

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

_____)	
SOTERA WIRELESS, INC.)	
Petitioner,)	
v.)	Case No.
)	IPR2020-00912
MASIMO CORPORATION,)	
)	
Patent Owner.)	
_____)	

DEPOSITION OF BRYAN BERGERON, PH.D.
APPEARING REMOTELY

June 9, 2021

10:33 a.m.

Reported by: Lori J. Goodin, RPR, CLR, CRR,
RSA, California CSR #13959

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21

22

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11 SOTERA V. MASIMO

12 Wednesday, June 9, 2021

13 Lori J. Goodin, RPR, CLR, CRR,

14 RSA, California CSR #13959

15 EXHIBIT DESCRIPTION PAGE

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17 Exhibit 1001 U.S. Patent 9,788,735 (B2) 123

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18 Exhibit 1005 U.S. Patent 6,840,904 (B2) 133

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19 Exhibit 1006 WO 0042911A1, Kaini, related 144

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20 Exhibit 1007 European Patent Application 160

Akai, related to '108, Tab 11A2

21 Exhibit 1008 U.S. Patent 5,919,141 197

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20	(All exhibits were provided.		
21	electronically to the reporter.)		
22	* * *		

1 WEDNESDAY, JUNE 9, 2021, 10:33 a.m.

2 PROCEEDINGS

3

4 THE VIDEOGRAPHER: We are now on the
5 record. My name is Henry Marte, videographer
6 on behalf of Digital Evidence Group. Today's
7 date is June 9th, 2021, and the time is
8 10:33 a.m. eastern time.

9 This deposition is being held by
10 remote Zoom in the matter of Sotera Wireless,
11 Inc. versus Masimo Corporation. The deponent
12 today is Dr. Bryan Bergeron.

13 All parties to this deposition are
14 appearing remotely and have agreed to the
15 witness being sworn in remotely. All
16 appearances are also noted on the
17 stenographic record.

18 * * *

19 BRYAN BERGERON, PH.D.,
20 a witness called for examination, having been
21 first duly sworn, testified as follows:

22 * * *

1 EXAMINATION

2 BY MS. LAM:

3 Q. Dr. Bergeron, can you please state
4 your full name for the record?

5 A. Sure, it is Bryan Patrick Bergeron.

6 Q. And do you understand that you are
7 under oath as though you are in a courtroom,
8 correct?

9 A. Correct.

10 Q. Is there any reason why you would be
11 unable to give truthful and accurate testimony
12 today?

13 A. No.

14 Q. Are you taking any medications that
15 might affect your testimony today?

16 A. None.

17 Q. Okay. Today, I will be asking you
18 questions. Please wait until I have completed
19 the question before answering. Please let me
20 know if you do not understand a question.
21 Otherwise, I assume you understand.

22 The court reporter is here to take

1 down questions and answers. Please speak clearly
2 and respond verbally to any questions so your
3 answers can be recorded by the court reporter.

4 And you may ask for a break at any
5 time. However, if there is a pending question,
6 please answer the question before taking a break.

7 Is that okay?

8 A. Okay.

9 Q. And, do you understand that this is
10 a deposition for four IPRs?

11 A. Yes.

12 Q. And that is for U.S. Patent
13 Number 10,213,108, U.S. Patent Number 9,788,735,
14 U.S. Patent Number 9,795,300, and U.S. Patent
15 Number 9,872,623.

16 During the deposition, I will refer
17 to each of those patents by the last three
18 numbers. Is that okay?

19 A. Sure.

20 Q. How did you prepare for today's
21 deposition?

22 A. Well, I met virtually with counsel

1 for, I guess, maybe five hours over a couple of
2 days.

3 And I also reviewed some of the
4 materials; the patents themselves and my reports.

5 Q. Is there anything else?

6 A. I may have referred to the case
7 histories and other documents relative to the
8 case that are in my Items Considered, so, in each
9 of my reports I have a listing of materials
10 considered. I didn't do any exhaustive review of
11 everything. But I hit the major documents, I
12 thought, for each patent prior to today.

13 Q. Do you have any notes with you
14 today?

15 A. Yes. I have one sticky which is
16 this one, which is the attorney's names because I
17 always forget the last names or how to spell it
18 whatever. So, the three attorneys I work with,
19 you will probably ask me and I will tell you.
20 So, that is on my note.

21 Q. And do you have any technology
22 presently running that allows you to communicate

1 with your attorneys?

2 A. My phone is in a different room. I
3 guess you could, I have a PC running, I could
4 have someone, I guess, send me an e-mail. But
5 that would break up, I assume, this conversation.
6 I am in the browser to see you. So, not that I
7 know of.

8 Q. Okay. As we go through the
9 deposition today, I will refer to exhibits and
10 documents. Those exhibits will be pulled up on
11 this computer screen and you will be able to
12 download things if it is from the download link.
13 Do you have access to the download link?

14 A. I tried it yesterday but it didn't
15 bring up anything. Should I open it up? How do
16 I do that? I see it on my e-mail. It says
17 marked exhibits download link, Digi-Key get, or
18 D-E-G-L-I-T box.com.

19 THE VIDEOGRAPHER: So, Doctor, if
20 you click on it, it should be empty because
21 we haven't dragged any documents in there.

22 THE WITNESS: It is empty.

1 THE VIDEOGRAPHER: Just make sure
2 that you refresh when I do drag something in
3 there.

4 THE WITNESS: So I should bring this
5 over to my other screen. So, the documents
6 will appear in that window?

7 MS. HOEKEL: You might have to hit
8 Control R, I think it is to refresh it. But,
9 yes.

10 THE WITNESS: So, as of now, I have
11 the link on my machine, yes.

12 BY MS. LAM:

13 Q. Great, if you have any troubles with
14 the link just let us know.

15 A. Okay.

16 Q. Dr. Bergeron, you were engaged as an
17 expert in the District Court case between Sotera
18 and Masimo, correct?

19 A. I believe that is correct, yes.

20 Q. Have you provided any declarations
21 or reports in that case?

22 A. As I recall it is only the

Page 11

1 declarations I provided here.

2 Q. And by here you mean these items?

3 A. Today, yes, the proceedings.

4 Q. What have you done for the District
5 Court case?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: I am not totally
8 clear. District versus whatever this is.
9 So, this is not District? As far as I know
10 this is all I have done for the case.

11 These, these, this data provided
12 for, documents for reports, I guess, whatever
13 you want to call them. The declarations,
14 each one for each of the four patents that we
15 are discussing today.

16 That is, to my knowledge, that is
17 the extent of my contribution to the case
18 thus far.

19 BY MS. LAM:

20 Q. I would like to introduce your CV
21 which is Exhibit 1041, Tab 37A.

22 (Bergeron Exhibit 1041

1 marked for identification.)

2 THE WITNESS: Okay, I see it. So,
3 this is not in the linked folder area, right?
4 This is separate.

5 THE VIDEOGRAPHER: So, if you wanted
6 Zoom where I am sharing the screen. The
7 other one, the browser, if you want to be
8 able to navigate through the document, just
9 hit refresh on your browser and you should
10 see the document up there, okay?

11 THE WITNESS: Okay.

12 MS. HOEKEL: It took a second for it
13 to show up on mine, too, but it just showed
14 up.

15 THE WITNESS: Hold on. I see a
16 black background.

17 THE VIDEOGRAPHER: So, I do have to
18 drag the documents in there and sometimes I
19 have to rename it so it takes about 5 to
20 10 seconds.

21 MS. HOEKEL: So, Brian, you should
22 be in the box app right now, if you see the

1 exhibit.

2 THE WITNESS: The exhibit is
3 separate on my, I have two screens, on the
4 left-hand side I see the, my CV and on the
5 right side I see the box that is empty.

6 MS. HOEKEL: Hit Control R in the
7 box window.

8 THE WITNESS: Okay, there you go.

9 MS. HOEKEL: Now you can click on it
10 and look at it. It is on the Zoom screen,
11 obviously.

12 THE WITNESS: Yes, but now I can do
13 searches or whatever in this box, correct.

14 MS. HOEKEL: Yes.

15 THE WITNESS: Okay, yes, that works.

16 BY MS. LAM:

17 Q. Dr. Bergeron, do you recognize this
18 exhibit?

19 A. Yes, I do.

20 Q. And what do you recognize it to be?

21 A. It is my CV.

22 Q. If we could go to the last page?

1 A. Okay.

2 Q. Under 2020 there is a case that
3 starts with Wireless Bedside Monitors, Masimo
4 Corporation Versus Sotera Wireless, Inc.

5 Do you see that?

6 A. I do. I see it.

7 Q. So, when I said District Court case
8 earlier, this is the case I was referring to.

9 Have you provided any declarations
10 or reports in that case?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: To my knowledge, the
13 extent of my work has been to create these
14 declarations that I have provided to you.

15 BY MS. LAM:

16 Q. In the IPR proceedings?

17 A. Yes, that is it.

18 Q. So, you do not recall doing anything
19 else for the District Court case?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: Correct.

22 BY MS. LAM:

1 Q. When were you first contacted by
2 counsel for Sotera about these IPRs?

3 A. Several months ago. Maybe six
4 months ago, four months ago, around the time.

5 Q. And when did you first become aware
6 of these IPRs?

7 A. The same time I believe.

8 Q. When did you first read the patents
9 at issue in these IPRs?

10 A. Same time period.

11 Q. And when did you first read the
12 prior art at issue in these IPRs?

13 A. Starting at that same time.

14 Q. And you are aware that Sotera had
15 submitted declarations from Dr. George Yanulis in
16 connection with these same IPRs, correct?

17 A. I was aware of that later on, yes.
18 Yes.

19 Q. And when did you first review
20 Dr. Yanulis' declarations?

21 A. I don't recall exactly, but,
22 sometime between the start of the case and now.

1 It has been several months.

2 Q. And you have submitted your own
3 declarations in connection with these IPRs,
4 correct?

5 A. I have, yes.

6 Q. Do you know why you responded to the
7 patent owner's arguments here instead of
8 Dr. Yanulis?

9 MS. HOEKEL: Object to the form.

10 THE WITNESS: I would be
11 speculating. Not sure.

12 BY MS. LAM:

13 Q. Have you ever spoken to Dr. Yanulis?

14 A. No, I have not.

15 Q. Have you ever e-mailed or otherwise
16 communicated with Dr. Yanulis?

17 A. No, I have not.

18 Q. Do you know Dr. Yanulis' current
19 whereabouts?

20 A. I do not.

21 Q. Do you know if Dr. Yanulis is alive?

22 A. I do not.

1 Q. Do you know if Dr. Yanulis is ill?

2 A. I don't know.

3 Q. Do you know if Dr. Yanulis has any
4 other condition that would prevent him from
5 providing a declaration?

6 A. I don't know.

7 MS. HOEKEL: Object to the form.

8 BY MS. LAM:

9 Q. You can answer, Dr. Bergeron?

10 A. I thought I did.

11 MS. HOEKEL: He did.

12 THE WITNESS: My answer was I do
13 not.

14 BY MS. LAM:

15 Q. Did you ever try to contact
16 Dr. Yanulis?

17 A. No.

18 Q. Why not?

19 MS. HOEKEL: Object to the form.

20 THE WITNESS: Well, I was never
21 asked to call him or talk to him. And
22 earlier, I stated, that I don't know where he

1 is, if he is alive, dead, where he is or how
2 to get in touch with him or anything else
3 about him. Other than he was on this case
4 earlier. That is it.

5 BY MS. LAM:

6 Q. So, you said you started working on
7 this case about six months ago.

8 So, was that January of 2021?

9 A. March, April, May -- it might have
10 been the tail end of 2020. It might have been
11 December of 2020, or January. Around that
12 period, yes.

13 But I would, December of 2020
14 because it is on my CV in 2020, so I usually
15 enter my work that I have on the date that it
16 starts.

17 So, if I have an agreement with
18 Sotera in 2020, it is listed, it might not have
19 become active for another six weeks, depend on
20 how it works. That is how I enter my CV, I enter
21 the dates that I sign a contract with the entity.
22 That is when it appears on the CV.

1 So, I would say December 2020 is
2 probably when it started. Around there.

3 Q. Do you have a separate engagement
4 agreement for the IPRs apart from the District
5 Court case?

6 A. Not that I know of. I don't have a
7 distinction between where this is being held,
8 District versus whatever you are asking me?

9 Q. So, then for any case between Masimo
10 and Sotera you were first engaged about
11 December 2020?

12 A. Yes.

13 Q. And, that includes the District
14 Court case and the IPRs?

15 A. If the District Court case is
16 different then yes. But to my knowledge I have
17 no work on that area at all. I have only done
18 work on the IPRs.

19 MS. HOEKEL: Brian, slow down just a
20 tiny bit. The court reporter is doing a
21 great job at getting you. But slow down just
22 a little bit, that would be great.

1 THE WITNESS: Sorry. Am I answering
2 too fast, you don't have time to respond.

3 MS. HOEKEL: You are fine; I am just
4 afraid the court reporter is going to lose
5 you at some point. But just slow down a
6 little bit.

7 THE WITNESS: Too much coffee.

8 BY MS. LAM:

9 Q. Dr. Bergeron, have you designed any
10 physiological sensors?

11 A. Physiological sensors. Yes, I have.

12 Q. What type?

13 A. I have developed auscultation
14 sensors. So, body sounds translated into
15 electrical signals. I have built skin resistance
16 sensors, EKG sensors. I developed a cap at one
17 point for an EEG monitoring.

18 I developed a Korotkoff sound
19 analyzer for blood pressure measurement.

20 I think that is what comes to mind.

21 Q. Were any of those sensors
22 noninvasive sensors?

1 A. They were, in fact, all noninvasive
2 sensors.

3 Well, okay, so, those were all
4 noninvasive sensors. I have also developed an
5 invasive sensor using a pulse oximetry interface.
6 So in other words an LED transmitter and a
7 photodiode receiver that was located on the heart
8 surface. So, that would be purely invasive.
9 That is the only invasive one I can recall
10 making. Most of them have been noninvasive.

11 Q. And have you designed any wearable
12 medical monitors?

13 MS. HOEKEL: Object to the form.

14 THE WITNESS: Yes, I did. Yes, I
15 have.

16 BY MS. LAM:

17 Q. What type?

18 A. The type is a, I don't know how to
19 describe it. The purpose of the device is to
20 monitor the 3D location of the spine in space and
21 so to determine whether or not the person has the
22 perfect posture or not during exercise.

1 So, it monitored the curvature of
2 the lumbar, thoracic and cervical spine in
3 relation to each other internally, each segment,
4 and determine whether or not the patient, or the
5 person was in the proper position while they were
6 exercising.

7 Q. And where was that device worn?

8 A. The sensors were worn along the
9 spine, the back, with a brace or an elastic, we
10 call it an elastic brace or a strap. And the
11 device was worn anywhere on the body. It could
12 be put in clothing or strapped to the person's
13 body anywhere, arms, legs, waist. Depending on
14 the exercise. So, the idea was to keep it out of
15 the way of the movement.

16 Q. Have you designed any wearable
17 monitors that were worn on the arm?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: Well it is -- this one
20 could have been worn on the arm. It was a
21 small, it is a small handheld Microsoft CE
22 device for the processing.

1 BY MS. LAM:

2 Q. And you are referring to the monitor
3 for posture?

4 A. Correct. The device is called
5 Posture Perfect.

6 Q. How many sensors did Posture Perfect
7 have?

8 A. One per vertebrae segment. So, 12
9 to 6, plus -- so, around 20.

10 Q. Have you designed any other wearable
11 medical monitors?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: Wearable monitors.

14 So, when you say, just to clarify, when you
15 say wearable medical monitors, you mean the
16 entire system is carried by the person,
17 correct?

18 BY MS. LAM:

19 Q. Correct.

20 A. Okay. Yes, so, another one would be
21 a, the heart sounds monitor I mentioned earlier.
22 So, a transducer based auscultation system. So

1 an air-based sensor that recorded sounds from the
2 chest wall for, actually for heart sounds and for
3 chest sounds.

4 Q. And where was that monitor worn?

5 A. That was worn on a shoulder strap.

6 Q. And how many sensors did that system
7 have?

8 A. Six for the, six for the heart and
9 six for the chest as well. So, separate systems
10 so, when used with the heart, six sensors, when
11 used with the lungs, another six sensors.

12 Q. And how did those sensors connect to
13 the monitoring device?

14 MS. HOEKEL: Object to the form.

15 THE WITNESS: They went to a preamp
16 which I have made, designed, and into a
17 mixer. And from the mixer to a recording
18 device.

19 BY MS. LAM:

20 Q. Were the sensors separately
21 connected to the monitoring device?

22 A. Well, they went through a mixer.

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: So, each of the
3 signals, each, each sensor was connected to a
4 preamp, so there were six sensors, let's say,
5 and then each of the sensors had preamp and
6 so there were six preamps and those preamps
7 were then mixed into a single stereo signal.

8 So, they were compressed or combined
9 down to a stereo signal.

10 BY MS. LAM:

11 Q. Could you remove the sensors?

12 A. Could I remove them? Meaning?

13 Q. Detach them?

14 A. From the person?

15 Q. From the mixer?

16 A. Detach them. Yes.

17 Q. Was it common for wearable monitors
18 to be worn on a shoulder strap?

19 A. At that time it was.

20 Q. And what time frame are we talking
21 about?

22 A. Well, so, we are talking about the

1 heart sounds sensor system and chest sound sensor
2 system, that was in the 1987 or so. Late '80s.

3 Q. During that time frame was there
4 anywhere else that wearable monitors were worn?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: You mean whether they
7 were used in the hospital? I'm not sure, let
8 me try that again. What is the question,
9 please?

