patent?

5 A Well, I -- I didn't look at the sentence alone
6 in isolated matter. If you look at the very next
7 sentence, I also described it here in outer molding may
8 also be configured to completely enclose or encasing in
9 underlying item.

10 Q And that sentence you just read says "may."
11 It doesn't say "must", correct?

12 A The word written is "may."

13 Q And I'm not disputing that it may encapsulate
14 the whole thing. I'm just asking this past -- those two
15 sentences, the one I read and you read, also state that
16 it may not encompass everything underneath. It can only
17 be partially applied. Would you agree with that?

18 MR. GUO: Objection to form.

19 THE WITNESS: That's not what it says.

20 Q Okay. So you take those two sentences,
21 column 7, line 27 through 32, as saying the outer
22 molding and the 811 patent must completely encompass the
23 underlying layers?

24 A And I also look at the figures. When you read
25 the sentence, you have to combine with the figures of

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2 the patent to get a -- to get it -- to get a complete
3 picture.

4 Q So I understand -- so let me just ask you.
5 Those two sentences there, you take those and the
6 context of this patent, and those sentences are column
7 7, lines 27 to 32, as requiring that the outer molding
8 completely encompass the underlying layers and items; is
9 that correct?

10 A I come to the conclusion for the two sentences
11 in conjunction with the drawings showing in the
12 figure -- showing the patent.

13 Q So you think the drawings override what is
14 stated here?

15 MR. GUO: Objection; form.

16 THE WITNESS: I combined the drawings with the
17 writing to derive my understanding.

18 Q Okay. So let's focus on the language of these
19 two sentences for now. Would you agree with me that
20 these two sentences, the words that are written here in
21 column 7 from line 27 to 32, encompass what's disclosed
22 in Figure 9, total encapsulation like you've
23 articulated?

24 MR. GUO: Objection; form.

25 THE WITNESS: I look at those two sentence. I

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2 look at the figure. For example, Figure 4. And it's
3 clearly shows that the outer molding completely covers
4 the inner molding, right, as that sentence says right
5 there, as described here. And the outer molding may
6 also be configured to completely enclose or encase the
7 underlying item.

8 Q It says "may also," correct?

9 A Yeah.

10 Q So "also" implies it's in addition to
11 something. You would agree with me with respect to that
12 at least, right?

13 MR. GUO: Objection; form.

14 THE WITNESS: Also means also.

15 Q So the sentence -- you come back here, it says
16 "it may also completely encapsulate," correct?

17 A That's correct.

18 Q The words used in that sentence, do they
19 suggest to you that there are alternatives to the
20 completely enclosing or encasing, contemplated within
21 the patent?

22 A To make sure myself understand the passage, I
23 look at the figures and I said, This is the words. This
24 is the figures. When I put them together, what does it
25 mean? It means that the outer molding completely covers

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2 the inner molding.

3 Q Yes. I am -- let me ask you a very specific
4 question.

5 A Sure.

6 Q Setting aside Figure 9, I want your take on
7 these words and how a person of ordinary skill in the
8 art would understand them. "In some examples the
9 protective layer, inner molding, and outer molding may
10 be selectively, partially, or completely applied to a
11 given item."

12 Does that sentence suggest in your opinion to
13 one of ordinary skill in the art that an outer molding
14 does not need to be completely applied to an underlying
15 layer?

16 A An ordinary skill in the art, when that person
17 reading the sentence, that person will look for figures
18 and other information to come with a better
19 understanding of what the patent teaches.

20 Q But in looking at the figures and the
21 examples, as you call them, they are examples, correct?
22 Figures 9 and Figures 4 are examples?

23 A That's correct.

24 Q They would also look to the disclosure in the
25 specification including this language here, would they

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2 not?

3 A They would.

4 Q So I am reading here language that at least to
5 me suggests a permissive use of maybe a "also" and a use
6 of "may." I understand you think that other parts of
7 the specification are inconsistent with that or may
8 override that, but would those words standing alone be
9 understood by one skilled in the art to encompass both
10 complete encapsulation and partial encapsulation?

11 A You cannot look at those in isolated matter.
12 You need to look at those words in conjunction with
13 other information presented to you as a read of the
14 patent.

15 Q If you were to publish a peer-reviewed article
16 and you wanted someone to know something had to be done,
17 this is a requirement of a process in my research, would
18 you say it may be something or would you say it must or
19 it needs to be?

20 MR. GUO: Objection; form.

21 THE WITNESS: That's a -- that's a
22 hypothetical question. I will use figures to assist the
23 understanding of readers to make sure that they
24 understand what I'm trying to teach in my publication.

25 Q Can you answer my question?

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2 Would you use the word "maybe" to imply an
3 imperative or a requirement in your publications?

4 MR. GUO: Objection; form.

5 THE WITNESS: This is not opinion that I give.

6 Q I'm asking the question.

7 A I may.

8 Q You may. Okay. So in your view Claim 16 is
9 limited to what's disclosed in Figures 4 and Figure 9?

10 A Claim 16 is just a claim. In the Figure 4 and
11 the Figure 9 are the figures presented in the patent to
12 allow us as ordinary skilled in the art to understand
13 the patent better.

14 Q In your view is Claim 16 limited to the
15 disclosures of Figure 4 and Figure 9, yes or no?

16 A The Figure 4 and the Figure 9 provides an
17 example for an ordinary skill in the art reading the
18 patent or reading Claim 16 to understand what Claim 16
19 is talking about.