10 BY MS. LAM:

11 Q. During that time frame, were there,
12 where else on the body could you wear a medical
13 monitor?

14 A. So, the, so we are clear. There is
15 the medical, the whole device consists of the
16 sensors and the connection at the wire cable and
17 then the processing device and then recorder, the
18 source device.

19 So, if you are asking, the whole
20 system fits on the body somewhere. But are you
21 asking where the stated recording device would
22 sit or be fitted? Because the sensors go in the

1 body depending on what you are trying to measure
2 so if it is the heart the sensors go on the top
3 of the chest near the heart. If it is the lungs
4 the sensors go on the back, you know, over the
5 lungs.

6 But, in this particular case, the
7 recording device was a cassette recorder because
8 that was the normal back then and that was just a
9 relatively small cassette recorder, cervical
10 cassette recorder that was worn on a, like over
11 the shoulder, it looks like a purse-type setting
12 where there is a strap over one shoulder which
13 was normal back then.

14 Such as a, for example, the
15 competing or the comparable sensor that was
16 popular back then was something called a Holter
17 monitor which was worn very similarly.

18 Q. Were wearable medical monitors ever
19 worn on the waist during that time?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: I don't recall using
22 one or seeing one at the time, back in the

1 '80s.

2 BY MS. LAM:

3 Q. Are you aware of any now?

4 A. Today? Yes, sure, yes. There are,
5 yes.

6 Q. What about the 2000 to 2002 time
7 frame?

8 A. I don't recall using a wrist-worn
9 device at a time in 2002.

10 Q. What about a waist-worn device?

11 A. Well, if we are talking a clinical,
12 depending on -- let's take the setting. So if we
13 are in a hospital, I just want to be sure of the
14 setting. Waist-worn devices are typically worn
15 in hospitals because of the need to access the
16 patients at all times, typically through a gown.
17 Belts are not used, that is why you have the
18 hospital gowns. Things are typically worn on the
19 chest like through a bracelet or a necklace or
20 strapped to the arm or somewhere that is not
21 going to impede access to the patient's problem,
22 problem area.

1 I mean there are, today, depending
2 on how you define the monitor, things that I
3 have, for example, I have, going back to even at
4 the time, the exercise, the physiology monitors
5 that you can buy, that I bought, that I had that
6 was a thin strap on the chest. And then the
7 watch, the regular watch, the regular size watch
8 would be used to monitor the heart rate and the
9 caloric expenditure, that sort of thing for
10 companies like, for example, Polar, I believe
11 that was the first one that I bought that did
12 that.

13 And, this goes back easily 20,
14 30 years to companies like Polar and First Beat
15 and things are common now like the Apple watch,
16 for example, those things today.

17 So, the earlier systems that I
18 remember working with were based on the first
19 Apple Newton. So, we had in our lab in Boston,
20 there was an early PDA back then or personal
21 digital assistant. And it was a, it was Apple's
22 first try in the space; it was called an Apple

1 Newton. And our lab was given Apple Newtons to
2 work with to develop systems. We tried to use
3 those to, to develop various monitor systems,
4 monitor systems and data systems for clinicians.

5 But the trouble is that hardware
6 died off. Apple dropped that hardware after
7 about three or four years.

8 Am I going too fast? Okay.

9 Q. Have you designed any other wearable
10 medical monitors?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: Any other. That is
13 all I can think of right now.

14 BY MS. LAM:

15 Q. You submitted four separate
16 declarations in these four IPRs, correct?

17 A. Four separate, yes, they are
18 separate, yes. Four, yes.

19 Q. I would like to introduce
20 Exhibit 1040 from the IPR related to the '108
21 patent on Tab 33.

22 (Bergeron Exhibit 1040, '108

1 marked for identification.)

2 THE WITNESS: So, that will be in my
3 box, right?

4 BY MS. LAM:

5 Q. Should be if you refresh?

6 THE VIDEOGRAPHER: Yes, so, click
7 refresh.

8 THE WITNESS: So how do I get rid of
9 my CV.

10 MS. HOEKEL: I was going to say,
11 you've got to go back one first. So hit back
12 and then hit refresh. Otherwise it just
13 refreshes your CV.

14 THE WITNESS: Tab 33, got it, okay.
15 Yes, I have Tab 33 up on my screen.

16 BY MS. LAM:

17 Q. Do you recognize this exhibit?

18 A. Do I notice, do I recognize the
19 document, yes. The '108 document.

20 Q. And this is your declaration in this
21 IPR related to the '108 patent, correct?

22 A. That is correct, yes.

1 Q. And you submitted this declaration
2 on behalf of Sotera, correct?

3 A. That is correct, yes.

4 Q. Is this a true and accurate copy of
5 your declaration in this IPR proceeding?

6 A. Appears to be. That is my
7 signature. So, I will say yes.

8 Q. Approximately how much time did you
9 spend preparing this declaration?

10 A. I'm not sure exactly. I do recall
11 being, running a first draft of this document,
12 however. And then after that it was an iterative
13 development with the attorneys and myself over
14 the course of the last few months.

15 Q. If you could just give me a ballpark
16 range for the amount of time.

17 A. The reason I'm not sure, the way I
18 wrote these, the way it is written they are very
19 similar, the four documents. There is much
20 overlap and there is actually very little
21 difference between them.

22 And so, a lot of the work, say on

1 the first one, carried over to the second, third,
2 and fourth one. So there is relatively little
3 change, relatively little extra work for the
4 other three.

5 So, I just don't recall how much
6 time went into the first one.

7 Q. Approximately how much time did you
8 spend on all four declarations?

9 A. Good question. I would be guessing.
10 I don't know. Right now, I couldn't say.

11 Q. Does your declaration set forth all
12 of your opinions regarding the '108 patent?

13 A. Well, unless there is some other
14 material that comes to light, yes.

15 Q. Have you formed any opinions
16 regarding the '108 patent other than the opinions
17 contained in this declaration?

18 A. No.

19 Q. Did you investigate any issues
20 related to the '108 patent that do not appear in
21 your declaration?

22 A. I'm sure I did. But, what is in

1 this declaration is what I thought to be the best
2 to put forward.

3 Q. Could you turn to Paragraph 29 of
4 your declaration?

5 A. Sure.

6 Q. Here you state that you reviewed the
7 listed materials, correct?

8 A. This is, I'm sorry, Page 29, so,
9 Paragraph 29, sorry, yes. The exhibit, Materials
10 Considered, yes.

11 Q. Is it a true and correct statement
12 that you reviewed the listed materials?

13 A. Yes.

14 Q. Is this a complete list of materials
15 that you reviewed?

16 A. To the best of my recollection, yes.

17 Q. Is it okay if I refer to these
18 references by the shorthand names provided in the
19 table today?

20 A. Sure. On the left-hand side, right?
21 Like 1047. Is that what you mean?

22 Q. For example, Goldberg for

1 Exhibit 1005?

2 A. Okay, sure, the left-hand column,
3 yes, got it.

4 Q. Does your declaration contain all of
5 the legal principles that you considered?

6 A. Well again, I think that the
7 document contains the relevant legal principles.
8 I don't know if it contains everything that I
9 talked about, about the aspect that I talked
10 about in this case with my attorneys, I might
11 have mentioned something that is not listed here.
12 But I believe I have listed the items that are
13 most pertinent to this discussion.

14 Q. For the opinions presented in your
15 declaration, did you rely on any legal principles
16 that are not stated in your declaration?

17 A. Not that I know of, no.

18 Q. I would like to introduce
19 Exhibit 1040 from the IPR related to the '735
20 patent that is on Tab 34.

21 A. Back up, right? And then do an R.

22 Q. Yes.

1 (Bergeron Exhibit 1040, '735
2 marked for identification.)

3 MS. HOEKEL: It takes a second
4 sometimes.

5 THE WITNESS: Okay, so, this is the
6 Tab 37A? No, 37 -- 34. This is the '735
7 document.

8 BY MS. LAM:

9 Q. Yes, do you recognize this
10 declaration?

11 A. Yes, this is the declaration called
12 the '735 patent. Scroll down to the bottom and
13 make sure my signature is on there, and it is,
14 this is my signature. As far as I know this is a
15 true copy of my '735 declaration.

16 Q. And does your declaration set forth
17 all of your opinions regarding the '735 patent?

18 A. Yes.

19 Q. Did you investigate any issues
20 related to the '735 patent that do not appear in
21 your declaration?

22 A. Same answer as last time. I'm sure

1 I have a few things that didn't finally make it
2 to the document.

3 But, what I have here, I think is
4 the best illustration available to make my point.

5 Q. And then same question as last time,
6 in Paragraph 29 of your declaration, is this a
7 complete list of the references you reviewed for
8 this IPR?

9 A. Yes.

10 Q. And it is a true and correct
11 statement that you reviewed these references?

12 A. Correct. Yes.

13 Q. I would also like to introduce the
14 declaration for the IPR related to the '300
15 patent at Tab35.

16 (Bergeron Exhibit 1040, '300
17 marked for identification.)

18 THE WITNESS: Got it. Okay. That
19 is my signature. So, this is the, this is my
20 '300 declaration.

21 BY MS. LAM:

22 Q. And it is a true and accurate copy

1 of your declaration?

2 A. As far as I know, yes.

3 Q. Did you investigate any issues
4 related to the '300 patent that do not appear in
5 your declaration?

6 A. The same as last time. I'm sure I
7 came across a few things that may not appear in
8 this document. But I selected the things that I
9 thought were most important, the most pertinent,
10 to be included in the document.

11 Q. And if you turn to Paragraph 29, is
12 this a complete list of the materials you
13 reviewed in this IPR?

14 A. Yes, it is.

15 Q. And it is a true and correct
16 statement that you reviewed these references?

17 A. Yes, it is.

18 Q. And then I would like to introduce
19 Exhibit 1040 in the IPR related to the '623
20 patent. That is at Tab 36.

21 (Bergeron Exhibit 1040, '623
22 marked for identification.)

1 THE WITNESS: '623, and just check
2 the signature at the bottom. Yep. So, this
3 is a true copy of my '623 declaration.

4 BY MS LAM:

5 Q. Did you investigate any issues
6 related to the '623 patent that do not appear in
7 your declaration?

8 A. I'm sure I did. But again the
9 contents of the declaration include what I
10 thought were the strongest and most relevant
11 examples for the discussion.

12 Q. And Paragraph 29 bears a complete
13 list of the materials you reviewed?

14 A. Yes.

15 Q. And it is a true and correct
16 statement that you reviewed those references?

17 A. Correct.

18 Q. So, you should now have access to
19 copies of all four of your declarations in case
20 you want to reference them.

21 A. Okay.

22 Q. So I would like to introduce

1 Exhibit 1001 from the IPR related to the '108
2 patent. That is at Tab 5.

3 (Bergeron Exhibit 1001
4 marked for identification.)

5 THE WITNESS: Tab 5. Okay. Hold
6 on. Got it.

7 BY MS LAM:

8 Q. Do you have access to the document
9 now?

10 A. Yes.

11 Q. Do you recognize this exhibit?

12 A. I'm sorry, the audio cut out. Did I
13 recognize --

14 Q. Do you recognize this exhibit?

15 A. Oh, yes, yes, it is the '108 patent.

16 Q. So, I would like to turn to Claim 1
17 in Column 13 and at Line 30?

18 A. Okay, the first sensor report.

19 Q. Yes, where it says, "The first
20 sensor port configured to electrically receive a
21 signal from a pulse oximetry sensor via a wired
22 connection from the pulse oximetry sensor to the

1 first sensor port."

2 Do you see that?

3 A. I do, yes. Sure, yes.

4 Q. Does electrically receive a signal
5 mean the first sensor port receives an input
6 signal?

7 A. I'm sorry, one more time, please?
8 The question?

9 Q. Does electrically receive a signal
10 mean the first sensor port receives an input
11 signal?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: Receives an input
14 signal? I think it says what it says. So it
15 receives a signal. If it is -- I don't know
16 what input adds to the statements. That
17 tells me that the first sensor port is
18 configured to electrically receive a signal.

19 So, whatever that signal is, if it
20 receives it, regardless of what it is called.

21 BY MS. LAM:

22 Q. And that would be an input into the

1 first sensor port?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: I'm not sure what you
4 are asking. But again, I read this as saying
5 it is the first sensor port, it receives a
6 signal, any kind of signal, regardless of
7 what, whatever you call it, signal, the
8 signal, you said it was an input signal.

9 Whatever, whatever adjective, or actually
10 whatever adjective you want to use it
11 receives that signal. So, could it input?
12 Sure. It is a signal.

13 BY MS. LAM:

14 Q. And then, going down to claim, or
15 Line 37.

16 A. Okay.

17 Q. Where it says, "A second sensor port
18 positioned on the housing and configured to
19 receive its signal from a second sensor
20 arrangement via a wired connection."

21 Do you see that?

22 A. I see it, yes.

1 Q. So, when the limitation says
2 receives a signal, that means the sensor port
3 could receive an input. Correct?

4 MS. HOEKEL: Object to the form.

5 THE WITNESS: Well, it could receive
6 a signal. So, again if you want to call
7 input, that is, I think whatever you are
8 calling it is irrelevant. It receives a
9 signal. So, there is a signal and it
10 receives it. However you want to
11 characterize the signal, it receives it.

12 BY MS. LAM:

13 Q. But it could be an input signal?

14 A. Could be, depending on how you
15 define input, but it is irrelevant. This
16 limitation doesn't say it has to be an input
17 signal. It just says it introduces a signal.

18 Q. What else could it be?

19 A. It is a, it is a signal. That is
20 what it has to be. So, however you want to
21 define signal, in other words, as long as it is a
22 signal, that is what it receives.

1 I'm saying you are putting a
2 limitation; you are constraining the input
3 signal.

4 I'm saying that these past two
5 passages we just read don't say input signal,
6 they say signal. So, I am saying you are
7 inserting a new word in there that isn't in the
8 claim.

9 So, to me you are limiting it to
10 input signal. And I'm saying, it is a signal.
11 So it could be whatever, whatever adverb or
12 adjective you want to use on signal, it would fit
13 this model, it would fit this limitation.

14 Q. So, could a signal include data?

15 A. Sure.

16 Q. And the signal could include an
17 input signal?

18 A. Again it could. It is not limited
19 to any particular kind of signal. It could be
20 input, sure.

21 Q. So, when the patents say receive or
22 electrically receive a signal, it could be an

1 input signal?

2 A. Well, again, that is not what this,
3 that is not what this highlighted area says. You
4 are, you are modifying signal.

5 So, it could be, I could also say it
6 could be an output signal. So, the output from
7 the sensor is the signal it receives.

8 So, and it says, configured to
9 receive an output signal from a second sensor
10 which would also make sense to me because it is a
11 sensor which is an output and it receives that
12 signal.

13 So, it doesn't, it is not limited to
14 input signal. What I am saying, you are slicing
15 it different ways. So, I think it is broad
16 enough to encompass several types of signals,
17 including output signal for example.

18 And I haven't studied this
19 particular, you know, my charge wasn't to study
20 individual claim limitations per se. But to
21 respond to the previous reports.

22 But, as I read this, you can receive

1 a signal from a second sensor. So it would be,
2 it could be, the second sensor had an output,
3 that output would then be that signal received by
4 the sensor.

5 So, again what you are asking me,
6 that is one example of a signal. But there could
7 be several types, many types of signals that
8 could be, it could be used in a space, because it
9 is not limited to that particular kind of signal,
10 as I read it, it is a signal.

11 Q. And a signal could include data,
12 correct?

13 A. It could, sure.

14 Q. And the signal from a sensor
15 contains data, correct?

16 A. The signal from a sensor contains
17 data. Well, assuming it is configured properly
18 and used properly in a circuit and it is all
19 configured properly and used correctly and
20 clinically, it would have data output, should, if
21 it is used correctly.

22 Q. Can you couple a sensor directly to

1 a port?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Sensor to a port. I'm
4 not sure what you want. Is there a place in
5 this patent that you want to point me to or
6 an illustration?

7 BY MS. LAM:

8 Q. I'm just asking based on your
9 knowledge as a person of skill?

10 A. So the question again is can you
11 connect a sensor directly to the port. Is that
12 the question?

13 Q. Yes, that is the question.

14 A. So it is a hypothetical. So, well,
15 if you had a sensor, I think so. It is possible,
16 sure.

17 Q. Can you couple a cable to a port?

18 A. Again depending on the situation and
19 depending on what you have, I could envision a
20 cable going to a port, yes.

21 Q. What would that depend on?

22 MS. HOEKEL: Object to the form.

1 THE WITNESS: What would it depend
2 on? I'm not sure what you are asking. Again
3 if there is a place that you want to point me
4 to in the context of the '108 or we are still
5 talking about hypotheticals.

6 BY MS. LAM:

7 Q. Hypothetical.

8 A. So, the question is about a cable?
9 I'm sorry, one more time.

10 Q. So, when I asked whether you could
11 couple a cable to a port you mentioned it would
12 depend on the situation.

13 So, what would that depend on?

14 A. Tell me what you mean by couple?
15 When you say by couple, what do you mean by that?

16 Q. Connect the cable to the port.

17 A. I could see that, yes. That is
18 possible, yes.

19 Q. Could you couple an extension cable
20 between a cable and a port?

21 MS. HOEKEL: Object the form.

22 THE WITNESS: Again, outside of the

1 context of the '108. So, connect a cable
2 extension to a cable, to a port, right.

3 So, two cables to a port? I mean,
4 two cable series to a port. Is this the
5 question?

6 BY MS LAM:

7 Q. Yes, that's the question.

8 A. I could see that, yes.

9 Q. And could you couple a splitter
10 between a cable and a port?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: A splitter. Again we
13 are not in the context of the '108. We are
14 just hypothetical here.