20 Q In your view, is Claim 16 limited to the
21 disclosures of Figure 4 and Figure 9, yes or no?

22 A I didn't give that opinion.

23 Q Referring you back to column 7, line 27
24 through 32. It says in the first sentence: "In some
25 examples the protective layer, inner molding, and outer

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2 molding may be selectively, partially, or completely
3 applied to a given item."

4 That sentence is part of the specifications
5 disclosures in the 811 patent. You would agree with me
6 on that, right?

7 A That's correct.

8 Q Reading that sentence, do the words expressed
9 in that sentence encompass an outer molding that is less
10 than completely encompassing an underlying item?

11 MR. GUO: Objection; form.

12 THE WITNESS: As a person reading the patent,
13 you don't read just one sentence in the isolated manner.
14 You have to read the entire context, relate the sentence
15 to what was discussed in other parts of the patent to
16 come up with a clear understanding what the patent is
17 trying to teach you.

18 Q Sir, I'm going to pose my question to you
19 again.

20 A Sure.

21 Q Do the words expressed in this sentence that
22 appear in column 7, line 27 through 29 encompass an
23 outer molding that partially encompasses the underlying
24 item?

25 MR. GUO: Objection; form.

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2 THE WITNESS: I did not give that opinion in
3 my declaration.

4 Q Reading that words here as a proffered expert
5 in this subject matter, how do you read that sentence?

6 A I read that sentence as an ordinary skilled in
7 the art, and when I read that sentence I need to look at
8 other specifications presenting the patent to derive a
9 better understanding of what the patent trying to teach.

10 Q That didn't answer my question. I've
11 endeavored to be patient. Still endeavoring to do so.
12 I'm going to read my question back to you. I would ask
13 that you answer it.

14 Do the words expressed here in column 7,
15 line 27 to 29 encompass in your view an outer molding
16 that covers less than all of an underlying item?

17 MR. GUO: Objection; form.

18 THE WITNESS: The words here talk about three
19 layers: The protective layer, the inner molding, and
20 the outer molding. In order to know exactly what's
21 going on with each layer, you need to read the rest of
22 the passage in the patent. You cannot just hang
23 yourself on that sentence alone in an isolated manner.

24 You read the very next sentence it tells you.

25 Q "It may also."

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2 A Yeah.

3 Q Meaning -- so you understand, so I'm clear, in
4 the context of this patent you understand "may also" in
5 the second sentence there from column 7, line 29 to 32
6 as being "must" in view of the other disclosures in the
7 specification; is that correct?

8 A When I look at the figures, it tells me that
9 the figures shows the outer coating completely
10 encapsulates the inner molding.

11 Q Which is, would you agree with me that is an
12 embodiment -- and I'm not disputing this. That
13 embodiment in Figure 9 and Figure 4, examples that you
14 pointed to, would you agree with me that they are
15 encompassed by the language here and are consistent with
16 the language here in column 7, lines 29 to 32?

17 A I agree with you on that.

18 Q Okay. Would you agree with me that the words
19 written here, regardless of whether you think they mean
20 something else in view of another portion of the
21 specification, are broader than just those examples?

22 MR. GUO: Objection; form.

23 THE WITNESS: I have to look at other
24 examples, look at the information in the patent as an
25 entirety in order to come up with an understanding of

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2 what the patent is trying to teach me as an ordinary
3 skilled in the art.

4 Q What is your understanding of -- let's see.
5 Give me a moment. I'm looking up a phone number.

6 I understand you have an opinion that you say
7 is based on disclosures elsewhere in the patent in
8 total.

9 A In total.

10 Q I'm asking you about these specific sentences
11 and the words used here. I want you to set to the side
12 for a moment the rest of the patent. I just want to
13 know what you understand these words here to mean so I
14 can understand your opinion as to the entire patent.

15 If you read the two sentences from column 7,
16 lines 29 to 32, independent of the rest of the
17 disclosures, we'll get to those, are those sentences
18 broad enough to encompass both total encapsulation by an
19 outer molding and less than total encapsulation by an
20 outer molding?

21 A That's not what the sentence say.

22 Q Okay. What do those sentences say?

23 A Then I look at the figure to help me
24 understand what the sentence is.

25 Q So independent of looking at the figure, you

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2 don't understand what these two sentences say?

3 A It's not clear to me.

4 Q Okay. Why is it not clear? What don't you
5 understand about these two sentences in isolation that
6 you need to go look at figures to understand it?

7 A It talk about three different layers, right.
8 I'm not sure which layer is being described clearly by
9 that sentence, so I go to the figure. The figure will
10 help me understand the meaning of that sentence.

11 Q Okay. So just so I'm clear, the two sentences
12 there are unclear to you because it uses the word or --
13 strike that.

14 It is your testimony, sir, that the two
15 sentences appearing on column 7, lines 29 to 32 that
16 provide, and I quote: "In some examples the protective
17 layer, inner molding, and outer molding may be
18 selectively, partially, or completely applied to a given
19 item. As described here, an outer molding may also be
20 configured to completely enclose or encase an underlying
21 item in order to protect the inner molding, the
22 protective layer, and any elements from damage" is
23 unclear to you without reference to other portions of
24 the 811 patent?