15 Depending on the nature of the
16 splitter. Give me some explanation of this,
17 is it cable, wires, opticals, what are we
18 talking about? What is the, what are we,
19 give me more data about the splitter.

20 BY MS. LAM:

21 Q. A cable that provides the port to
22 two separate connections?

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: The question again is
3 connect the splitter to a port?

4 BY MS. LAM:

5 Q. Yes.

6 A. I could envision connecting one
7 piece of wire to, or one part of a splitter to
8 the port which might redefine the ends of the
9 wire to the ports. But I can see connecting a
10 cable to a, splitter to a port, yes, it is
11 possible, again, hypothetical.

12 Q. And can you couple an adapter
13 between a cable and a port?

14 MS. HOEKEL: Object to the form.

15 THE WITNESS: Tell me what you mean
16 by adapter.

17 BY MS. LAM:

18 Q. For example, an adapter that changes
19 the type of connection?

20 A. The type of connection. You mean --

21 MS. HOEKEL: Object to the form.

22 THE WITNESS: What do you mean.

1 BY MS. LAM:

2 Q. For example an adapter that changes
3 the connection interface.

4 MS. HOEKEL: Object to the form.

5 THE WITNESS: Change the interface?

6 The interface is where two things touch.

7 Right. So, that isn't -- I'm not getting the
8 question.

9 BY MS. LAM:

10 Q. So, could you connect an adapter to
11 a port and then connect the cable to the adapter?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: I could see doing
14 that, yes. Yes. Again, depending on how,
15 assuming my vision is your vision, it is a
16 hypothetical. So, I mean, I could see they
17 support these wires to a type of connector
18 and it is changed somehow to a physical
19 connector and out to a wire, to a cable,
20 sure.

21 MS. LAM: Okay. So, we have been
22 going about an hour now, if you would like to

1 take a short break.

2 MS. HOEKEL: Like ten minutes.

3 THE WITNESS: Sure, whatever you
4 want.

5 THE VIDEOGRAPHER: Stand by, please.

6 The time is 11:32 a.m. Off the record.

7 (Recess taken -- 11:32 a.m.)

8 (After recess -- 11:44 a.m.)

9 THE VIDEOGRAPHER: The time is
10 11:44 a.m. We are back on the record.

11 BY MS. LAM:

12 Q. Dr. Bergeron, you provided an
13 opinion of how one of ordinary skill would have
14 construed the term sensor port in the '108
15 patent. Correct?

16 A. I was actually going to bring that
17 up. During the break, I want to clarify
18 something I thought of over the break to make
19 sure you realized that I realized it on these
20 hypotheticals that I was using a definition that
21 I put forth of how I define a port and that is
22 different from what the patent owner put forth as

1 a definition for a port.

2 MS. HOEKEL: And Bryan, slow down
3 just a little bit in your answers. You are
4 getting a little quick in your speech again.

5 THE WITNESS: Sure. We both, at
6 least in my case, I offered my view of what a
7 plain and ordinary meaning is for a port.
8 And that is what I am using in my responses
9 to you. In terms of your previous
10 questioning was based on my understanding of
11 what a port is in plain and ordinary meaning
12 to a POSITA.

13 Q. And your proposed construction is a
14 permanent or removable I/O interface for a
15 sensor. Correct?

16 A. I don't have it in front of me but
17 that sounds right, yes.

18 Q. We can pull up your declaration from
19 the '108 patent. That is at Tab 33.

20 A. Okay, we have this one.

21 Q. At Paragraph 49.

22 A. Yes, that is correct, yes.

1 Q. And do you recall that the term
2 Sensor Communication Port appears in the claims
3 of the '735 patent?

4 A. I don't recall exactly, but I will
5 check that, too. And the term you are asking me
6 about is Sensor Communications Port?

7 Q. Yes.

8 A. Yes.

9 Q. Sensor Communications Port appears
10 in the '735 patent, correct?

11 A. Correct.

12 Q. And you provide the same
13 construction for Sensor Communication Port in the
14 '735 patent as you do for Sensor Port in the '108
15 patent. Correct?

16 A. That is correct. Yes.

17 Q. And the term Sensor Port also
18 appears in the claims of the '300 patent,
19 correct?

20 A. Correct.

21 Q. And you provide the same
22 construction for sensor port in the '300 patent

1 as you do in the '108 patent, correct?

2 A. That is correct, yes.

3 Q. And the term Sensor Port appears in
4 the claims of the '623 patent, correct?

5 A. It does, yes.

6 Q. And you provide the same
7 construction for Sensor Port in the '623 patent
8 as you do in the '108 patent, correct?

9 A. That is correct, yes.

10 Q. So, if I ask you questions regarding
11 claim construction in your declaration for the
12 '108 patent, your answers would apply equally to
13 the claim construction in the other three
14 patents. Correct?

15 A. Well so, let me just clarify my
16 understanding.

17 My understanding is that I'm not
18 trying to construe the claim.

19 What I'm saying is this is my
20 understanding of plain and ordinary meaning.

21 So, this is my definition, my
22 meaning, I just gave you, it is the same for all

1 four patents.

2 Q. Okay. So, if I ask you questions
3 regarding the plain and ordinary meaning for a
4 sensor port in your declaration for the '108
5 patent, your answers would apply equally to the
6 other three patents.

7 A. That's correct.

8 Q. Correct?

9 A. Yes.

10 Q. And we discussed that your proposed
11 definition is a permanent or removable I/O
12 interface for a sensor, correct?

13 A. That is correct, yes.

14 Q. What are examples of permanent
15 interfaces for sensors?

16 A. Permanent interface would be, for
17 example, a solder joint which would be relatively
18 permanent or a welded joint, a laser-welded joint
19 on a pin of a chip to a board, to a cable.

20 So, solder, or laser-welded
21 connection.

22 Q. Do permanent interfaces include

1 hard-wired connections?

2 A. If you are asking hard-wired, if you
3 are saying point-to-point hard-wired with a piece
4 of wire, that is not what I'm talking about here.
5 I am talking about the connection to the, it is
6 the I/O interface for a sensor. The permanent
7 example would be, for example, a welded wire or
8 soldered wire. I'm not saying just a piece of
9 wire.

10 So, a port is different from a
11 hard-wired. A piece of wire that goes from A to
12 B is not the same as a port.

13 Q. What is the difference between a
14 piece of wire and a laser-welded connection.

15 A. Well a piece of wire has to be
16 attached somehow to the port. The laser bonding
17 or soldering is one way to connect the piece of
18 wire to another piece of wire, or a PC board or
19 anything else. So, it is just a way of bonding.
20 Or making a connection.

21 So, what I'm distinguishing here in
22 this definition is some I/O interfaces are made

1 to be permanent, in other words once they are put
2 in place they are manufactured and not to be
3 messed with.

4 Other times they are meant to be
5 removed in the normal operation, removed and
6 replaced, on or off. That is the distinction I'm
7 trying to make here.

8 Q. So, in your opinion the two wires
9 that are soldered together could be considered a
10 port?

11 A. Just two wires soldered together is
12 just two wires soldered together.

13 Q. But you had mentioned that two
14 soldered wires could be a permanent interface,
15 correct?

16 A. Well, a piece of wire soldered to
17 two points in a circuit would be permanent,
18 normally. Normally it is not removed.

19 So, in the example I gave you before
20 again you have a, let's say a chip with an I/O
21 port. A chip meaning an inter-circuit, the IC is
22 on the board and there is a, a need to make a

1 connection with that I/O port. It could be done
2 permanently by soldering a wire to that pin or to
3 an adjacent hole through the board with a line of
4 copper.

5 Or it could be made with a removable
6 connection so that it could be removed and then
7 reconnected on and off again to, during operation
8 or during changing things.

9 Q. Are points on a circuit just wires?

10 A. Aren't points on a circuit just
11 wires, is that the question?

12 Q. That is the question.

13 A. Points on a circuit just wires.
14 Well points on a circuit could be anything.

15 MS. HOEKEL: Objection to form.

16 THE WITNESS: Points on a circuit
17 could be depending. Points could be points
18 on a chip, it could be points on a discrete
19 component; it could be a test point where
20 signals are amplified and made to condition
21 them in a way so they could be measured
22 without degrading the circuit operation.

1 So, a point could be much more than
2 just a piece of wire or a circuit trace. It
3 could be a part of the component or
4 components. And I think usually that does
5 involve multiple components.

6 BY MS. LAM:

7 Q. So, in your opinion soldering a wire
8 to a circuit board would be considered a port?

9 A. No, again, my example was that the,
10 the port existed already. It is an I/O port on a
11 chip. So, a port has an I/O chip with 16 pins.
12 Pin 2 is an I/O port.

13 And so, that I/O port on the chip is
14 connected to the outside world permanently by a
15 solder connection.

16 So, it would be a wire brought into
17 the board and soldered to the same copper trace
18 that connects that chip to the board and that
19 wire to the board.

20 And that would be a permanent
21 connection. And again also, the chip itself is
22 soldered to the board.

1 Alternatively the I/O interface
2 could be removable and that you could have either
3 a chip on the socket, pull it out, put it back
4 in.

5 Or you could have the connection to
6 the board not soldered but going through some
7 sort of a connector that could be removed and/or
8 opened up and put back in place.

9 Q. Is a copper trace a wire?

10 MS. HOEKEL: Objection.

11 THE WITNESS: A copper trace is a
12 copper trace. I usually think of a copper
13 trace as a distinctly different from a wire.
14 They both have connectivity but a wire in my
15 mind has a, is tubular, circular, and it
16 could be either solid or hollow, it could be
17 stranded, it could be solid.

18 And a trace is flat, and it has a
19 few different characteristics. It has
20 capacitance, it has inductance. It has
21 characteristics that you need to consider
22 when you are creating a circuit board.

1 So, I think it is very different
2 pieces, very different parts of circuitry.

3 BY MS. LAM:

4 Q. So, in your opinion when the '108
5 patent claims use the term sensor port, that term
6 includes an I/O pin on a processor chip?

7 A. It is not just the pin, but it is
8 the, if it is down to the macro level, if you
9 looked at the chip and the socket that it is in,
10 that socket configuration or on that pin, it
11 could be, that consists of or that provides a
12 port, for example, but there was a connection.

13 A connection can also be moved
14 downstream where you have a, for example, wire
15 soldered to the board which would make it
16 permanent, so it would have a connector of some
17 type soldered to the board and then say a BNC
18 connector which is needed and -- removed when
19 needed and replaced when needed.

20 Q. So, when the '108 patent claims uses
21 the term sensor port that includes a wire
22 soldered to the board?

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: I think you keep
3 asking the same question. It is the same
4 answer.

5 It is not just to a board because
6 the board is just a board; it is a piece of
7 phenol or some other fiberglass that is
8 sitting there. It is inert and an insulator.

9 But, assuming this board has a chip
10 on it, a processor chip with an I/O on it,
11 the connectivity to that I/O port on the chip
12 can be moved or sent downstream with a piece
13 of wire but the port is still going to be at
14 the chip level. The wire is providing
15 connectivity to that, that port.

16 BY MS. LAM:

17 Q. So you are talking about a port on a
18 processor, correct?

19 A. In that example, sure, yes, or a
20 chip. It could be a processor; it could be a
21 sensor of some type. It could be anything, well,
22 it could be -- it is a chip of some type that has

1 an I/O interface, an I/O port on it which is very
2 common. It could be a microprocessor, a
3 microcontroller, for example, it could be a pick
4 or a resmere pi or a basic two-stamp or other
5 embedded processor and those processors have I/O
6 ports on the pins.

7 And so in that case, if it is
8 plugged into the board, then that interface, that
9 I/O exists at the level of that pin, and an I/O
10 could be brought out to the external world
11 through a cable or other means.

12 And if you have a chip level, again,
13 if you take, if you put the chip in a soldered
14 socket then it is permanent.

15 If you put in a socket that is meant
16 to be temporary, you can remove it and put in a
17 different chip later, so, that would be
18 removable.

19 So again it is not just a board but
20 it is a board with a particular device on it that
21 provides an I/O interface.

22 Q. Dr. Bergeron, are you familiar with

1 virtual ports?

2 A. Yes.

3 Q. And what are virtual ports?

4 A. Well virtual there is, well there
5 are physical ports which would be hardware and
6 working with the computer. There is something
7 called a virtual machine and the virtual machine
8 may or may not map directly to the physical
9 hardware. And in some cases it doesn't, because
10 it is sometimes useful to have a virtual machine
11 running inside a regular processor or operating
12 system and the machine could have whatever
13 characteristics you need. You can define the
14 processor, you can provide the ports given
15 different numbers and access them in different
16 ways to, for example, provide a simulation of a
17 piece of hardware.

18 So a virtual port is something
19 defined in software, whereas a, the ports that we
20 are talking about are physical objects, physical
21 things you can touch with your hands or a
22 soldering iron or a multimeter or something else

1 that is physically there that you could actually
2 touch as opposed to code.

3 Q. So when the '108 patent claims use
4 the term sensor port, that is referring to a
5 physical port, correct?

6 A. Well, in the case of the '108, when
7 you have a physical port, also infers a logical
8 port, right? So you wouldn't just have a port
9 sitting out there in space, a piece of the port
10 with nothing connected to it. You have to have
11 an interface to hardware into firmware and
12 software.

13 So, going from the physical port to
14 the software, you have to have all of the
15 support. You have to have the handshaking, using
16 the right standards.

17 Whereas, putting it on the virtual
18 port that is different. You can define whatever
19 you want, in terms of the virtual port.

20 So, it is not just, it is not just
21 any port. So, it has to be, or, not just -- so,
22 the physical, necessarily contains the logical

1 port definitions in order to work properly.

2 Q. What is a logical port?

3 A. Same as a virtual port, very
4 similar. Logical meaning that it is not, it is
5 not in hardware only, but that it is, it is a
6 logical port or a virtual port would be something
7 that defines software so that you could perform
8 logical operations on that port and yet it
9 wouldn't necessarily exist in the real world.

10 Q. So, in your opinion, does the term
11 sensor port in the '108 patent claims include
12 logical ports?

13 MS. HOEKEL: Object to the form.

14 THE WITNESS: Well it provides, I
15 think that definition stands by itself.

16 But in the way I/O interfaces work,
17 it says it is a permanent removable I/O
18 interface for a sensor.

19 So, an I/O interface tells me that
20 there is a connectivity provided in software
21 in the machine or in the device, typically
22 done in software; it does all of the I/O

1 interfacing.

2 So, the handshaking, the standards
3 for the ASCII or whatever the standards are
4 that are doing this, so, that is incorporated
5 in the I/O interface.

6 So, those components, those logical
7 and electrical definitions are part of the
8 I/O interface.

9 So, it does accomplish that in that
10 I/O interface. That is what the I/O
11 interface stands for. All of those sort of
12 minutia now at this point that have to be
13 taken care of so there could be connectivity
14 communications.

15 BY MS. LAM:

16 Q. So, in your opinion when the '108
17 patent claims use the term sensor port, that
18 could include a logical port with a downstream
19 hard-wired connection?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: Well, all of the
22 components, so looking at my definition of

1 sensor port, which I believe is plain and
2 ordinary meaning, again in the context of a
3 sensor, so it is permanent or removable I/O
4 interface for that sensor.

5 Again, that I/O interface is
6 typically composed by a number of elements,
7 that is several layers.

8 So, to provide I/O, you need to have
9 a physical connection that would be the, say
10 the connector that you are dealing with, the
11 piece of shroud that wraps around the wires,
12 for example.

13 And they also needed to have the,
14 the, the software or firmware understanding
15 to communicate properly. So you need to
16 have, see, if the you are dividing, using a
17 three-volt system or a five-volt system, you
18 have to have right voltage.

19 If you are using a certain baud
20 rate, it has to match. You need to have the
21 certain parameters that need to be defined in
22 software and followed in order for there to

1 be transferred data.

2 So, it necessarily includes in the
3 definition of I/O interface, which I didn't
4 really have not opined on, but looking at the
5 I/O interface, that is the, probably what we
6 are talking about now, that is doing the low
7 level connectivity between the input and
8 output, between the sensor and the interface.

9 BY MS. LAM:

10 Q. So in your opinion, a logical port
11 is an example of an I/O interface, correct?

12 A. Well, it could be a part of an I/O
13 interface.

14 So, in other words, a port, the
15 physical port which is what we are talking about,
16 one way to have it work would be to have a
17 logical port assigned to it in software. That is
18 one way to do it, instead of using a high level,
19 using a PC, for example.

20 You can also have a lower level type
21 interface, which didn't really assign it a
22 logical port, but simply saying this is going to

1 be an ASCII interface, for example, for an RS=232
2 interface, for example, which provides for the
3 signal levels and the way that the language is
4 that is spoken between the two sides.

5 Q. In your opinion would the logical
6 port alone teach a sensor port?

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: In the context of the
9 '108 patent, I don't see, so, I don't see how
10 that happens.

11 I don't see it as again a permanent
12 or a removable I/O interface or a sensor.
13 Without the, without the hardware, there is
14 no way for the sensor to connect to the
15 logical port.

16 BY MS. LAM:

17 Q. And what is that hardware?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: Well, it could be a
20 wire. It could be a soldered wire. It could
21 be a connector. It could be any number of
22 ways to get that sensor electrically

1 connected to the I/O port. To that I/O
2 interface.

3 BY MS. LAM:

4 Q. So, in your opinion, a logical port
5 and a soldered wire would be considered a sensor
6 port?

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: Those are two
9 different things. I'm not sure what you
10 mean.

11 BY MS. LAM:

12 Q. So, your proposed definition of
13 sensor port is a permanent or removable I/O
14 interface for a sensor, correct?

15 A. That is correct. Yes.

16 Q. And you have discussed that the
17 logical port is part of the I/O interface.
18 Correct?

19 A. Well, a logical port could be,
20 depending on what you are dealing with. So, if
21 you are dealing with, for example, a PC which is
22 a personal computer and a desktop, for example.

1 They typically have complex enough and deep
2 enough and rich enough environment so that you
3 could provide things like virtual ports.

4 If I'm talking about a simple
5 embedded processor chip, that wouldn't have that
6 sort of level of complexity. It would be much
7 simpler connectivity such as, for example, an
8 RS-232 interface. It would depend on the
9 situation.

10 Q. So, in your opinion an I/O interface
11 could include a virtual port or an RS-232
12 connection?

13 MS. HOEKEL: Object to the form.

14 THE WITNESS: Well, that could be
15 part of the interface, right. It wouldn't be
16 the, it wouldn't comprise the entire
17 interface, but that I/O interface would have
18 some kind of standard such as RS-232 in order
19 to communicate.

20 BY MS. LAM:

21 Q. So, in your opinion a I/O interface
22 would include a virtual port or an RS-32 -- 232

1 connection and a standard to communicate?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Are you asking me that
4 is my definition? My definition has not
5 changed.

6 BY MS. LAM:

7 Q. So, what is your definition of an
8 I/O interface?

9 A. Well, that, I haven't offered a
10 definition here. And, I have to think about it
11 for a while before I offered one. That is not
12 going to, I'm not going to do that today.

13 And it is all plain and ordinary
14 meaning. What I have been discussing in the last
15 20 minutes with you is plain and ordinary meaning
16 of I/O interface. And not to limit this
17 definition, but the issue is, it is permanent or
18 removable, I/O, I/O meaning that it is input or
19 output, so bidirectional, for a sensor.

20 And one reason for putting this
21 definition in here, in comparing it to the
22 definition offered by the patent owner and

1 meaning, noting that they are different. That is
2 the whole point.

3 Q. So, what is the plain and ordinary
4 meaning of I/O interface?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: I would just offer one
7 off the cuff here, which I would rather not
8 do. There is just plain and ordinary
9 meaning. So, I/O interface, I will give you
10 as opposed to a definition, I will give you
11 some examples. What it means to me is an
12 input/output interface.

13 So, it is a interface that handles
14 input and output. The interface could be any
15 number of physical constructions.

16 BY MS. LAM:

17 Q. And what is an example of a physical
18 construction of an input/output interface?

19 A. Well one that I talked about earlier
20 was for example a computer chip with an I/O port,
21 and a computer chip, let's say has legs. It
22 could plug into a socket, that would be an I/O

1 interface for that particular port on that chip,
2 chip meaning, say a microcontroller card or a
3 processor, or it could be a laser-welded
4 connection to that same chip through a trace,
5 that is right next to the socket, and if that
6 chip could be also laser-soldered into the
7 socket. Those are examples.

8 Q. So, when you mentioned a computer
9 chip with an I/O port, is that a logical port?

10 A. Well, again, the physical port can
11 include a logical port on a complex system such
12 as a PC running a large operating system, because
13 it is able to, to provide real ports and logical
14 ports.

15 So, however for a simple device,
16 simpler controller chip, for example, that
17 doesn't have that much capacity or processing
18 power that wouldn't be any virtual or logical
19 ports. But they would be set. In other words,
20 permanent. It could be an I/O port would contain
21 the, for example, an RS-232 port would contain
22 all of the, or embody all of the handshaking and

1 voltage levels and everything else provided by
2 the standard use or set forth by the actual to
3 operate the I/O communications from that port.

4 Q. So, in your opinion a computer chip
5 with an RS-232 port would be considered a sensor
6 port?

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: So, again it is, my
9 definition still stands. It is a permanent
10 or removal I/O interface for a sensor.

11 Now, how you configured those
12 elements you just talked about, you could
13 conceivably use an RS-232 interface as the
14 I/O interface, for example, and I could go to
15 a DB-9 plug, which would be removable. And I
16 could connect to a sensor.

17 So, you could construct my
18 definition using those elements, of course.
19 But that isn't limited to those elements.
20 That is just an example. It is one
21 embodiment.

22 BY MS. LAM:

1 Q. Would the DB-9 plug be the external
2 connector?

3 MS. HOEKEL: Object to the form.

4 THE WITNESS: The DB-9 connector is
5 a common connector used with RS-232
6 interfaces.

7 BY MS. LAM:

8 Q. And what would the DB-9 plug connect
9 to?

10 A. Well, one side could be to, for
11 example, it could be to the sensor and the other
12 side could be to the chip. The motherboard or
13 the chip itself, on the other side of the
14 connector.

15 Q. In your opinion could the RS-232
16 interface be considered a sensor port without the
17 DB-9 plug?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: You could use, well,
20 we are talking about standards now. So, you
21 could use an RS-232 interface without using
22 the preferred hardware. Sure, you could use

1 some of the hardware other than the DB-9
2 connector.

3 Again, the purpose of using the
4 connector or anything else in this standard
5 is that you need to have a, the standard
6 helps you, makes life easier, because you
7 create your hardware and software to work
8 with the standard voltages and signal levels
9 for example so you could make things once and
10 work across a number of platforms.

11 BY MS. LAM:

12 Q. Could a sensor hard-wired to an
13 RS-232 interface be considered a port? Sensor
14 port?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: Again, I would
17 consider, back to the example I gave before.
18 If we have a chip on the left-hand side in
19 this hypothetical and this chip has an I/O
20 port on it, let's say it is a RDO board, a
21 processor chip or board, and it is soldered
22 to the board, the motherboard and there is a,

1 a pin brought out, or a, like a hole drilled
2 through the copper pad connected to an I/O
3 port on that, the chip. You could have a
4 wire going from that trace, or that was
5 soldered to the, to let's say the male DB-9
6 or a female and connect it to the opposite
7 sex, for example, the DB-9 and that DB-9
8 could then be connected or wired to a sensor.

9 So, you would have the sensor and a
10 connector on one side and a connector and the
11 I/O port proper on the other side. For
12 example.

13 BY MS. LAM:

14 Q. In your opinion would the
15 combination of the I/O port soldered to the board
16 and a sensor hard-wired to the pin be considered
17 a sensor port?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: Hard-wired to the pin?

20 Again, looking at the left-hand side which
21 has the chip, and so that is a chip with an
22 I/O port on it. That I/O port can be brought

1 out to the real world through an ordinary
2 means, which is what we are talking about.
3 We are talking about how to have that
4 connectivity of that port to the sensor which
5 is outside of the chip.

6 And so one would do that, is to
7 connectivity through the chip I/O port
8 through to a wire, to the board, to the
9 connector. And again, we are going to use
10 hypothetically a DB-9 connector.

11 And then looking at that connector
12 as it sits there, that is a, that is the port
13 on the left-hand side. And so now we plug in
14 a sensor to that port, because that connector
15 and the associated voltage levels and all of
16 the logic behind it are now available to
17 that, at that port, at that connector.

18 So, when we plug in a sensor and the
19 mating DB-9 connector, now we have the sensor
20 tied to the I/O port.

21 BY MS. LAM:

22 Q. In this example you just provided,

1 the DB-9 port provides a removable connection,
2 correct?

3 A. Correct, I mean you could solder
4 together, but typically they are not done that
5 way. Typically they are moveable, yes.

6 Q. So, typically connections to a chip
7 with an I/O port are removable?

8 A. I wouldn't say that, no.

9 MS. HOEKEL: Objection to the form.

10 THE WITNESS: The example I gave
11 earlier, the DB-9 connector is usually there
12 for a purpose. Because it is intended to be
13 something plugged in and plugged out of it.
14 So it would be removable.

15 But a chip, I/O port, needn't be
16 connected to a removable device or a
17 removable hardware. It could be permanent.
18 It could be a piece of wire laser-bonded to
19 the board, going to another board.

20 BY MS. LAM:

21 Q. Does the '108 patent use the term
22 "sensor port" to refer to an I/O port on a

1 computer chip?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Does the -- sorry.

4 Does it use the word "sensor port" to refer
5 to an I/O chip?

6 BY MS. LAM:

7 Q. An I/O port on a computer chip?

8 A. Well, let's check. Let me look at
9 the '108.

10 THE VIDEOGRAPHER: And just let me
11 know if you want me to bring up anything on
12 the screen, okay?

13 THE WITNESS: Okay, yes, I'm just
14 going to use the one I have, thanks, thank
15 you.

16 BY MS. LAM:

17 Q. To clarify my question, in your
18 opinion do the '108 patent claims use the term
19 sensor port to refer to an I/O port on a computer
20 chip?

21 A. Thanks for the clarification.

22 MS. HOEKEL: Object to the form.

1 THE WITNESS: I don't see the word
2 computer used in the '108 patent in my search
3 at least. So, I would say no.

4 BY MS. LAM:

5 Q. Do the '108 patent claims use the
6 term sensor port to refer to an I/O port on a
7 processor chip?

8 MS. HOEKEL: Object to the form.

9 THE WITNESS: I don't see the word
10 processor used at all in the claim language.
11 So, I would say no.

12 BY MS. LAM:

13 Q. So, your discussions about I/O ports
14 on processor chips today is not relevant to the
15 claims of the '108 patent, correct?

16 MS. HOEKEL: Object to the form.

17 THE WITNESS: No, I disagree. A
18 POSITA reading the '108 understands that
19 there are, that this is a computer assisted
20 processor, a computer assisted technology.

21 For example, the Figure 2 on the
22 prior art, this is a computer, a Figure 2 has

1 a computer involved. And a single processor
2 involved.

3 So, that assumes, as a POSITA, I'm
4 looking at a wireless, Figure 3, a wireless
5 device, and I understand as a POSITA that a
6 processor, one or more processor chips have
7 to be involved, at various levels to be
8 involved in that signal analysis, to do the
9 processing, to do the transmission and
10 receiving of the signal wirelessly and then
11 process it in the main device there. The
12 main device on Figure 3 of the left-hand
13 side, which I view as a form of processor, or
14 at least containing microprocessors. So, I
15 disagree.

16 BY MS. LAM:

17 Q. Which figure were you referring to,
18 Dr. Bergeron?

19 A. I was referring to the prior art
20 which is Figure 2 of the '108 patent. And I was
21 referring to Figure 3 of the '108 patent.
22 Figure 2 being the prior art which showed an,

1 even then shows that we are dealing with the
2 Signal Processor 273, and then if we go down to
3 Figure 3 which is, as I mentioned today, we have
4 a device on the left-hand side which is clearly a
5 processor of some type.

6 And we also have the wireless
7 connectivity which is clearly a, involves a
8 processor of some type.

9 Q. So, in your opinion, a sensor port,
10 as used in the '108 patent claims, includes a
11 input/output port on a computer or processor chip
12 and a permanent removable connection to that I/O
13 port on the computer or processor chip?

14 A. No, no. My definition is, it is a
15 permanent or removable I/O interface for a
16 sensor. That is my definition used in the '108.

17 Q. And the plain and ordinary meaning
18 of I/O interface includes an I/O port on a
19 computer or processor chip?

20 A. It could include that, sure. That
21 is one example of an I/O interface, sure. That
22 is one of many. And again I'm not offering a

1 definition of I/O interface. I need to look at a
2 few dictionaries or whatever to come back with a
3 better definition than just off the cuff.

4 But it includes an I/O interface as
5 I understand it, as I'm putting forward in this
6 deposition, the I/O interface and a computer
7 would be one example of an I/O interface, sure.

8 Q. And soldered or laser-welded
9 connections are examples of permanent connections
10 under your definition?

11 A. Yes. So, again permanent meaning
12 not intended to be removed. So, if you have
13 something you want to be taking apart every week
14 or every day you wouldn't want to solder it
15 because it would require a soldering iron but you
16 want to use something with a connector so, B and
17 C or DB-9 or some other standard connector to
18 facilitate that removal.

19 But permanent, permanent would not
20 be, permanent would be, for example, actually as
21 you said a wire soldered.

22 Q. And would two wires glued together

1 be considered a permanent I/O interface for a
2 sensor?

3 MS. HOEKEL: Object to the form.

4 THE WITNESS: Two wires glued
5 together?

6 BY MS. LAM:

7 Q. Yes.

8 A. Two wires glued together. Would it
9 be considered a -- one more time? Would it be
10 considered permanent or removable, I'm sorry,
11 what was the choice?

12 Q. Would two wires that are glued
13 together be considered a permanent I/O interface
14 for a sensor?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: It is sort of strange
17 in here but you could, I could envision
18 depending on the nature of the glue, make it
19 permanent or removable. The only thing I
20 could think of with a glued wire interface
21 would be some type of capacitive coupling, or
22 inductive coupling to the separate wires and

1 the glue is to hold it in position.

2 So, depending on the nature of the
3 glue, if it is a epoxy, that is not meant to
4 be removed, that is permanent.

5 And if it is a temporary, I don't
6 know, a, some kind of other glue that is just
7 easily removable, then it would be removable.

8 But I have not seen an interface
9 like that, but I can envision something that
10 would work that way.

11 But, so, I deal with the nature of
12 the glue would determine whether or not it is
13 permanent or removable.

14 BY MS. LAM:

15 Q. Would a wire that merely contacts
16 the I/O interface be considered a sensor port?

17 MS. HOEKEL: Object to the form.

18 THE WITNESS: A wire that merely
19 touches the I/O interface, what do you mean
20 by touches?

21 BY MS. LAM:

22 Q. Contacts?

1 A. Do you mean, I'm not sure the
2 distinction you are making between --

3 So, you are saying it is not
4 soldered, it is just sitting there in space,
5 lying there? What do you mean by touching? Just
6 touching and --

7 Q. Yes. So, would a wire that is
8 touching an I/O interface without solder or
9 laser-welding be considered a sensor port?

10 MS. HOEKEL: Object to the form.

11 THE WITNESS: If I understand you
12 correctly, I don't think so. If it is just
13 lying there, the question is, I'm not any
14 clear that it is making any activity.

15 So, one requirement if you have a, a
16 interface and a connection to a sensor is
17 that there would be connectivity between a
18 sensor and the I/O interface.

19 So, if something is just lying
20 there, and the activity is not something that
21 was a mistake, like for example through an
22 accidental inductive coupling and accidental

1 capacitive coupling, it is just sort of
2 sitting there with no solder, no physical
3 pressure to keep it connected like the
4 terminal or a laser-welded weld, I don't even
5 see that as a circuit. It would be just a
6 nonworking piece of, piece of equipment.

7 BY MS. LAM:

8 Q. So in your opinion, a sensor port
9 requires some sort of physical pressure to
10 maintain a connection?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: Well, if we are
13 talking about a copper wire interface of some
14 type, there must be some, we are not talking,
15 if we are talking of a wire connection by
16 definition, it is wired. So there is copper
17 between Points A and Point B with wire so
18 there is no air gap potentially per se.

19 So, the, it sounds like what you are
20 describing to me is a broken connection. It
21 would need to be repaired.

22 I see a wired permanent interface,

1 so again that would be say a soldered wire or
2 a laser-bonded wire to a, to the chip of a,
3 to a lead of the chip, which provides the I/O
4 port.

5 And if removable, it would infer
6 some kind of connector that could be removed
7 and then replaced, if needed.

8 BY MS. LAM:

9 Q. So, two copper wires that are merely
10 touching without a connector or other permanent
11 connection would not be considered a sensor port?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: Just two wires, we are
14 talking about two wires in space and a
15 connection that are just touching,
16 end-to-end, I don't see that as a sensor
17 port, correct. I do not see that as a sensor
18 port.

19 BY MS. LAM:

20 Q. And why not?

21 A. Why not? Because it is just two
22 pieces of wire touching each other in space.

1 There is nothing there.

2 Q. So, in your opinion, when the '108
3 patent claims use the term sensor port, that
4 requires some sort of I/O port on a computer or
5 processor chip?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: No. As a -- well, I
8 think we answered this before. But the issue
9 is there is going to be a input/output or I/O
10 interface available.

11 So, whether that is on a chip or it
12 is a discrete component, it could be a
13 transistor base, for example. It could be a
14 number of things. But the chip is one
15 example that I gave earlier, of using, when a
16 microprocessor is used directly. But that is
17 an example. It doesn't require that I/O
18 interface to be on a chip per se. It could
19 be any number of electrical type of
20 interfaces.

21 MS. LAM: Maybe we could take our
22 lunch break now?

1 THE WITNESS: Sure, whenever you
2 want.

3 THE VIDEOGRAPHER: All right, stand
4 by, please. The time is 12:41 p.m. Off the
5 record.

6 (Recess taken -- 12:41 p.m.)

7 (After recess -- 1:18 p.m.)

8 THE VIDEOGRAPHER: The time is
9 1:18 p.m. We are back on the record.

10 BY MS. LAM:

11 Q. Okay, Dr. Bergeron, so before the
12 break we were discussing the term sensor port as
13 used in the claims of the '108 patent.

14 And so, in your opinion, a virtual
15 port alone would not be considered a sensor port.
16 Correct?

17 A. A virtual port alone. Assuming we
18 are talking about a virtual port defined in
19 software only on a PC, it would not fit my
20 definition, correct.

21 Q. And a logical port alone would not
22 be considered a sensor port?

1 A. Well, if we are saying -- so, I
2 would say, I would agree with you to the extent
3 that if you are saying a logical port alone
4 meaning there is no hardware involved, it is just
5 software, that would be correct.

6 Q. And you mentioned that two wires
7 that are just touching would not be considered a
8 sensor port. Correct?

9 A. If all you had -- well. If I
10 understand properly, just two wires that is all
11 you have and they are just touching, in other
12 words not, and I am assuming touching meaning
13 they are not connected in any way, they are just
14 touching, I'm not sure what touching means.