25 A When I read that sentence at that stage it was

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2 not clear. When I look at the figures, then became
3 clear to me.

4 Q And what became clear to you in your opinion
5 that the statement that protective layer, inner molding,
6 and outer molding may be selectively, partially, or
7 completely applied to a given item, means that the outer
8 molding must completely encapsulate a given item?

9 A That's what the figure tells me.

10 Q That's what you understand the sentence to
11 mean in the context of the entire patent?

12 A That's correct.

13 Q Not just that it includes such an embodiment
14 and potentially other embodiments?

15 A I look at the figure. That's the conclusion
16 that I derived based upon these two sentences and the
17 figures together.

18 Q And in view of the figures in the examples
19 that you cite to, you understood the sentence that says
20 "An outer molding may also be configured to completely
21 enclose or encase an item" as meaning it must completely
22 enclose or encase an item?

23 A That's what the patent teaches.

24 Q And that's your opinion as to what those
25 sentences mean in the context of the entire disclosure

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2 of the patent?

3 A That's correct.

4 Q And those sentences do not mean to you in your
5 opinion that the outer molding can be a complete
6 encapsulation of something, but may also be partial; is
7 that correct?

8 A That's correct.

9 Q So in your view Figure 9 and Figure 4 are not
10 examples; they're requirements of what Claim 16 must
11 cover?

12 MR. GUO: Objection; form.

13 THE WITNESS: Figure 4 and the Figure 9 are
14 the figures presenting the patent to talk about -- to
15 talk about how the outer molding completely covers the
16 inner molding. And when you come to claim -- or what's
17 the claim number that you talk about?

18 Q 16.

19 A 16, when it mentions the outer molding and the
20 inner molding, and as an ordinary skilled in the art, I
21 will refer to this passage not in the understanding
22 derived from the two sentences we just talking about
23 with together the figures.

24 Q Okay. So because of Figures 9 and Figures 4,
25 the use of the term "all or substantially all" in

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2 Claim 16 really means encapsulating all, and these
3 statements here in column 7, lines 27 to 32 mean it must
4 totally encapsulate it in your opinion; is that right?

5 A The two figures, Figure 9 and the Figure 4
6 together with these two sentence mean to me that the
7 outer molding completely encapsulates or encloses the
8 inner molding.

9 Q In your research work and publications, do you
10 understand the word "may" to be a permissive verb or a
11 mandatory one?

12 MR. GUO: Objection; form.

13 THE WITNESS: I didn't give opinion on this
14 word "may" in my declaration.

15 Q Sir, you offered an opinion on these sentences
16 here that include the word "may." I think it's
17 encapsulate in your opinion, if I may borrow a term from
18 your report.

19 A Okay.

20 Q Do you use the word "may" in your research
21 publications?

22 A I'm pretty sure I have used.

23 Q Do you understand -- do you have an
24 understanding as to whether "may" is used permissively
25 or in some other manner?

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2 MR. GUO: Objection; form.

3 Q You can answer.

4 A No, I have to look at a specific context, you
5 know, publications, things that I wrote before where I
6 used the word "may," what that means with respect to the
7 context of my writing.

8 Q Do you have an understanding sitting here
9 today of whether "may" is typically used as a permissive
10 or a mandatory verb? And when I say "permissive," I
11 mean something may be something as opposed to it must be
12 something.

13 A It may be something. You know, something may
14 be something. You may be.

15 Q And is it your understanding in your typical
16 use of the word "may" that it doesn't mean something has
17 to be something? It may be something; it may not be
18 something?

19 MR. GUO: Objection; form.

20 THE WITNESS: You know, again, this is not the
21 opinion that I -- that I give in my declaration. I
22 didn't talk about the definition of "may," my
23 understanding of this word "may." And we use the word
24 "may" regularly.

25 Q I do.

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2 And I'm going to ask you again, sir. You
3 offered an opinion that the claims cannot be
4 construed -- strike that.

5 You offered an opinion that Claim 16 does not
6 encompass what's described -- everything that's
7 described here in these lines in column 7, lines 27 to
8 32, which include the word "may" twice. And I'm just
9 trying to get at your understanding of the word "may" so
10 I can understand your opinion.

11 The way I see it, it's possible that maybe in
12 your mind "may" means "must" or something has to be
13 something. Or it could be that you think this says
14 "may" and it's permissive, but other portions of the
15 specification really override that and make clear that
16 that really has to mean must. And I'm just trying to
17 get an understanding of how you would typically use
18 "may."

19 Are we dealing with the first scenario or the
20 second scenario?

21 And I've asked you a number of questions about
22 those sentences and you keep referring to other portions
23 of it, so I'm asking you independent of that how you use
24 the word "may."

25 So when you use the word "may" yourself, do

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2 you understand it to mean something that's permissive,
3 like something may be something or it may not be
4 something, or it's mandatory, it must be something?

5 MR. GUO: Objection; form.

6 THE WITNESS: During normal conversation when
7 you say "may," right, you may go there, or you may not
8 do there, the word "may" means permissive. But when you
9 come to this type of patent writing, it's a very
10 rigorous document, you need to provide as -- I want to
11 say, you just me as a person reading the documents needs
12 to read the -- needs to look at all the information as
13 an entirety. And in particular we rely on the figures
14 to clarify our understanding of the sentence.