15 Just two wires touching in space is
16 not a port to me. Agreed.

17 Q. And what would be required to make
18 those two wires into a sensor port?

19 MS. HOEKEL: I'm going to object to
20 the form.

21 THE WITNESS: Let me go back to the
22 definition. Let me pull up my definition

1 here. You know, permanent or, let me see.

2 So, I tried downloading my
3 declaration and it said I can't. Sorry, the
4 preview didn't load. This document may be
5 protected. Download and I hit download, and
6 it says sorry you can't download this file.

7 THE VIDEOGRAPHER: Can you try
8 refreshing the page. See if that -- maybe
9 something funny happened.

10 THE WITNESS: Of course. There you
11 go, thank you.

12 I just want to see my definition of
13 ports.

14 Yes, so, in my definition, sensor
15 port is a permanent or removable I/O
16 interface for a sensor and so it is, so you
17 are asking about two, what would be required
18 for two wires touching.

19 Well, it has almost no relationship
20 between two wires connecting in this
21 definition; it is like well what would you
22 require two finish to be an I/O port. There

1 is no, there is no permanent or removable.
2 There is no, there is touching, it is not
3 clear there is a connection at all. And
4 there is no I/O interface. And there is no
5 sensor.

6 So, it is missing all of the
7 components. Just two wires touching, it
8 would require everything or in other words
9 the way of saying it would be two wires
10 touching provide nothing for this definition.

11 BY MS. LAM:

12 Q. So, when you say a sensor port
13 requires a connection, is that a connector?

14 MS. HOEKEL: Object to the form.

15 THE WITNESS: My definition again is
16 a, you are reading different things in the
17 definition.

18 I'm saying it is a permanent
19 removable I/O interface or a sensor. Now, an
20 I/O interface, if an I/O interfaced consists
21 of a wired interface, then it has to be wired
22 and the wire has to be connected to one side

1 or the other. If it has got to connect the
2 port to the to the sensor. Sorry, the I/O
3 interface with the sensor.

4 BY MS. LAM:

5 Q. Do you mind speaking up a little
6 bit, please?

7 A. Sure, sure, okay. Sorry. I was
8 looking away trying to read my definition, yes.

9 Q. So, in your opinion, does a sensor
10 port require a structure to hold the wire in
11 place?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: Structure. So it
14 would depend on how it is configured, how it
15 is made. I don't think they need a -- again,
16 give me an example of structure, not
17 hypothetically, what is a structure?

18 BY MS. LAM:

19 Q. For example, a physical connector
20 structure.

21 MS. HOEKEL: Same objection.

22 THE WITNESS: Well, so, in my

1 definition of sensor port I'm talking about a
2 thing, so, a thing has to have some sort of
3 form, so a permanent or removable I/O
4 interface or a sensor. But that removable or
5 permanent I/O interface has to have some kind
6 of form, if you call a form, a structure,
7 that would be my definition.

8 But it has to be something, it has
9 to be something there, it can't just be air.
10 It has to be, for example, if it is wired, it
11 has to be a piece of wire going from the
12 sensor to the I/O interface.

13 So, the structure in that case would
14 be, if I understand your question properly,
15 would be the, the structure being the wire
16 and the, say the I/O interface connection on
17 the board, if a board is being used.

18 BY MS. LAM:

19 Q. Would the I/O interface and the wire
20 alone be considered a sensor port?

21 MS. HOEKEL: Object to the form.

22 THE WITNESS: Wire, well I think

1 what is missing from my definition at least
2 would be, my definition is this is all for a
3 sensor, right? So, if you didn't have a
4 sensor involved this is just a connection for
5 a, I don't know, a radio antenna, then it
6 wouldn't fit my definition.

7 So it has to have a sensor involved
8 of some type, and a provision for I/O, and
9 the ability to make it permanent or
10 removable.

11 So, I don't think that fits my
12 definition.

13 BY MS. LAM:

14 Q. So, in your opinion a sensor port
15 would involve a sensor, a provision for I/O, and
16 the ability to make the connection permanent or
17 removable.

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: So, I think that is
20 paraphrasing my definition. Again, my
21 definition has changed. It is a sensor port,
22 it is a permanent or removable I/O interface

1 for a sensor.

2 So, I think your last proposal
3 paraphrases my definition.

4 MS. HOEKEL: Lori, I think he said
5 his definition had not changed.

6 THE WITNESS: Right.

7 BY MS. LAM:

8 Q. Would a hard-wired connection
9 between a sensor and an I/O interface be
10 considered a sensor port?

11 A. One more time, hard-wired. Again,
12 please?

13 Q. Would a hard-wired connection
14 between a sensor and a I/O interface be
15 considered a sensor port?

16 A. That by itself, I don't think so,
17 no.

18 Q. Why not?

19 A. To me you have just described a
20 hard-wired interface. Just a wired interface
21 without a port at all.

22 Q. I would like to pull up the '108

1 patent again. That was Tab 5.

2 A. Okay. Let me do this here. So, got
3 it. Tab 5, okay.

4 Q. And I would like to go to Claim 1
5 again. At Line 27?

6 THE VIDEOGRAPHER: Is that 27 on
7 Column 13?

8 BY MS. LAM:

9 Q. Where it says, "A first sensor port
10 positioned on the first side of the housing."

11 Do you see that?

12 A. I do, yes. Yes.

13 Q. Can an I/O port on a computer chip
14 be positioned on a first side of a housing?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: One more time, please?
17 What port of a computer chip.

18 BY MS. LAM:

19 Q. Can an I/O port on a computer chip
20 be positioned on a first side of the housing?

21 A. I suppose it could be. It is
22 possible, sure.

1 Q. How?

2 MS. HOEKEL: Objection.

3 THE WITNESS: How? It says a first
4 sensor port positioned on the first side of
5 the housing. And you said for the chip would
6 be positioned there, it says sensor port on a
7 chip. I could envision physically putting
8 the chip into the housing and arranging it
9 such that the I/O pins face the first side of
10 the housing.

11 BY MS. LAM:

12 Q. And so in your opinion an I/O port
13 on a computer chip includes the pins?

14 A. Well, depending on the chip, sure.
15 Chips are hard defined, or are designed with I/O
16 ports that are accessible through the pins. In
17 that case they would be the pins, they would be
18 accessible by the pins.

19 Q. I would like to introduce
20 Exhibit 1044 from the IPR related to the '108
21 patent. I think that is Tab 39A.

22 (Bergeron Exhibit 1044

1 marked for identification.)

2 BY MS. LAM:

3 Q. Are you able to access that document
4 Dr. Bergeron?

5 A. I just clicked on it. Give me a
6 second. So, this is a PIC16C5X spec list, spec
7 sheet.

8 Q. And do you recognize this document?

9 A. I'm sure I have seen it before; it
10 looks familiar.

11 Q. You relied on this document as an
12 example of a permanent port, correct?

13 A. I don't recall. Do you want to
14 point me to my report to save time? Or do you
15 want me to look at my report?

16 Q. Yes, so, if we are looking at your
17 declaration in the '108 patent it is in
18 Paragraph 49.

19 A. So Exhibit 1044, Page 35.

20 Q. Yes.

21 A. Yes. I see that, yes.

22 Q. So, if we could turn to Page 35 of

1 Exhibit 1044.

2 A. I'm just going to follow on the
3 screen here. Okay. So, I'm on Page 35, yes,
4 okay.

5 Q. Okay. The first sentence reads, "As
6 with any other register, the I/O registers can be
7 written and read under program control."

8 Do you see that?

9 A. I see that, yes.

10 Q. What is an I/O register?

11 A. I believe in this document they
12 refer to register as a part of the chip.

13 So it is, a register would be the
14 position like there is a, I don't know how to say
15 it, I think if we back up there is going to be
16 the architecture of the chip is at some level
17 back up to the beginning to show how the chip is
18 made and sort of these registers and there are
19 several made for I/O, for example.

20 Registers, in general, the registers
21 are ways of moving data in to and out of the
22 chip.

1 Q. Are registers part of the data
2 memory?

3 MS. HOEKEL: Object to the form.

4 THE WITNESS: On this particular
5 chip, I just have to review it. I mean there
6 is memory involved, I'm sure.

7 So, for example, in seven, in this
8 paragraph we are talking about reading
9 instructions. And to read instructions and
10 data, to read it as the data in terms of, in
11 order to operate on it, so, there is memory
12 involved.

13 MS. HOEKEL: You are speaking a
14 little quickly again.

15 THE WITNESS: Sorry, since the,
16 right, since the, they show you these
17 operations a move and a PORTB write, so,
18 there has got to be a way to move the data
19 through the input and output. So, input
20 would require taking it in and storing it and
21 output would require data and memory and that
22 would be outside.

1 So, data would necessarily be
2 involved in an I/O operation, either input or
3 output.

4 BY MS. LAM:

5 Q. Under your construction of sensor
6 ports are I/O registers, sensor ports?

7 MS. HOEKEL: Objection to form.

8 THE WITNESS: I don't think so. I
9 think the registers are sort of the internal
10 workings of this I/O port.

11 So, in my definition a sensor port
12 is a permanent or removable I/O interface for
13 a sensor.

14 So, this is part of that I/O
15 interface, the register, and for example
16 port, if you look down here, PORTA, PORTB and
17 PORTC, they are defined as ports and how they
18 are used. And so those would be ports, but
19 those are I/O ports which could be connected
20 to a number of things. It could be to a
21 sensor through cables or whatever.

22 In itself it is part of how the I/O

1 is operated, how the I/O is implemented in
2 firmware.

3 BY MS. LAM:

4 Q. Are PORTA, or is PORTA a physical
5 port?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: Let me, I didn't -- I
8 need to scroll back through this document.
9 So, this is, let's see. This is document,
10 give me one more second here, open it up.

11 Okay, so, I had to review the chip
12 specs. Ask me the question one more time,
13 please.

14 BY MS. LAM:

15 Q. Is PORTA the physical port?

16 A. In this manifestation yes, it is.

17 Q. But here on the screen it says PORTA
18 is a four-bit I/O register. Is a four-bit I/O
19 register a physical port?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: That is my
22 understanding, yes, that is a register. A

1 register is a piece of firmware or hardware
2 and it is a four-bit I/O register, as opposed
3 to an eight-bit. This is telling you this
4 chip is a relatively old chip, and so it
5 handles four-bit data only, as opposed to
6 eight-bit data.

7 Whereas PORTC for example is an
8 eight-bit register, right, and PORTB is eight
9 bits and PORTA is only four bits.

10 PORTA is very limited in terms of
11 what it can handle in terms of the rate of
12 data. Whereas B and C are eight-bit data
13 ports or an eight-bit register.

14 BY MS. LAM:

15 Q. So, in your opinion an I/O register
16 is a physical port?

17 A. It is part of a physical port.

18 Q. So an I/O register alone is not a
19 physical port, correct?

20 MS. HOEKEL: Object to form.

21 THE WITNESS: If you are looking at
22 Figure 7.1, under 7.5, I/O Interfacing, this

1 is a equivalent circuit for a single I/O pin.
2 So, it is saying, here is the register data
3 on the left-hand side, that it doesn't have
4 any logic in the middle and that is a two --
5 a two CMOS transistors, one is a P, one is an
6 N, CMOS transistor on the output. And that
7 helps, that defines the pin, that is defined
8 as a pin.

9 So, that entire group of circuitry,
10 so not just the register, the register of
11 data is on the data bus. But you also get
12 the data in the data bus onto the real world,
13 which is on the left-hand side, that is the,
14 that is going to the memory on the chip, and
15 you have the data latches, right in the
16 middle, and now you've got these, the logic
17 circuits. It looks like a NAND, or a NOR
18 circuits, and then two transistors. Two CMOS
19 transistors; one is a P channel and one is an
20 N channel CMOS transistor on the right-hand
21 side providing a buffer and that goes to the
22 I/O pin.

1 So the pin itself is on the
2 right-hand side, so the registers and this
3 other personal transistors and the logic
4 circuits and this OP amp going backwards to
5 the data bus, those all work together to
6 define that I/O pin.

7 So, that is, the port is always on
8 the right-hand side on this chip. But
9 everything on the left of that right pin is
10 part of the hardware supporting it. And the
11 register is a part of it.

12 BY MS. LAM:

13 Q. So, the I/O register alone is not a
14 physical port, correct?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: Well, again, it is, in
17 this chip, in this particular chip, the I/O,
18 the register is part of the I/O port or pin,
19 that is shown in Figure 7.1.

20 BY MS. LAM:

21 Q. So, you keep saying it is part of
22 the port. So, the I/O register alone is not a

1 physical port. Correct?

2 A. Correct.

3 Q. And the I/O pin alone is not a
4 physical port. Correct?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: Well, the I/O pin
7 alone meaning just a piece of metal? That is
8 true. Just the piece of metal in space is
9 just a pin. But that port, physically, the
10 I/O pin on the right-hand side that is
11 Figure 7.1 is the physical pin, if I
12 understand this document.

13 So, the actual physical pin on port
14 on the chip is on the right-hand side and to
15 realize that pin, to support that pin, we
16 have the registers which are on the far left
17 which are the rectangles on the left. You've
18 got the logic and then the transistor buffers
19 feeding that pin.

20 So, all together they provide the
21 port for that, the I/O port for that chip or
22 one of the I/O ports and that I/O pin on that

1 right hand side is the I/O port of that chip.

2 BY MS. LAM:

3 Q. But the I/O pin alone is not a
4 physical port, correct?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: I'm not sure what you
7 mean. I thought I just answered that. So,
8 the pin alone, the pin alone is just a pin.

9 BY MS. LAM:

10 Q. And that is not a physical port,
11 correct?

12 A. Just a pin, correct. The pin is
13 just there, it is not a port.

14 Q. And nowhere does Page 35 mention a
15 sensor. Correct?

16 A. Well, I would agree with you that
17 the word sensor does not appear here. However,
18 someone who is a POSITA reading this document, it
19 is understood, at least I understand it is, that
20 the I/O port is, one of the reasons you have an
21 I/O port on a chip such as a PIC chip is to work
22 with sensors. That is why you buy them. That is

1 their purpose in life, is to operate as a sensors
2 and then use them to control a motor or launch
3 them with something that -- it is whatever is
4 created to interface with sensors.

5 MS. HOEKEL: Sorry, Bryan, make sure
6 you are slowing down. You are a little
7 muffled. So, it is a little hard to hear.

8 THE WITNESS: Okay. Sorry. So that
9 is the purpose of microcontrollers, unlike PC
10 chips, they are made to interface with the
11 real world. And they do that with sensors.

12 BY MS. LAM:

13 Q. But Page 35 doesn't mention sensors,
14 correct?

15 A. It does not say the word sensor; I
16 agree.

17 Q. And nowhere does Page 35 mention
18 soldered connections, correct?

19 A. Mention soldered connections.
20 Correct, I see no mention of solder connections
21 on Page 35.

22 Q. Figure 7-1 shows an equivalent

1 circuit for a single I/O pin. Correct?

2 A. That is what it says, yes.

3 Q. And is this circuit for a single I/O
4 pin port considered a physical port in your
5 opinion?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: On the right-hand side
8 I see a, an I/O pin which is, in my
9 understanding, that is the physical aspect of
10 it. That is what you would see as a person
11 manipulating the chip, you would see that
12 pin.

13 BY MS. LAM:

14 Q. And so, in your opinion, the I/O pin
15 and the circuits shown together would be
16 considered a sensor port?

17 A. Well, the I/O pin, what is shown
18 here on the circuit is the I/O pin, an I/O pin
19 which is the pin for input and output data which
20 could be connected to a sensor, for example.

21 And then the equivalent circuit. So
22 it is not in that same -- this is what is

1 actually there, this is the equivalent circuit of
2 what is there.

3 So, what is not required in my
4 definition is the particulars of that circuit
5 behind there. What is required in my definition
6 is you've got this I/O interface which is the pin
7 on the right-hand side.

8 So, the things on the left-hand side
9 are there but not required in terms of being
10 revealed.

11 Q. Take a step back. How do you
12 determine how a claim term would be considered by
13 a -- sorry. Let me rephrase.

14 How do you determine how a claim
15 term would be understood by a person of skill?

16 MS. HOEKEL: Object to the form.

17 THE WITNESS: With respect to my
18 declaration, I believe I spell it out.

19 But --

20 BY MS. LAM:

21 Q. Sure, let's pull up the declaration
22 in the '108 patent, in Tab 33?

1 A. So, you are asking me about claim
2 construction?

3 Q. Yes. How do you determine how a
4 claim term would be understood by a person of
5 skill?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: So, a person of skill
8 I consider the description in the patent
9 about the terms, any terms being defined in
10 different ways than ordinary.

11 I considered the, any definitions
12 provided by the court in terms of any special
13 definitions construed for any particular
14 words used in the claims. And then using the
15 specification as a basis of the difference,
16 if there is some sort of nonstandard way of
17 using the term.

18 I consider what to be the normal use
19 of the term externally, so in a dictionary or
20 just in the popular press or in the journals
21 that I read at the time, at the time of the
22 invention.

1 And then any context provided by the
2 claim language itself, and the actual phrase
3 in the claim.

4 So, in other words, the words that
5 surround the claim, the context of a, the
6 claim itself.

7 So, those are all of the things that
8 I think about in terms of how to construe
9 what a word means in a claim.

10 BY MS. LAM:

11 Q. Where in your declaration did you
12 consult the description or specification of the
13 '108 patent in forming your opinion of the
14 construction of sensor port?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: Where? Are you
17 referring to Paragraph 52 and talking about
18 whether or not it is removable, how to
19 determine whether or not the sensor should be
20 removable or permanent?