15 Q Are you aware of any point in the
16 specification where it says "the outer molding must
17 completely encapsulate the underlying band"?

18 MR. GUO: Objection; form.

19 THE WITNESS: I would have to, you know,
20 search through the words very carefully to see if there
21 is a sentence like where you just described written in
22 the specification.

23 Q Well, wouldn't you have put it in your
24 declaration if you saw it, given what you're saying?
25 Seems pretty relevant to me.

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2 A Even if it's not in the declaration, doesn't
3 mean it's not in the specification.

4 Q Is it your opinion that Claim 16 is limited to
5 and only covers the embodiments disclosed in Figure 9
6 and Figure 4?

7 A I didn't give the opinion like the way you put
8 it. But when I read Claim 16, it talks about the inner
9 molding and the outer molding. Then I refer to the
10 figure to help me understand what it means by inner
11 molding and outer molding with respect to the context of
12 811 patent.

13 Q And in view of that figure, you concluded that
14 this statement that "the outer molding may partially be
15 applied to a given item" meant that really the figure
16 controlled it must encapsulate the entire item?

17 A That's what the figure teaches.

18 Q And that's your opinion as to what this patent
19 says?

20 A That's right.

21 Q So anything contrary -- maybe this will make
22 it a little clear. Anything in the specification in
23 your view that is contrary or inconsistent with that
24 disclosure in Figure 9 doesn't impact your conclusion
25 with respect to the -- strike that.

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2 Your opinion is that any statements in this
3 specification that might be on their own broader than
4 the disclosure of Figure 9 concerning the outer molding,
5 really must be limited to the disclosure of Figure 9 and
6 complete encapsulation when you view Figure 9; is that
7 correct?

8 A For -- when I read -- when I look at the both
9 Figure 4 and the Figure 9, that's what those figures
10 teaches me.

11 Q So if there is -- it's your opinion if there
12 are statements in the specification that might be
13 broader on their own than just what is disclosed in
14 Figures 4 and Figure 9, the complete encapsulation, in
15 your view Figures 4 and Figure 9 control and really they
16 require total encapsulation?

17 MR. GUO: Objection; form.

18 THE WITNESS: At least they are not
19 consistent.

20 Q They're not consistent. So -- so anyway,
21 we're getting there.

22 So there may be statements in the
23 specification that on their own are inconsistent with
24 Figures 4 and 9? And your view is that those statements
25 should be read to be consistent with Figures 4 and

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2 Figure 9 and the totality of the patent?

3 A That's not what I said.

4 Q Okay.

5 A I go by what the Figure 4 and the Figure 9,
6 along with the specification, teaches me as ordinary
7 skill in the art reading the patent.

8 Q So reading the two sentences in column 7,
9 lines 29 -- strike that.

10 If you were to read the two sentences in
11 column 7, lines 27 to 32, without Figures 4 or Figure
12 9 -- if Figures 4 and Figure 9 were not in the patent,
13 you would be unable to understand what those would be
14 referring to; is that right?

15 A You're asking me a hypothetical question where
16 you hypothesize Figure 4 and the Figure 9 are not in the
17 patent, but that's not case. When I read the patent,
18 Figure 4 and the Figure 9 are part of the patent. I
19 look at the figure. I read the passage. I combined the
20 information presented to me as entirety to derive my
21 understanding of what the patent is trying to teach me.

22 Q Sir, you testified earlier that this was
23 unclear to you without looking at Figures 4 and
24 Figure 9. And I'm asking you if Figures 4 and Figure 9
25 were not present in the patent, would you be able to

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2 have an understanding of these two sentences? I mean,
3 just read them right now yourself.

4 A It wouldn't be clear to me.

5 Q Okay. Let's look at the language in Claim 16.
6 You'll find that in column 14 of the 811 patent. So
7 Claim 16 starts with "A method comprising," and the
8 first element talks about applying protective material.

9 Do you see that?

10 A I see that.

11 Q And that claim element -- strike that.

12 That claim element in Claim 16 requires
13 selectively applying at least one protective material
14 substantially over one or more of a plurality of
15 elements coupled with the framework. Do you see that?

16 A I see that.

17 Q So the protective material, according to
18 Claim 16, does not have to cover every element on the
19 framework; is that correct?

20 MR. GUO: Objection; beyond the scope.

21 MR. HENDERSHOT: A question about a claim he's
22 opined on is outside the scope?

23 MR. GUO: You're -- the declaration speaks for
24 itself. I'll let him talk.

25 MR. HENDERSHOT: Okay.

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2 THE WITNESS: If you look at the Figure 1 and
3 the Figure 2, these two figure teaches you how these
4 protective coating is applied.

5 Q Sir, I'm asking you about the language of
6 Claim 16. Does the language of that first element of
7 Claim 16 require only that one of a plurality of
8 elements be covered with protective material?

9 A It says one or more.

10 Q So it could be just one of a plurality?

11 A That's correct.

12 Q So some could be uncovered by the protective
13 material in Claim 16 by its own terms?

14 MR. GUO: Objection; form.

15 Q So by its own terms the first element of
16 Claim 16 that begins with "selectively applying"
17 encompasses a situation where only one of a number of
18 elements are covered by a protected material and a
19 number remained uncovered; is that correct?