21 BY MS. LAM:

22 Q. In Claim 52 you are referencing the

1 claims of the '108 patent, correct?

2 A. In Paragraph 52, that's correct,
3 yes.

4 Q. In Paragraph 52 do you reference the
5 detailed description section of the '108 patent?

6 A. I don't see detailed description
7 anywhere in Paragraph 52.

8 Q. Do you reference the detailed
9 description or specification of the '108 patent
10 anywhere else in the claim construction section
11 of your declaration?

12 A. Sorry, let's back up. So, what term
13 are you asking me to look for or what context?

14 Q. Where in your declaration did you
15 consult the detailed description or specification
16 of the '108 patent in forming your opinion about
17 the word, the terms in this report?

18 A. Okay. So you are asking for a spot
19 in my declaration where I explicitly said I
20 looked at a certain spot in the specification to
21 support my definition.

22 Q. Yes, that is the question.

1 A. Let me search detailed description,
2 let me see if I have it.

3 Okay. I make no reference to
4 detailed description at all in, as far as I can
5 tell, with my search. And the other area you
6 asked for in my declaration?

7 Q. Specification.

8 A. Specification. Hold on, I don't see
9 any call out of either of those sections in the
10 specification.

11 Q. So, your opinions of the
12 construction of sensor port in your declaration
13 do not mention the detailed description or the
14 specification. Correct?

15 A. That is correct.

16 Q. Do any of your declarations discuss
17 the detailed description or specification in
18 connection with your claim construction analysis?

19 A. I believe they are all the same as
20 this document in terms of that issue. I don't
21 recall it being spelled out. I did a search
22 here, I didn't find it. So, it would be the same

1 answer for the others as well.

2 Q. So, none of your declarations in
3 these IPRs discuss the specification or the
4 detailed description in connection with your
5 claim construction analysis?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: Not that I recall,
8 unless you can, maybe, I can't find it. I
9 don't recall it, and if you want to point me
10 to it, the place, I would be happy to go to
11 it. But, I don't recall making the call-out.
12 I can't find it here now at this time.

13 BY MS. LAM:

14 Q. So, let's talk about Paragraph 50
15 that is up on this screen.

16 A. Okay, I see it.

17 Q. You state that "Patent owner's
18 construction includes component connections such
19 as a light bulb and socket that aren't considered
20 ports."

21 Do you see that?

22 A. I do, yes.

1 Q. Is a light bulb a sensor?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Is a light bulb a
4 sensor. As used here in the patent owner's
5 construction, I don't see that the light bulb
6 was a sensor, no.

7 BY MS. LAM:

8 Q. Is a socket a sensor?

9 MS. HOEKEL: Form.

10 THE WITNESS: Not the way I read it,
11 no.

12 BY MS. LAM:

13 Q. Then going back to your proposed
14 definition of sensor port, your proposed
15 definition is "A permanent or removable I/O
16 interface for a sensor." Is that correct?

17 A. Correct.

18 Q. Does permanent mean nonremovable?

19 A. Permanent in my mind means not
20 removable, not removable with ordinary means. In
21 other words a user would not be expected to
22 remove it whereas a technician or say an engineer

1 replacing the equipment or fixing it for some
2 reason would be able to.

3 So as a general data, the typical
4 user would not be able to use it.

5 Q. I would like to introduce
6 Exhibit 1001 from the IPR related to the '735
7 patent at Tab 6?

8 (Bergeron Exhibit 1001, '735
9 marked for identification.)

10 MS. HOEKEL: So we are looking at
11 the '735 patent, right?

12 BY MS. LAM:

13 Q. Yes.

14 A. I thought you said it was six. Hold
15 on. You did say six.

16 MS. HOEKEL: Tab 6.

17 THE WITNESS: I don't have it,
18 refreshed here. Okay. Yes, there it is.
19 Okay. The '735 patent.

20 BY MS. LAM:

21 Q. And you recognize this patent?

22 A. Do I recognize the patent? Yes, I

1 do.

2 Q. And you reviewed this patent in
3 preparing your opinions for these IPRs?

4 A. That's correct, yes.

5 Q. So, I would like to turn to
6 Column 13. Going down to Claim 3?

7 A. Okay.

8 Q. Can you please read Claim 3 for me?

9 A. Three, sorry. Claim 3 is, "The
10 mobile medical monitoring device of Claim 2,
11 wherein the tail component" -- I'm sorry,
12 "wherein the tail comprises a cable that is
13 configured to be removably attachable to the
14 first sensor communication port."

15 Q. So, Claim 3 recites wherein the tail
16 comprises a cable, correct?

17 A. When the tail comprises a cable,
18 yes, that's correct.

19 Q. Does Claim 1 recite a tail?

20 A. I'm pretty sure it doesn't. But let
21 me just do a check here. It does not.

22 Q. So, the tail recited in Claim 3 is

1 different in scope from Claim 1, correct?

2 MS. HOEKEL: I'm going to object to
3 the form of the question as beyond the scope
4 of the expert report.

5 THE WITNESS: I'm sorry, the
6 question about the tail is, does it appear in
7 Claim 1?

8 BY MS. LAM:

9 Q. No, you just confirmed that Claim 1
10 does not recite a tail. Correct?

11 A. Correct.

12 MS. HOEKEL: Object to the --

13 THE WITNESS: Sorry. The claim tail
14 does not appear in Claim 1.

15 BY MS. LAM:

16 Q. So, the tail recited in Claim 3 is
17 different in scope from Claim 1. Correct?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: Claim 2, Claim 3
20 refers to Claim 2 which also defines the
21 extension as a tail. So, both claims, both
22 dependent Claims 2 and 3 recite a tail and

1 the independent Claim 1 does not recite a
2 tail.

3 BY MS. LAM:

4 Q. So, the tail recited in Claims 2
5 and 3 is different in scope from Claim 1.
6 Correct?

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: Well, first of all I
9 haven't been able to, I haven't been asked to
10 opine on the term tail before now.

11 But sort of to back up in general,
12 as I understand claim construction, if a term
13 is in the dependent claims say 2 and 3, or I
14 should say three, that at least that concept
15 or at least that material is covered in the
16 Claim 1.

17 So, Claim 1 has at least this tail
18 extending from the oximeter sensor, for
19 example, so, it has to include more than the
20 restrictive dependent claim, the dependent
21 claim has to be more restrictive.

22 So, whatever is in Claim 3 has to be

1 already in Claim 1.

2 BY MS. LAM:

3 Q. And Claim 1 does not recite a tail,
4 correct?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: There is no mention of
7 a tail in Claim 1. But again, just using,
8 and again I have not been asked, I have not
9 opined on the tail, the issue of where the
10 tail is. But in my understanding of claim
11 construction, the, whatever is in the
12 dependent claims for example the tail or
13 whatever you want to talk about that is, that
14 is by necessity also incorporated in the
15 independent claim.

16 So, in other words, at least what is
17 in the dependent claim. So, the independent
18 claim contains at least what is in the
19 dependent claim.

20 BY MS. LAM:

21 Q. And a tail is not required in
22 Claim 1 by itself, correct?

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: Again, I haven't been
3 asked to opine on tail. But the word tail
4 does not appear in Claim 1, agreed.

5 BY MS. LAM:

6 Q. Does Claim 1 recite a cable?

7 A. Sorry?

8 Q. Does Claim 1 recite a cable?

9 A. The only place that Claim 1 recites
10 a cable is in the preamble. "Body worn mobile
11 medical monitoring device configured to minimize
12 cable wiring from a sensor," so on.

13 So, that is the only mention of a
14 cable in the preamble. It was talking about
15 minimizing cable wiring.

16 Q. And the cable is first introduced in
17 Claim 3, correct?

18 MS. HOEKEL: Object to the form.

19 THE WITNESS: The word cable does
20 not appear in Claim 1 or 2. So it first
21 appears, is spelled out in Claim 3, correct.

22 BY MS. LAM:

1 Q. So, I would like to turn to your
2 declaration in the IPR related to the '623 patent
3 that was at Tab 36.

4 A. Okay. Okay.

5 Q. I would like to turn to
6 Paragraph 77.

7 A. 77.

8 MS. HOEKEL: What page is that on?

9 MS. LAM: 37.

10 MS. HOEKEL: Thank you.

11 THE WITNESS: 37.

12 MS. HOEKEL: Paragraph 77 on
13 Page 37.

14 THE WITNESS: Okay.

15 BY MS. LAM:

16 Q. Let me know when you have that
17 pulled up, Dr. Bergeron.

18 A. Sorry?

19 Q. Do you have the document pulled up?

20 A. Yes, I do, yes.

21 Q. And so in Paragraph 77 you reference
22 a USB port. Do you see that?

1 A. I do see it, yes.

2 Q. Do USB ports receive digital inputs
3 or analog inputs?

4 A. Well a USB port, depending on the,
5 there are various types of USB ports and various
6 versions of USB.

7 For example, USB can carry a DC
8 signal which is analog. It can also handle
9 digital data, which is digital. So it can handle
10 both types.

11 Q. Can a USB port receive analog data?

12 A. Are you -- well, is it possible to
13 receive analog data? Yes. Yes.

14 Q. Does the USB specification provide
15 for analog data?

16 A. Well that is the thing. So, the
17 specification, to my knowledge, to my memory,
18 doesn't provide for a analog signal other than,
19 again, the DC power.

20 So, the USB can provide a -- it is
21 considered the power to be DC, would be DC, to be
22 analog; it handles analog power and digital data.

1 Q. So, the USB specification only
2 provides for digital data. Correct?

3 A. I would have to review the USB spec.
4 But, in my memory, if my memory is correct, the
5 USB 2 version has, provides for digital data and
6 the only analog data, the only analog signal
7 there would again be the 5-volt, supply voltage
8 that is available through the USB connection.

9 MS. LAM: We can take a short break
10 now.

11 MS. HOEKEL: Sure.

12 THE VIDEOGRAPHER: All right. The
13 time is 2:11 a.m. -- p.m. Going off the
14 record.

15 (Recess taken -- 2:11 p.m.)

16 (After recess -- 2:22 p.m.)

17 THE VIDEOGRAPHER: The time is
18 2:22 p.m. Back on the record.

19 BY MS. LAM:

20 Q. Dr. Bergeron, I would like to turn
21 to Paragraph 87 of your declaration on Page 44?

22 A. Okay, hold on a second.

1 MS. HOEKEL: The same declaration we
2 were in?

3 BY MS. LAM:

4 Q. Yes, for the '623 patent.

5 A. Paragraph 87 you said, right?

6 Q. Yes.

7 A. Okay, I am there. Thanks.

8 Q. Could you read the first three
9 sentences for me, please?

10 A. Of Paragraph 87, sure. It says,
11 "Also, I note that the specific configuration
12 shown in Figure 2 is merely one of Goldberg's
13 embodiments. Exhibit 1005, 4:59.

14 "Goldberg also discloses a
15 controller that communicates with all sensors via
16 wires. Exhibit 1005, 4:23-29. A POSITA would
17 understand this embodiment to involve a
18 controller connected to a blood pressure sensor
19 that is not also functioning as a strap that
20 secures the device to a person's wrist. ID."

21 MS. LAM: So, in parallel, I would
22 like to pull up Exhibit 1005 from the '623

1 patent which should be Tab 9D.

2 (Bergeron Exhibit 1005

3 marked for identification.)

4 THE VIDEOGRAPHER: It is stuttering

5 a little bit. There it goes. It should be

6 there now. It was stuttering a little bit.

7 THE WITNESS: Okay. I have

8 Goldberg, on my machine as well.

9 BY MS. LAM:

10 Q. And do you recognize this document?

11 A. Yes, 9D is the '904 patent. This is
12 the Goldberg patent, yes.

13 Q. And you considered this patent in
14 preparing your opinions in your declaration?

15 A. I did, yes.

16 MS. LAM: And Henry, if we could
17 have this side-by-side with the paragraph in
18 the declaration we were just referencing.
19 And in Goldberg I would like to go to
20 Column 4.

21 BY MS. LAM:

22 Q. Dr. Bergeron, in that paragraph you

1 have just read to me you reference Column 4,
2 Lines 23 to 29 of Goldberg, correct?

3 A. That sounds right.

4 Q. And can you read those sentences
5 from Goldberg for me, please?

6 A. So, 23 through --

7 Q. 29.

8 A. 29, okay. So, "Various sensors,
9 104, are known in the art for converting
10 physiological characteristics of the type
11 disclosed herein into electrical signals, and for
12 providing the signals to the controller, 102,
13 and/or memory, 106. The sensors, 104, can be
14 coupled to the controller, 102, and/or memory by
15 wire or wirelessly. And such ways of coupling
16 are well known in the industry" -- sorry, in the
17 "art."

18 Q. So, where in those sentences of
19 Goldberg does it say that the controller
20 communicates with all sensors via wires?

21 A. With all sensors via wires.

22 MS. HOEKEL: Object to the form.

1 THE WITNESS: Let me see where I, in
2 my declaration here. Hold on. Is this my
3 declaration on the right-hand side?
4 Figure 2? Okay.

5 BY MS. LAM:

6 Q. Yes.

7 A. Okay. And so where are you quoting
8 me?

9 Q. In the last two lines.

10 A. Okay. Hold on, let me get -- I've
11 got my icons of everyone's faces in the corner
12 put out of the way so let me move this around.

13 Okay. I can see it, okay, good.

14 So you are asking, so the statement
15 is, "Thus a POSITA would understand that the
16 external sensor would be connected to Goldberg's
17 controller via a wire so that the pressure can be
18 detected through the blood pressure cuff strapped
19 to the back of the housing." That is the
20 sentence?

21 Q. I am referencing the very last two
22 lines, that are in Paragraph 87.

1 A. 87. Okay. So, can you -- yes,
2 scroll, okay.

3 Q. Sorry, I meant on Page 44. So, the
4 second sentence of Paragraph 87.

5 A. So, "Also, I note that the
6 specification configuration shown in Figure 2 is
7 merely one of Goldberg's embodiments.
8 Exhibit 4:59. Goldberg also discloses a
9 controller that communicates with all sensors,
10 with all sensor via wires. 5, 4:23 through 29."

11 So, well the last sentence says,
12 "The sensors, 104, can be coupled to a
13 controller, 102, and of memory by wire or
14 wirelessly."

15 So, if you read that by wire or
16 wirelessly, by wire applies to everything as
17 well. So it could be, wire could apply to all of
18 the connections.

19 Q. But that sentence doesn't actually
20 say that a controller communicates with all
21 sensors via wires. Correct?

22 A. Well, again, as a POSITA reading

1 this, it is correct that it does not say what you
2 just quoted. But it does say to me that by wire
3 or wirelessly.

4 So, by wire covers everything; also
5 wirelessly covers everything. And such ways of
6 coupling are well known in the art. So that
7 tells me it is not just wire or wirelessly, but
8 other ways are possible as well.

9 But, so, I agree with that phrase
10 you just gave me does not appear here. But, but
11 reading this, wire does cover, both wire and
12 wireless covered so I could see, I can read this
13 where everything is wired, everything is wireless
14 or things are a mix of wired and wireless.

15 Q. But you agree that Lines 28 to 30 of
16 Goldberg do not specifically state that the
17 controller communicates with all sensors via
18 wires. Correct?

19 A. Agree, agree. It does not say that
20 specifically, agreed.

21 Q. And this sentence compares wired
22 connections to wireless connections, correct?

1 A. Which sentence do you mean? Which
2 one?

3 Q. At Lines 28 to 30 --

4 MS. HOEKEL: Object to the form.

5 BY MS. LAM:

6 Q. -- of Goldberg.

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: I'm sorry, let me read
9 it again.

10 So, the question was, again ...

11 BY MS. LAM:

12 Q. Okay. Let me rephrase the question.

13 So, Lines 28 to 30 of Goldberg provide wire or
14 wireless connections as alternatives, correct?

15 MS. HOEKEL: Shannon, you broke up
16 in the middle of the question.

17 THE WITNESS: Last part if you could
18 just repeat that.

19 BY MS. LAM:

20 Q. So, Lines 28 to 30 in Column 4 of
21 Goldberg offer wire or wireless connections as
22 alternative examples. Correct?

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: As alternative
3 examples. I'm not, I don't believe -- I'm
4 not sure alternatives is what I have use
5 there. They are offering both wired and
6 memory. Both wired and wireless.

7 BY MS. LAM:

8 Q. Okay. So, Column 4, Lines 28 to 30
9 of Goldberg describe wired and wireless
10 connections. Correct?

11 A. Correct.

12 Q. Okay. But it does not compare --
13 sorry.

14 But Column 4, Lines 28 to 30 of
15 Goldberg do not describe strap connections and
16 non-strap connections. Correct?

17 MS. HOEKEL: Object to the form.

18 THE WITNESS: Strap connections and
19 non-strap connections. There is no, there is
20 no literal mention of strap or non-strap in
21 those lines.

22 BY MS. LAM:

1 Q. And, so, Lines 28 to 30 of Column 4
2 of Goldberg do not exclude the possibility of a
3 strap. Correct?

4 MS. HOEKEL: Object to the form.

5 THE WITNESS: Well, I mean, it is an
6 odd question to answer yes or no to.

7 It is not talking about straps at
8 all. It is like saying is there a mention of
9 a tire of here, no, there is no mention of
10 tire.

11 It is talking about connecting by
12 wire or wirelessly. A strap is not a
13 connection. I mean a strap is not a part of
14 a circuit here. This doesn't fit. So, yeah,
15 there is no mention of it here in this
16 paragraph. But I wouldn't expect there to be
17 in this paragraph.

18 Just a strap, strap, as I understand
19 the strap, is just a physical device
20 depending on how you define a strap. But it
21 is not in here.