20 A Again, look at that passage, you have to
21 combine with what was talked about earlier regarding how
22 you provide the protective material to cover, you know,
23 elements coupled on the -- on the framework. And if
24 I -- if I the ordinary skill in the art reading this
25 patent, I will go back to the previous specification of

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2 the patent, look at how -- how it was discussed
3 regarding providing the protective layer over the
4 elements.

5 If you look at the Figure 1 and the Figure 2,
6 these are the -- these are the two figures related to
7 that passage. And when I look at the Figure 1 and a
8 Figure 2, it tells you that you apply -- you apply
9 coating, you know, 108 on this device called a 104, and
10 in Figure 1 this device 106 it's not covered. But when
11 it come to Figure 2, additional coating, right, 208 is
12 covered, is applied to cover a 106.

13 So from these two it tells me that these
14 elements, components placed a coupled to the framework
15 are encapsulated by certain protective layers.

16 Q So your opinion is that in Claim 16 every
17 element coupled to a framework must be covered by a
18 protective material to satisfy that first element?

19 A Is this something that I talk about it in my
20 declaration? I don't recall.

21 Q You opined about Claim 16.

22 A But I didn't give specific opinion regarding
23 how you put protective coatings on these components.

24 Q I think you probably should have, is what I am
25 getting at.

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So let's go back to Claim 16. We'll start from the bottom.

A Okay.

Q "Forming an outer molding," do you see that claim element within Claim 16?

A Yes, I see that.

Q You discussed it a lot?

A Uh-huh.

Q According to the terms and words of Claim 16, "the outer molding needs to encompass all or substantially all of the inner molding." Do you see that?

MR. GUO: Objection; form.

THE WITNESS: I see that.

Q And then the inner molding, which is the previous element, is formed over -- strike that.

Is formed -- strike that.

The inner molding in the previous element of Claim 16 is formed substantially over a subset or all of the framework, at least one protective material and the plurality of the elements. Do you see that?

A I see that.

Q And then that inner molding is formed over the protective material, which is the element before that.

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2 Do you see that?

3 A I see that.

4 Q So is it your opinion that this claim requires
5 that the outer molding encompass every one of the
6 elements coupled to the framework?

7 A My understanding of the passage here is the
8 outer molding completely covers the inner molding.

9 Q And that inner molding may only cover one of
10 the elements, according to the terms of Claim 16 here,
11 right?

12 A Then you have to look at how the inner
13 molding -- how the inner molding is applied. And if you
14 look at the Figure 3, the inner molding covers
15 everything on that framework.

16 Q So it's your opinion that Figure 3 requires,
17 regardless of what's said here in Claim 16, that might
18 be more broad, that the inner molding encompass
19 everything underneath it?

20 A That's what the Figure 3 teaches.

21 Q And that's what you understand Claim 16 to
22 require based on that teaching in Figure 3; is that
23 correct?

24 A That's correct.

25 Q Okay. If there is language in Claim 16 that

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2 is inconsistent with, say, Figure 9 or Figure 4, is it
3 your opinion that the claims should be -- Claim 16
4 should be interpreted to be consistent with Claim 9 in
5 Figure 4 based on their teachings?

6 MR. GUO: Objection; form.

7 THE WITNESS: I use the figure in conjunction
8 with the text to derive my understanding.

9 Q Okay. So in your analysis if there was
10 language that was potentially more broad than what is
11 described in the examples and the text describing those
12 examples and the specification, the claim should be
13 interpreted to be consistent with those examples on the
14 specification?

15 A I go by what example teaches me.

16 Q Okay. And if the example teaches something
17 that is inconsistent with what the claim says, those
18 teachings are more important than what the claim says in
19 your view?

20 MR. GUO: Objection; form.

21 THE WITNESS: First of all, that's not an
22 opinion I give. And I look at the passage together with
23 the drawing to come up my understanding of a patent as
24 an ordinary skill in the art reading the patent.

25 Q Patent as a whole?

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2 A Exactly.

3 Q You don't start with the claim language and
4 then try to interpret it in the context of the patent?

5 MR. GUO: Objection; form.

6 THE WITNESS: I read the whole thing from
7 beginning to the end.

8 Q Yeah. And I'm just trying to clarify your
9 analysis in my head, because you keep coming back to
10 Figures 4 and Figure 9. And they seem to be important
11 to your analysis, at least.

12 A Yes, because the figures that tie to the
13 passage. And I look at the both to understand what --
14 what's going inside this patent.

15 Q And Figure 3 I believe is the one you talked
16 about with respect to the inner molding?

17 A Yes.

18 Q And because Figure 3 shows the inner molding
19 completely encapsulating the underlying item, you think
20 Claim 16 should require that; is that correct?

21 A I'm not sure if I give an opinion on that in
22 my declaration with respect to the question you just
23 asked.

24 Q Maybe I can -- maybe I can close this up. In
25 your analysis that you undertook in reaching the

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2 opinions that are set forth in your declaration, did you
3 analyze the requirements of Claim 16, the elements of
4 Claim 16, that relate to the protective material and the
5 inner molding and how they relate to the outer molding
6 element, or did you just look at the outer molding
7 element?

8 A I look at all of them.

9 Q Okay. So your opinion -- strike that.

10 You would agree with me that the outer molding
11 element is related to the inner molding element in
12 Claim 16 at least, right?

13 A The outer molding element is enclosed in the
14 inner molding element.

15 Q Yeah, so the inner molding defines, in your
16 view, what the outer molding element is and encompasses?

17 MR. GUO: Objection; form.

18 THE WITNESS: The inner molding element
19 defines at least the area over which the outer molding
20 is to cover.

21 Q And did you analyze whether the -- how the
22 inner molding element related to the protective material
23 element in Claim 16 in reaching your opinion?

24 A I look at it.

25 Q So in your opinion, Claim 16 encompasses a

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2 framework with multiple elements where only one of those
3 elements is covered by a protective material, the inner
4 molding is then applied to that one element and the
5 outer molding is applied just to that one element on top
6 of the inner molding and other elements are not covered?

7 MR. GUO: Objection; form.

8 THE WITNESS: That's not my opinion.

9 Q You don't think it covers that?

10 A That's not -- that's not opinion that I give
11 in my declaration.

12 Q You have no opinion one way or the other,
13 then, whether Claim 16 covers that?

14 A That was not an opinion I provided in the
15 declaration.

16 Q You have no opinion one way or the other
17 whether -- in this declaration or in this proceeding as
18 to whether Claim 16 encompasses an embodiment where the
19 outer molding does not encompass all of the elements on
20 the framework; is that correct?

21 A Well, my opinion -- and, again, if I read --
22 if I read the passage, if you also look at the figures,
23 you have a framework. On that framework, you have
24 multiple components and those components will cover by
25 protective layer as illustrated in Figure 1 and

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2 Figure 2.

3 And the Figure 3 talks about how you apply the
4 inner molding to encapsulate, you know, the items that I
5 just described. And the Figure 4 goes further on to
6 talk about how the outer molding encapsulates the inner
7 molding. That's my understanding. I go by what the
8 patent shows, what the patent teaches.

9 Q So you go by the teachings rather than what's
10 written here in Claim 16?

11 A Claim 16 is part of teaching also.

12 Q Okay. So let's look at the first element.

13 A Uh-huh.

14 Q "One or more of a plurality of elements."
15 What do you understand that to mean, those words?

16 A You can have one or you can have more than
17 one.

18 Q Okay. So one or more than one of the
19 plurality of elements on the framework can be covered by
20 a protective material here in Claim 16. You agree with
21 that?

22 A I agree with that.

23 Q And then the second element in Claim 16 says
24 "forming an inner molding over a subset of -- a sub or
25 all of the framework, be at least one protective

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2 material, and the plurality of elements."

3 So you would agree with me that Claim 16 in
4 this second element covers a situation where a subset,
5 say just the framework that's covered by an inner
6 molding, according to the terms of Claim 16; is that
7 correct?

8 A I have to look at the figure where -- which
9 figure ties to the passage, which is Figure 3.

10 Q So -- and because Figure 3 -- and I recall it.
11 Figure 3 is depicted as encompassing everything, you
12 really take the phrase "subset or all of" really as
13 meaning all of, because it's pictured in Figure 3 that
14 way?

15 A That's what Figure 3 teaches.

16 Q And that's what you think Claim 16 covers?

17 A That's right.

18 Q And would not cover due to Figure 3 a
19 situation where it was just a subset of those; is that
20 right?

21 A That's not what the patent teaches in the
22 Figure 3.

23 Q Okay. And that's not how would you read
24 Claim 16?

25 A That's not how I interpret the message.

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2 Q Of that element in Claim 16?

3 A Yes.

4 Q That was helpful. Thank you.

5 MR. HENDERSHOT: We've been going about an
6 hour.

7 MR. GUO: Take a break.

8 MR. HENDERSHOT: I will pose a request on the
9 record and then we can go off.

10 Q We talked earlier about whether you recalled
11 any statement in the 811 patent where it said the outer
12 molding must encompass all of the inner molding. And
13 you said would you have to review the patent, because
14 even if something wasn't in your declaration it might be
15 in the patent.

16 Sitting here, do you recall any such statement
17 in your declaration or in the patent?

18 A I do not recall.

19 MR. HENDERSHOT: Why don't we go off the
20 record and give you a chance to take a break. We've
21 been going about an hour. I'd also like you to review
22 your declaration and review the patent so you are
23 comfortable and you can answer that question as to
24 whether or not there's any statement that says that in
25 the patent.

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2 MR. GUO: I'm going to object to that. It
3 should be part of the deposition.
4 Okay. We can go back on the record and you can do it.
5 I was just trying to be polite. So let's go off the
6 record and take a break and we'll come back and I'll ask
7 you to do that again.

8 (Recess.)

9 BY MR. HENDERSHOT:

10 Q Dr. Young, earlier I asked you if you recalled
11 a statement in the 811 patent or your declaration citing
12 to the 811 patent where the 811 patent said that the
13 outer molding must completely encapsulate the underlying
14 layers, and you did not recall one off the top of your
15 head, but said you would like to review the documents.
16 Do you recall that?

17 A I recall that.

18 Q I would like you to review the documents now
19 and confirm for me whether you've identified -- strike
20 that.

21 I'd like you to review your declaration enough
22 to comfort yourself as to your ability to answer the
23 following question: Does your declaration cite to any
24 statement in the 811 patent that the outer molding must
25 or is required to encapsulate the underlying layers?

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2 A Okay. Can I look at this for a second?