22 Q. And so this paragraph from Lines 13

1 to 30 of Column 4 of Goldberg does not
2 specifically exclude the possibility of a strap,
3 correct?

4 MS. HOEKEL: Object to the form.

5 THE WITNESS: Agreed. It does not
6 explicitly exclude the possibility of a
7 strap. I see no mention of a strap at all in
8 that paragraph.

9 BY MS. LAM:

10 Q. So, let's go to Figure 2 of
11 Goldberg.

12 A. Okay. I'm just going to follow on
13 the screen because this is a lot easier to just
14 follow along.

15 Q. In Figure 2 of Goldberg is a diagram
16 illustrating a triple medical monitoring device
17 and sensors coupled to the device. Correct?

18 A. Let me, I need to look at Goldberg
19 and see how he defines it.

20 Q. If it helps I'm reading from
21 Column 3, Lines 56 and 57.

22 A. Okay. I will take your word for it,

1 okay. I am trying to pull it up here. Let's
2 see.

3 THE VIDEOGRAPHER: I could pull that
4 up.

5 THE WITNESS: Okay, then it will
6 miss the picture but okay, sure, let's just
7 see it.

8 THE VIDEOGRAPHER: Should I go back
9 to the Figure 2 or are you okay here?

10 THE WITNESS: So that is Figure 2 is
11 a diagram illustrating a portable medical
12 monitoring device and sensors coupled to the
13 device. Agreed, yes.

14 BY MS. LAM:

15 Q. Does Goldberg include any other
16 figures showing the sensors coupled to the
17 medical monitoring device?

18 A. I've got to go back. Let me open up
19 and search to the pictures. The illustrations
20 rather.

21 So, I assume by show you mean not
22 the functional diagrams preceding this. Right?

1 You mean the picture of an actual device?

2 Q. Yes, that's correct.

3 A. Yes, this is the only one I see in
4 this, in this disclosure, showing all of the
5 elements.

6 Figure 4 does show the unit itself,
7 but it doesn't show any activity of the sensor in
8 the drawing.

9 Q. So Figure 2 of Goldberg is the only
10 figure showing the actual portable medical
11 monitoring device and sensors coupled to the
12 device. Correct?

13 A. Right, and I understand this to be
14 one embodiment, not the only embodiment.

15 Q. Does Goldberg include any other
16 figures showing where the sensors are coupled to
17 the medical monitoring device?

18 A. Not that I'm aware of.

19 Q. Let's go back to your declaration in
20 the '623 patent. Specifically to Paragraph 73.

21 A. I'm just going to follow along,
22 here. Okay.

1 Q. So, it is your opinion that Kiani
2 teaches multiple ports, correct?

3 A. Correct, yes.

4 Q. And you have provided an annotated
5 version of Figure 5 of Kiani with annotations for
6 the ports, correct?

7 A. That's correct, yes.

8 Q. 540 in Figure 5 of Kiani is an
9 output port for connection to an external pulse
10 oximeter, correct?

11 A. I don't recall. It could be.

12 Q. Why don't we pull up that reference.

13 MS. LAM: I would like to introduce
14 Exhibit 1006 from the IPR related to the '623
15 patent. And that is Tab 10D.

16 (Bergeron Exhibit 1006, '623
17 marked for identification.)

18 THE WITNESS: 10D.

19 BY MS. LAM:

20 Q. Let me know when you have the
21 document.

22 A. I'm watching the one on the screen.

1 Q. Do you recognize this exhibit,
2 Dr. Bergeron?

3 A. Yes, it is the Kiani reference.
4 K-I-A-N-I.

5 Q. And you relied on this document in
6 preparing your opinions?

7 A. I did, yes.

8 Q. And so I would like to turn to
9 Page 8. Line 31 and 32.

10 Oh, sorry, Page 8 of the actual
11 document, Page 10 of the annotated page numbers.
12 Yes, so, Lines 31 and 32.

13 So, 540 is an output port for
14 connection to an external pulse oximeter,
15 correct?

16 A. Yes, that is what it says. Yes.

17 Q. So, 540 is not a sensor port,
18 correct?

19 MS. HOEKEL: Object to the form.

20 THE WITNESS: It is called an output
21 port. Correct.

22 BY MS. LAM:

1 Q. So, 540 is not a sensor port?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Well in this
4 embodiment, I guess the 540 is shown as an
5 output port, but it is a port.

6 BY MS. LAM:

7 Q. But not a sensor port?

8 MS. HOEKEL: Objection.

9 THE WITNESS: That's correct, it is
10 an output port.

11 BY MS. LAM:

12 Q. And 530 is a power supply input.

13 Correct?

14 A. That's correct, yes.

15 Q. So, 530 is not a sensor port.

16 Correct?

17 MS. HOEKEL: Object to the form.

18 THE WITNESS: Correct. It is a
19 power supply port.

20 MS. LAM: So, let's go back to, or,
21 Henry, if we could pull up the declaration
22 side-by-side from the '623 patent.

1 And I would like to go to
2 Paragraph 87 of the declaration, and it is on
3 Page 44. If we could go to the next page.

4 BY MS. LAM:

5 Q. So, you reference a blood pressure
6 sensor described by Kiani at the end of
7 Paragraph 87.

8 Do you see that?

9 A. Hold on one second. Such as a blood
10 pressure -- I see that, yes.

11 Q. So, I would like to go to the
12 section you cited in Exhibit 1006. So, Page 16
13 of Kiani.

14 MS. HOEKEL: Which Page 16?

15 THE VIDEOGRAPHER: If you happen to
16 have this number, it is a little easier to
17 actually find it with the physical page; it
18 corresponds to the PDF.

19 MS. LAM: I think it is page 18 of
20 the PDF.

21 THE VIDEOGRAPHER: Thank you.

22 BY MS. LAM:

1 Q. And if we go to the paragraph
2 starting at Line 24.

3 So, the blood pressure sensor in
4 Kiani is connected to a docking station, 660.
5 Correct?

6 A. Correct, yes.

7 Q. Does Kiani disclose that the docking
8 station, 660, is worn on the arm?

9 A. I don't recall; I don't recall
10 seeing that description.

11 MS. LAM: I would like to introduce
12 Exhibit 1043 from the IPR related to the '623
13 patent so that is Tab 38D.

14 (Bergeron Exhibit 1043
15 marked for identification.)

16 THE VIDEOGRAPHER: Did you say, what
17 did you say again? 38D?

18 MS. LAM: D, yes, as in dog.

19 THE VIDEOGRAPHER: Okay. Got it.
20 Just making sure.

21 BY MS. LAM:

22 Q. Let me know when you see the

1 document, Dr. Bergeron.

2 A. 38D, got it.

3 Q. And do you recognize this exhibit?

4 A. This is the Hutcheson patent, yes.

5 Q. And you relied on this Hutcheson
6 patent in preparing your opinions for these IPRs?

7 A. I did, yes.

8 Q. So, Hutcheson discloses a blood
9 pressure and heart rate measuring system,
10 correct?

11 A. Correct.

12 Q. And if we can zoom in on the
13 abstract, and do you see the sentence beginning
14 with during cuff deflation?

15 A. I do, yes.

16 Q. Can you please read that sentence
17 for me?

18 A. "During cuff deflation, pressure and
19 Korotkoff sound signal amplitudes are obtained
20 and stored in a timed relation to the user's ECG,
21 a threshold level is derived from pressure signal
22 amplitudes and system noise level, and systolic

1 and diastolic pressure determined and validated
2 by trend analysis in relation to this threshold
3 level."

4 Q. So, Hutcheson's system uses a
5 pressure transducer, K-sound transducer, and an
6 ECG to measure blood pressure, correct?

7 A. I -- where, I don't see that. Are
8 you saying based on what you have just read, are
9 you asking me if that is what I understand that
10 to mean?

11 Q. Yes.

12 A. Let's see, during cuff deflation,
13 pressure and Korotkoff sound signal amplitudes
14 are obtained and stored.

15 I see no discussion of a particular
16 type or number of sensors here.

17 Q. Maybe we can turn to Figure 1. If
18 we could rotate it.

19 So, on the left-hand side -- or,
20 sorry. On the right-hand side do you see a
21 pressure transducer, 106?

22 A. One second. Let me move all of

1 these pictures out of the way. Okay, sorry. 106

2 is a pressure transducer. I see that, okay.

3 Q. And do you see a K-sound transducer,
4 108?

5 A. I do.

6 Q. ECG, 110?

7 A. I see those markings, yes.

8 Q. So, Hutcheson's system uses a
9 pressure transducer, a K-sound transducer, and
10 ECG to measure blood pressure, correct?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: I can't tell from this
13 diagram. Can you go back to the description
14 in the text?

15 BY MS. LAM:

16 Q. Sure. Did you want to go back to
17 the abstract?

18 A. Yes, please. Thanks.

19 THE VIDEOGRAPHER: Do you want me to
20 go back to Figure 1?

21 THE WITNESS: Yes, that would help,
22 thank you. Sorry to ask you to repeat it. I

1 see both things. And now the question is,
2 are you asking if all three sensors are
3 located in the system? Or, what did I miss?
4 The question.

5 BY MS. LAM:

6 Q. Does Hutcheson's system use a
7 pressure transducer, K-sound transducer, and ECG
8 to measure blood pressure?

9 MS. HOEKEL: Object to form.

10 THE WITNESS: That is what I thought
11 you said. I believe so, yes.

12 BY MS. LAM:

13 Q. And going back to the abstract in
14 the next sentence starting with "analysis
15 results." Do you see that?

16 A. Sure, yes.

17 Q. Can you read that sentence for me,
18 please?

19 A. Sure. "Analysis results are stored
20 along with a sample number and time of
21 measurement under on-board digital signal
22 processing control, in both a solid state memory

1 and an analog serial data storage medium such as
2 magnetic tape." Okay?

3 Q. And so Hutcheson describes both
4 digital and analog data storage, correct?

5 A. Yes.

6 Q. Why would it be desirable to store
7 blood pressure and heart rate data in analog
8 form?

9 A. Well, it is a -- it could be a
10 complex, a complex question more than just why
11 would it form.

12 It would depend on where you store
13 the data in, in the format you store depends on a
14 number of things. One would be the accuracy of
15 the on board ATD conversion, the cost of the
16 system, the space available for analog versus
17 digital recording, and the throughput
18 requirements for the device as a whole.

19 In other words the specs that would
20 drive the decision-making for the, which process
21 to find and which sort of medium to use and
22 everything else.

1 It is a complex problem that -- it
2 has to answer a number of questions in terms of
3 the sampling, in terms of the accuracy, in terms
4 of the data, the amount of data to be stored,
5 storage available, the type of data storage
6 available, and the cost of the system overall, I
7 will say.

8 Q. So, why would it be desirable to
9 store blood pressure and heart rate data in
10 analog form?

11 A. For example, the heart rate data,
12 one of the problems with heart rate data is that
13 the heart is usually normal 99 percent of the
14 time. And then there is an event.

15 And so to capture the event, you've
16 got to record for long periods of time. Say,
17 four, five, six hours at a time before you might
18 catch an event.

19 During this time period, even today,
20 solid state data is expensive. Solid state
21 memory is expensive. Analog data, analog storage
22 is on burning CD or tape even is much cheaper to

1 study, a way to capture long-term, long amounts
2 of data storage, because it is somewhat less
3 expensive means of storing the information
4 long-term.

5 Q. If we go back to Figure 1 --

6 A. Okay.

7 Q. Do you see the tape recorder, 112?

8 A. 112, hold on. Yes, thank you, 112,
9 got it.

10 Q. So, in this system the tape recorder
11 is the analog data storage, correct?

12 A. Correct.

13 Q. I would like to go to Column 11 of
14 this Hutcheson reference. Starting down at
15 Line 67.

16 A. Okay.

17 Q. Can you read that sentence for me,
18 please?

19 A. "K-sound transducer, 108, in the
20 preferred embodiment comprises a conventional
21 piezoelectric Korotkoff sound microphone, (Part
22 Number 705-0018), manufactured by Marco

1 Bio-Systems, Inc. Houston, Texas.

2 Q. Can you read that next sentence,
3 too, please?

4 A. "The K-sound transducer, 108, is
5 preferably placed over the brachial artery of the
6 patient under the biceps of the cuff, 114,
7 retaining it in place."

8 Q. Where is the bicep in the body?

9 A. Well, there are four biceps in the
10 body. This referring to the brachial artery, so
11 this must be the arm, one of the two arms. So it
12 would be the arm, either the right or left upper
13 arm.

14 Q. So, the brachial artery is in the
15 upper arm, correct?

16 A. In the upper part?

17 Q. Yes, the brachial artery is in the
18 upper arm, correct?

19 A. It is in, a brachial artery in the
20 right and left arms, yes.

21 Q. In the upper part of the arm?

22 A. It is not the only place it exists,

1 but it does exist there, yes, it is there. It
2 extends past the arm. In other words it doesn't
3 just disappear at the arm. It extends down
4 toward the hand, back into the brachial, the
5 subclavicular area, under the clavicle. So it
6 does traverse the upper arm.

7 Q. And the brachial artery divides into
8 the radial and ulnar arteries in the lower arm.
9 Correct?

10 A. Correct.

11 Q. So, the brachial artery is not in
12 the wrist. Correct?

13 A. Not normally, no. That would break
14 off between the radial and the ulnar arteries,
15 correct.

16 Q. If the K-sound transducer was
17 rotated such that the K-sound transducer was no
18 longer on the brachial artery, would that change
19 the blood pressure measurement?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: If the sensor were not
22 on the -- not on the brachial artery, is that

1 the question? What would --

2 BY MS. LAM:

3 Q. Yes.

4 A. So, it would depend. So, the whole
5 point is to, you could pay close Korotkoff sounds
6 with a sensor probably on your feet depending on
7 if it was sensitive enough, if it had enough
8 noise correction.

9 So, the position of the sensor to
10 where the noise is being created, further away,
11 of all of that is to obtain a signal it is clean,
12 and of a sufficient amplitude, it could still
13 work anywhere in the body.

14 Q. But that would change the blood
15 pressure measurement, correct?

16 MS. HOEKEL: Objection to the form.

17 THE WITNESS: It would change it,
18 no, it would not.

19 BY MS. LAM:

20 Q. Could that lead to a, if a K-sound
21 transducer was on the upper arm but not on the
22 brachial artery, could that lead to a less

1 accurate blood pressure measurement?

2 A. Possible. But it really depends on,
3 it is not just the position of that transducer,
4 it depends on the, what is involved between that
5 transducer and say, if you've got a stethoscope
6 or an amplified signal of some type, then the
7 placement is not that critical.

8 Q. On the sentence you just read,
9 Hutcheson says, "The K-sound transducer, 108, is
10 preferably placed over the brachial artery of the
11 patient." Correct?

12 A. Sure, yes.

13 Q. So, it would be less preferable to
14 place the K-sound transducer elsewhere other than
15 the brachial artery. Correct?

16 A. Correct. For the reason I just
17 gave, right. Because you would have a, the
18 signal would be lower in amplitude, and you want
19 to give it the loudest signal you can, but you
20 don't have to be there, but, I agree with what
21 you are saying, yes.

22 MS. LAM: Okay. I would like to

1 take a short break here.

2 THE WITNESS: Sure.

3 THE VIDEOGRAPHER: All right. The
4 time is 3:03 p.m. Going off the record.

5 (Recess taken -- 3:03 p.m.)

6 (After recess -- 3:14 p.m.)

7 THE VIDEOGRAPHER: The time is
8 3:14 p.m. Back on the record.

9 MS. LAM: I would like to introduce
10 Exhibit 1007 from the IPR related to the '108
11 patent at Tab 11A.

12 (Bergeron Exhibit 1007, '108
13 marked for identification.)

14 BY MS. LAM:

15 Q. Let me know when you have the
16 document, Dr. Bergeron.

17 A. Got it.

18 Q. Do you recognize this exhibit?

19 A. This is Akai. Yes, I do.

20 Q. And you relied on this exhibit in
21 preparing your opinions?

22 A. I did, yes.

1 Q. So, let's go to Column 4, in
2 Lines 36 to 38.

3 A. Okay.

4 Q. Can you read that sentence for me
5 beginning at Line 36?

6 A. Sure. "A blood glucose monitoring
7 system, which is the first embodiment of the
8 present invention, will be the first described in
9 referring to Figure 1 and Figure 2."

10 Q. So, Figures 1 and 2 illustrate the
11 same embodiment. Correct?

12 A. They both pertain to the first
13 embodiment, the first -- so, both Figures 1 and 2
14 refer to the first embodiment, yes.

15 Q. During our discussion, I'm going to
16 refer to Figures 1 and 2 as the first embodiment.
17 Okay?

18 A. Okay.

19 Q. And now I would like to go to
20 Column 7. Can you read the first sentence of
21 Column 7, please?

22 A. Sure. "The location and physical

1 conditioning" -- sorry, "The location and
2 physical condition monitoring system, which is
3 the second embodiment of the present invention,
4 will now be described referring to Figures 3
5 and 4.

6 Q. So, Figures 3 and 4 of Akai refer to
7 the same embodiment, correct?

8 MS. HOEKEL: Object to the form.

9 THE WITNESS: So, Figures 3 and 4
10 refer to the second embodiment, yes.

11 BY MS. LAM:

12 Q. And the second embodiment is
13 different from the first embodiment, correct?

14 MS. HOEKEL: Object to the form.

15 THE WITNESS: I believe so. It
16 wouldn't make any sense to have them be
17 exactly the same.

18 I recall that there is a difference,
19 yes, we can look at that, too.

20 It is my understanding that the word
21 embodiment, embodiment is one sort of
22 snapshot of the product or method. And the

1 second embodiment is the second way of
2 doing it.