3 Q Sure.

4 A Takes me some time.

5 Q I want you to be comfortable with your ability
6 to answer the question. Please feel free.

7 A I recall somewhere in the patent it talks
8 about completely covers the inner molding. I wish I had
9 like a word search program.

10 Q Let me see if I can help.

11 So in your review of your declaration of the
12 patent there, did you see anywhere in either one where
13 it said the outer coating must fully encapsulate the
14 inner coating?

15 A I didn't see that in my declaration.

16 Q Okay. And so the record is clear, you looked
17 at your declaration enough to comfort yourself that you
18 time to review it and look for that, correct?

19 A That's correct.

20 Q And you also looked at some of the patent as
21 well, correct?

22 A Some of the passage in the 811 patent.

23 Q Okay. So direct you to a couple of passages,
24 having searched it. In the 811 patent if you look at
25 column 5, line 33 the word "completely" turns up.

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2 A Line 33. Okay.

3 Q And it says in that section, "A layer of
4 additional material, e.g. inner molding, which may
5 completely or incompletely surround an object, e.g.
6 framework." Do you see that?

7 A Uh-huh.

8 Q Is that the passage you're thinking of?

9 A Uh-huh.

10 Can you also search something related to outer
11 molding completely encapsulates or covers the inner
12 molding?

13 Q Okay. So I think what you may be thinking
14 of -- let's look at column 6.

15 A Okay.

16 Q Or sorry. That's column 7.

17 A Column 7.

18 Q Around line 28.

19 A Line 28. We talk about that before.

20 Q Yeah.

21 A This is the one of the places talks about
22 completely enclose or encase an underlying item.

23 Q Okay. And there's one other place where
24 "completely" turns up. I'll point it to you just so
25 we're complete.

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2 Column 11. Line 35.

3 A Line 35.

4 So these are the only places where you could
5 find that were word "completed."

6 Q Yeah, let me just clarify that. I've got to,
7 I think, column 5. So column 11, which we just
8 discussed. Column 5, which we discussed. Column 7,
9 which we discussed. But that's all I got.

10 A Okay.

11 Q So try to sum up, is it correct that you've
12 identified no statement cited in your declaration from
13 the 811 patent stating that the outer molding must fully
14 encompass the underlying layers; is that correct?

15 A That's correct.

16 Q And in your review of the 811 patent sitting
17 here, including our searching for the word "completely"
18 that you would recall, we've identified no statement in
19 the 811 patent saying that the outer molding must fully
20 encompass or is required to fully encompass the
21 underlying layers; is that correct?

22 A But if you look at the passage of the patent
23 together with the figure, that's what -- that's what the
24 patent suggests.

25 Q But there's no individual passage we've

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2 identified based on the review I discussed at the 811
3 patent or that you've identified where it says the outer
4 molding must or is required to totally encompass or
5 encase the underlying layers; is that correct?

6 A That's correct.

7 Q I'd like to hand you a copy of -- actually
8 strike that.

9 If I could direct you to paragraph 47 and 48
10 in your declaration.

11 You talk about the "top" of below, below prior
12 art reference here, these two paragraphs. Take a second
13 and just review them.

14 A Okay.

15 Q So your declaration here in paragraphs 47 and
16 48 talks about the top and bottom of the casing and Lo.
17 Can you explain to me what your opinion is getting at
18 here, what the reference is to the top and bottom and
19 Lo?

20 A Can you be more specific about your question?

21 Q I wish I could. I'm trying to figure out your
22 opinion.

23 Is your opinion that Lo does not anticipate
24 Claim 16 of the 811 patent based on the idea that the
25 transmission medium in Lo is on the bottom not on the

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2 top of the casing in Lo?

3 MR. GUO: Objection; form.

4 THE WITNESS: The transmission medium.

5 Describing lows, you know, reference only covers one
6 side of the package, the glass, the casing. So it does
7 not cover -- does not completely encapsulates the entire
8 glass casing where he referred to glass casing as an
9 inner molding.

10 Q Okay. So your opinion with respect to Lo is
11 based on the idea that Lo does not cover all sides, not
12 just that it covers the wrong side. It covers the
13 bottom instead of the top; is that correct?

14 A No. My -- I didn't keep -- I didn't say it's
15 wrong side. My opinion is, you know, when you talk
16 about a top -- top of something with the context of 811
17 patent, you have to look at the entire top surface.

18 Q But you see here the start of paragraph 48,
19 you talk about the bottom. And that one would talk
20 about the top being a certain side in paragraph 47. I'm
21 trying to understand why that's even in here if your
22 opinion is that it didn't cover all layers?

23 A Okay. My opinion is when you say "top," you
24 cannot just look at a schematic and say I call this top.
25 I call this the bottom. Because when you flip over the

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2 schematics, the top can turn into the bottom or vice
3 versa.

4 Q Agreed.

5 A But when you call something on top of
6 something, that top of something is the entire surface
7 goes around that object.

8 Q Okay. So can you explain to me what we're
9 trying to say in the first sentence of paragraph 48?

10 A In fact, a person of ordinary skill could
11 understand the top of plastic housing 1474 in Figure 14C
12 to the opposite side or the bottom of the actual device
13 as shown in Figure 15A.

14 So if you look at the Figure 15A, the
15 transmission medium by labeled as 1515 now is facing the
16 bottom with respect to this picture. However, the same
17 transmission medium shown in Figure 14C, right, on page
18 19 of my declaration is on the top side of the figure.

19 So I'm trying to distinguish the top from the
20 bottom. And you cannot just arbitrarily call this is
21 the top, this is the bottom. Depending on how you --
22 you draw your device, the top in one figure when one
23 ordinary skilled in the art look at it can turn to the
24 bottom.

25 Q Okay. And how is that distinction relevant to

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2 your opinion concerning Lo?

3 A In my opinion concerning Lo is the
4 transmission medium used by Lo only covers one side of
5 the package. And that's not completely encapsulates the
6 glass housing defined by him as the inner molding layer.

7 Q Are you saying "glass housing" in Lo? I
8 thought it was plastic housing.

9 A I'm sorry. I could be wrong. It is the 1474.
10 Maybe it is plastic housing.

11 Q For the record, I will hand you a copy of
12 Exhibit 1003 in this proceeding, which is copy of Lo in
13 case you wanted to look at it so you have all of the
14 materials in front of you.

15 MR. GUO: Is there a question pending?

16 Q What's the inner molding made of, glass or
17 plastic?

18 A I need to look at it.

19 Q Please.

20 MR. GUO: Objection; form.

21 THE WITNESS: Plastic housing.

22 Q And while you're looking at it, would you
23 agree with me that the plastic housing in Lo fully
24 encompasses all of the underlying components and
25 framework within that housing?

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2 A Yes.

3 Q So I think I understand your opinion. I may
4 figure out why -- still not clear why "bottom" is in
5 here. But is it your opinion as set forth in your
6 declaration concerning Lo that if the possible
7 construction identified by the board as a layer that is
8 only on top of the underlying layer is adopted, that
9 still requires that the outer molding cover all sides
10 and surfaces of the inner molding to be on top of it?

11 A That's correct.

12 Q Okay. So under your construction enclosed or
13 encased, or the alternative construction identified in
14 the board's institution decision, either one of those in
15 your view requires that all sides and surfaces of the
16 inner molding be covered by the outer molding?

17 A That's what the patent teaches, the 811 patent
18 teaches.

19 Q That's what your opinion and that's what you
20 applied in your analysis here?

21 A That's correct.

22 Q So if a construction is adopted that covering
23 one side of an inner molding is sufficient to be on top
24 of the underlying layer, I understand you disagree with
25 that, but if that's adopted, it's not your opinion that

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2 the transmission medium in Lo doesn't satisfy that
3 because it's on the wrong side; it's on the bottom not
4 the top, correct?

5 MR. GUO: Objection; form.

6 THE WITNESS: Yeah, it's not -- it's not about
7 on which side. It's about it's only on one side.

8 Q And I think we're on the same page.

9 If a construction is adopted, understanding
10 you disagree with it, that one side is sufficient,
11 you're not attempting to say here that Lo is on the
12 wrong side. It's just that it needs to cover all sides
13 in your opinion?

14 A That's correct.

15 Q Okay. Thank you.

16 And then with respect to Lo, which you have in
17 front of you which is the prior art reference, if you
18 look at 15A. I think you've also included it at page 20
19 of your declaration.

20 Would you agree with me that transmission
21 medium 1515 in that figure covers all of the surface of
22 the plastic housing that is configured to be in contact
23 with the user's skin?

24 A That's correct.

25 MR. HENDERSHOT: Off the record for a few

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2 minutes. I want to go over my notes, see if I can wrap
3 up shortly.

4 (Recess.)

5 MR. HENDERSHOT: Back on the record. I have
6 no further questions.

7 MR. GUO: I don't have any questions either.

8 MR. HENDERSHOT: Dr. Young, before we close
9 the record, I want to thank you for your time today.

10 THE WITNESS: Thank you.

11 MR. HENDERSHOT: It's a pleasure meeting you.

12 And we can close the record and take care of
13 the details of the transcript and exhibits off the
14 record, if that's all right with counsel?

15 MR. GUO: That's fine with me.

16 (The deposition concluded at
17 3:09 p.m.)

ERRATA SHEET

Case Name:

Deposition Date:

Deponent:

Pg.	No.	Now Reads	Should Read	Reason
6	_____	_____	_____	_____
7	_____	_____	_____	_____
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19	_____	_____	_____	_____

Signature of Deponent

SUBSCRIBED AND SWORN BEFORE ME

THIS _____ DAY OF _____, 2017.

(Notary Public) MY COMMISSION EXPIRES: _____

1 Darrin Young, Ph.D. - 2/17/17

2 REPORTER'S CERTIFICATE

3 STATE OF UTAH)

4 COUNTY OF SALT LAKE)

5
6 I, Heidi Hunter, RPR, CCR, for the state
7 of Utah.

8 That the foregoing proceedings were taken
before me at the time and place set forth in the
9 caption hereof; that the witness was placed under
oath to tell
10 the truth, the whole truth, and nothing but the truth.

11 That I thereafter transcribed my said
shorthand notes into typing and that the typewritten
12 transcript of said deposition is a complete, true
and accurate transcription of my said shorthand
13 notes taken at said time.

14 I further certify that I am not a relative
employee, attorney, or counsel of any of the parties
15 nor am I a relative or employee of any of the
parties' attorney or counsel connected with the
16 action, nor am I financially interested in the
action.

17 DATED: 2-22-2017

18
19 _____
Heidi Hunter, RPR, CCR