3 BY MS. LAM:

4 Q. So, you would agree the second
5 embodiment is different from the first
6 embodiment?

7 MS. HOEKEL: Object to the form.

8 THE WITNESS: Yes, yes.

9 BY MS. LAM:

10 Q. And so I'm going to refer to
11 Figures 3 and 4 as the second embodiment in our
12 discussion. Is that okay?

13 A. Sure.

14 Q. And then let's go to Column 10. And
15 about Line 33 so, at Line 33 it says, "The third
16 embodiment of the present invention will now be
17 described by referring to Figure 5 and 6."

18 Do you see that?

19 A. I do, I see that.

20 Q. So, Figure 5 and 6 refer to a third
21 embodiment. Correct?

22 A. Correct.

1 MS. HOEKEL: Object to the form.

2 BY MS. LAM:

3 Q. And, Figure 5 and 6 illustrate a
4 different embodiment from the first embodiment.
5 Correct?

6 MS. HOEKEL: Object to the form.

7 THE WITNESS: Well, but by
8 definition they must be some difference
9 between the embodiments. So, yes, there is a
10 difference between embodiments, agreed.

11 BY MS. LAM:

12 Q. So, there is a difference between
13 the third embodiment and the first and second
14 embodiments. Correct?

15 A. That is my understanding, yes.

16 Q. And so I'm going to refer to
17 Figure 5 and 6 as the third embodiment. Is that
18 okay?

19 A. Okay.

20 Q. So, let's go to your declaration in
21 the '108 patent that was Tab 33. And if we could
22 go to Paragraph 94 on Page 48?

1 A. Okay, I am there.

2 Q. And so in the second sentence you
3 state that "Akai uses the term Measuring Unit to
4 describe several sensors, some of which are
5 attached directly to a patient and some that are
6 not."

7 Do you see that?

8 A. I do, yes.

9 Q. And in this sentence, you are
10 referring to the second embodiment shown in
11 Figures 3 and 4. Correct?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: Hold on. Which side
14 is -- show me again please, which are you
15 referring to, 3 and 4?

16 BY MS. LAM:

17 Q. So, this -- we can pull up the
18 citation that you are referring to.

19 But the question is in this second
20 sentence of Paragraph 94, you are referring to
21 the second embodiment. Correct?

22 MS. HOEKEL: Object to the form.

1 THE WITNESS: I don't recall if it
2 was the first, second, or third embodiment.
3 I don't recall which one is being referred to
4 here.

5 MS. LAM: Henry, maybe if we could
6 pull up Akai side-by-side, which is Tab 11A.

7 THE VIDEOGRAPHER: It broke up there
8 for a minute. Did you say Tab 11?

9 MS. LAM: 11A.

10 THE VIDEOGRAPHER: Oh, 11A, yes.

11 MS. LAM: And if we could go to
12 Column 8, Line 14.

13 BY MS. LAM:

14 Q. So, Dr. Bergeron, this is the
15 paragraph you cite to in your declaration for
16 Akai teaching some sensors attached directly to a
17 patient and some that are not.

18 A. Okay.

19 Q. So, in this paragraph, is Akai
20 referring to its second embodiment?

21 And you might need to pull the whole
22 page up on the screen.

1 A. Yeah, I can't tell. So, are you
2 waiting for me to respond to a question?

3 Q. Yes.

4 MS. HOEKEL: Do you know what the
5 question is?

6 MS. LAM: Do you want me to repeat
7 the question?

8 THE WITNESS: Yes, so you are asking
9 if it is version or Embodiment Number 2 in
10 this highlighted area?

11 BY MS. LAM:

12 Q. Yes. So, in the second sentence of
13 Paragraph 94, are you referring to the second
14 embodiment of Akai?

15 MS. HOEKEL: Object to the form.

16 THE WITNESS: I believe I am here,
17 yes.

18 BY MS. LAM:

19 Q. So, which sensors in the second
20 embodiment are not attached directly to the
21 patient?

22 A. So, the first, what is described

1 here are several sensors, or several measuring
2 units.

3 For example, an accelerometer,
4 Number 5, measuring unit, 213, comprising
5 acceleration usage for taking a person's body
6 movement, that would not be required to be
7 attached to the person's body, per se.

8 Q. Are all of the other sensors
9 directly attached to the body?

10 MS. HOEKEL: Objection to form.

11 THE WITNESS: Well Number 2 is
12 attached to the body. That is where it is --
13 it says, "Measuring unit, 213, comprises a
14 very thin-film resistor or thermistor, which
15 is attached to the person's body."

16 So, the thin-film attached to the
17 body, measuring unit, 213, attached to the
18 body.

19 Sorry, so, Paragraph 1 is attached
20 to the body. Extrapolated or strap in more
21 detail in Paragraph Number 2. Number 3 is
22 not attached to the body, apparently.

1 And the accelerometer in Paragraph 5
2 is not necessarily attached to the person's
3 body.

4 BY MS. LAM:

5 Q. Do you have anything else to add?

6 A. No.

7 Q. And so in your opinion, in
8 Paragraph 3, the Measuring Unit, 213, for
9 measuring the pulse wave, pulse rate or SpO2 is
10 not attached to the body?

11 A. Well, the way I read this
12 description, just reviewing it, is that the
13 pressure change transducer is not attached to the
14 person's body. It is actually attached to a, an
15 air-filled pad or an air-filled sort of inner
16 tube device that transmits the pressure pulse or
17 the pressure throughout the area under the, being
18 constricted.

19 So, but there is no direct contact
20 with the patient's body with the transducer.

21 Q. Where does it say that in
22 Paragraph 1?

1 A. In Paragraph 1?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Sorry, where does it
4 say what, in the Paragraph 1?

5 BY MS. LAM:

6 Q. The answer you were just providing,
7 was that with respect to Paragraph 1 or
8 Paragraph 3?

9 A. I'm not understanding that. What I
10 said was the --

11 Q. You just described a pressure change
12 transducer is not attached to the person's body,
13 it is actually attached to an air-filled pad.

14 A. Number 1 says a, it says "Measuring
15 unit, 213," just looking at Paragraph Number 1,
16 "includes a pressure detection transducer which
17 is connected to a gas-enclosing air-pad, or pad
18 made of flexible material attached to the
19 person's body and which is capable of detecting a
20 person's pulse wave or pulse rate and this
21 air-pad would be adapted to remove noise caused
22 by body movement or at least to lower it."

1 So, what is attached to the person's
2 body, is this flexible material. Not the
3 transducer.

4 So, there is a flexible air-pad
5 which it then shares a duct, I am assuming,
6 reading this, assume that the duct would be the
7 particular transducer, and that air-pad makes
8 contact with a particular object and if air is
9 transduced into the transducer, you feel it.

10 Q. So in your opinion the Measuring
11 Unit 213 described in Paragraph 1 is not directly
12 attached to the patient?

13 A. Attached to the patient? Not
14 directly, correct.

15 Q. Is the Measuring Unit 213 in
16 Paragraph 3 directly attached to the patient?

17 A. I believe it is, yes.

18 Q. And so looking back at Paragraph 94
19 of your declaration.

20 A. Okay.

21 Q. You also state that "A POSITA would
22 read Akai to suggest that each sensor that is

1 attached to the body is taped or clipped on a
2 body part separate from the wrist-mounted unit,
3 such as an EKC sensor or the SpO2 Sensor 112 shown
4 in Figure 1."

5 Do you see that?

6 A. I do.

7 Q. By EKC, did you mean EKG?

8 A. Yes.

9 Q. And in this sentence you are no
10 longer referring to the second embodiment.
11 Correct?

12 MS. HOEKEL: Object to the form.

13 THE WITNESS: I'm sorry, so, where
14 are we now? So, I think I'm getting lost in
15 the, which version, which embodiment, you
16 know, 1 and 2 is 1, 2 and 3 is 2, and 3 and 4
17 is 3. But which paragraph are we on now, in
18 the Akai patent?

19 BY MS. LAM:

20 Q. So, I think we discussed that
21 Figures 1 and 2 were the first embodiment,
22 Figure 3 and 4 were the second embodiment.

1 A. Yes.

2 Q. And if Figure 5 and 6 are the third
3 embodiment.

4 A. Okay, agreed. That sounds right.

5 Q. So, in this sentence that I had just
6 read in Paragraph 94 where you refer to the EKG
7 sensor, or the SpO2 Sensor 112 shown in Figure 1,
8 you are no longer referring to the second
9 embodiment of Akai; is that correct?

10 A. I believe that is correct. But just
11 as a note the EKG is just another way to write
12 ECG. And it should be, it should be ECG, but,
13 correct.

14 So, I believe this is the second
15 embodiment, yes.

16 Q. So, in this sentence when you refer
17 to an ECG or an EKG sensor, you are referring to
18 the second embodiment?

19 MS. HOEKEL: Object to the form.

20 THE WITNESS: I'm seeing Figure 1.

21 So, Figure 1 is part of the first embodiment,
22 right?

1 BY MS. LAM:

2 Q. Correct.

3 A. So, I believe that that pertains to
4 Figure 1, to the first embodiment. Because it is
5 Figure 1.

6 Q. So, this sentence referring to an
7 EKG sensor or the SpO2 Sensor 112 does not refer
8 to the second embodiment. Correct?

9 A. I think-

10 MS. HOEKEL: Objection to form.

11 THE WITNESS: I believe it pertains
12 to the first embodiment because it shows
13 Figure 1 here.

14 BY MS. LAM:

15 Q. Where does Akai mention taping a
16 sensor to the body?

17 A. Is the -- is Akai searchable? I
18 don't think it is. It is a PDF; is it a
19 searchable PDF.

20 MS. HOEKEL: Yes.

21 THE WITNESS: It is. Okay. I am
22 getting confused here with the different

1 versions and can't find the references.

2 So, your question, the pending
3 question is whether or not which version we
4 are quoting to now, which of the three
5 embodiments?

6 BY MS. LAM:

7 Q. The question was, where does Akai
8 mention taping a sensor to a body part?

9 A. And you are asking which of the
10 embodiments? Is it Embodiment Number 1, 2, or 3,
11 is that what you are asking?

12 Q. Yes, we will start there. Which
13 embodiment?

14 A. I can't find the word tape anywhere
15 in the Akai document, assuming the search is
16 working properly.

17 So, there is no mention at all of
18 taping or tape in the Akai document I have.

19 Q. And so the Akai document does not
20 mention taping?

21 MS. HOEKEL: Object to the form.

22 THE WITNESS: I don't recall if it

1 does, but I have done a search. It doesn't
2 show me tape as part of the document,
3 assuming this document is searchable. It
4 doesn't pull up the word tape, so it does not
5 occur in this document.

6 BY MS. LAM:

7 Q. Where does Akai mention ECG or EKG
8 sensor?

9 A. I don't see it. Do you want to
10 point me to the particular spot that you are
11 looking at? I can't see it on my document.

12 Q. I think it might spell it out as
13 electrocardiogram.

14 So, Column 11, Lines -- Line 21.

15 A. I see that, yes, an ECG or whatever,
16 an electrocardiogram also can be detected. I see
17 that.

18 Q. And if you look at the surrounding
19 language the electrocardiogram is described with
20 respect to the third embodiment of Figure 5
21 and 6. Correct?

22 A. I believe that is correct, yes.

1 Q. So, let's go to Paragraph 100 of
2 your declaration.

3 A. Let's see. Okay.

4 Q. Can you read the first three
5 sentences on Page 51?

6 A. Page 51, let's see. "Akai also
7 teaches an air-pad attached to a person's body
8 and a thin-film resistor attached to a patient's
9 body. Exhibit 1007, 5:7-9, 7:44-46, 8:14-17,
10 8:21-23. Each of these two devices would include
11 wires. Plus, it is my opinion that the SpO2
12 sensor 222, of the second embodiment attaches to
13 the finger like in Figure 1. "

14 Q. And can you please read the next
15 sentence?

16 A. "Thus, Akai taught at least five
17 devices and three wires on the person and that
18 doesn't even consider Akai's additional
19 suggestion that ECG sensors could also attach to
20 the patient (which would provide several more
21 wires and several more electrodes)."

22 Q. Is it your opinion that each of the

1 sensors in Akai's second embodiment are external
2 to the Measuring Unit 213?

3 MS. HOEKEL: Object to the form.

4 THE WITNESS: I believe that is
5 correct, yes.

6 BY MS. LAM:

7 Q. If each of the sensors are external,
8 the Measuring Unit 213 does not need to contact
9 the user's skin. Correct?

10 MS. HOEKEL: Object to the form.

11 THE WITNESS: Let's see, 213. Where
12 is 213?

13 Where are you reading from?

14 Which -- can I ask which document you are
15 reading?

16 BY MS. LAM:

17 Q. I'm just asking, so you just opined
18 that each of the sensors in Akai's second
19 embodiment are external to the measuring unit,
20 correct?

21 A. I believe that is the case, yes.

22 Q. So, if each of the sensors is

1 external, the measuring unit itself does not need
2 to contact the user's skin. Correct?

3 MS. HOEKEL: Object to the form.

4 THE WITNESS: I don't know if you
5 can derive that -- deduct that from just
6 those statements. I wouldn't say that is
7 necessarily so.

8 BY MS. LAM:

9 Q. So, does the Measuring Unit 213 need
10 to be in contact with the user's skin?

11 MS. HOEKEL: Object to the form.

12 THE WITNESS: 213. Hold on, let me
13 find the picture again. Can we pop the
14 picture up on the left-hand side?

15 MS. LAM: That is Tab 11A the Akai
16 reference.

17 THE VIDEOGRAPHER: Is there a
18 specific place you need me to --

19 THE WITNESS: Okay. So, I'm looking
20 at the figure. And the question is?

21 BY MS. LAM:

22 Q. Does the Measuring Unit 213 need to

1 contact the user's skin?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: It would depend on
4 what is being measured. So, if it is
5 measured, if it is measuring ESR, electronic
6 skin response or other responses need to be
7 tracked, or measured directly, yes.

8 If it is using an air-bellows, or
9 pouch to measure blood pressure, then, no.

10 So it would depend on what is being
11 measured.

12 BY MS. LAM:

13 Q. We can go back to Paragraph 100 on
14 Page 51.

15 A. Okay. Okay.

16 Q. And so if we go back to the first
17 two sentences at the top of Page 51?

18 A. Okay.

19 Q. You reference the air-pad and the
20 thin-film resistor and each of these two devices
21 would include wires.

22 A. I see that, okay.

1 Q. And it is your opinion that the
2 air-pad and thin-film resistor would be attached
3 on a body part separate from the wrist-mounted
4 unit. Correct?

5 A. Separate from the -- I'm not sure I
6 agree with that.

7 Q. And so if we could go to
8 Paragraph 94 of your declaration. And so, in the
9 sentence beginning with "Instead," you state that
10 "A POSITA would read Akai to suggest that each
11 sensor that is attached to the body is taped or
12 clipped on a body part separate from the
13 wrist-mounted unit."

14 A. Got it.

15 Q. So, is it your opinion that the
16 air-pad and thin-film resistors are attached on a
17 body part separate from the wrists-mounted unit?

18 A. No, I don't think so.

19 Q. Are you familiar with optical
20 fibers?

21 A. Somewhat, yes.

22 Q. And optical fibers transfer light.

1 Correct?

2 A. That is the purpose, yes. And data
3 over light, yes.

4 Q. And electrical wires cannot transfer
5 light. Correct?

6 A. Normally that is correct, yes.

7 Q. Okay. I would like to turn to your
8 declaration in the '735 patent that is Tab 34.

9 A. '735. 34, right? It is coming up.

10 Q. And if we could go to Paragraph 93.

11 A. Okay.

12 Q. You state that "Hospitalized
13 patients do not wear belts; they wear hospital
14 gowns."

15 Do you see that?

16 A. I do.

17 Q. And are you familiar with hospital
18 gowns?

19 A. I am.

20 Q. What do hospital gowns look like?

21 A. Typically they are open rectangle,
22 space for the arms in the front, and a tie in the

1 back so there are two strings or two strips in
2 the back which are tied. Allowing the gown to be
3 taken off easily or to be cleaned easily if a
4 person is say being given a bath in bed or they
5 have to use the pot or something in bed, it
6 allows access to the patient's backside and also
7 allows you to, on a larger patient, quick access
8 to any load-bearing wounds, pressure sores on the
9 patient's body without having to remove anything
10 which is restricting the body like a belt.

11 Q. And where are the strings located
12 that you mentioned?

13 A. In the back. So, there are a couple
14 of designs. Some come to the front like a, I
15 guess like an apron with a large, long string.
16 But a lot of them tie in the back with either one
17 or two sets of strings in the back depending on
18 the size of the gown and if it is made for a male
19 or a female. I believe the female has an extra
20 string on the top compared to the male and
21 sometimes they are just unisex, it depends on the
22 hospital.

1 Q. And so when you say strings in the
2 back, is that upper back or lower back?

3 A. Upper back.

4 Q. Do hospital gowns have wrist bands?

5 A. Wrist bands? Not that I'm aware of.
6 Most hospitals put bands on patient's wrists
7 anyway to identify them.

8 So, most hospitals have an ID system
9 which fits in the wrist which contains a plastic
10 tubing over an ID that identifies the unique
11 patient in the hospital.

12 So, usually that is separate from
13 the gown. It is a separate strap or, it is
14 actually clipped onto the person's wrist and it
15 can't be removed basically.

16 Q. Do hospital gowns have necklaces?

17 A. Necklaces? I have never seen a
18 hospital gown with a necklace.

19 Q. And so I will like to turn to
20 Paragraph 89 of your declaration.

21 A. Okay.

22 Q. And in this paragraph you mention

1 Moore's Law.

2 Do you see that?

3 A. I do, yes.

4 Q. What is Moore's Law?

5 A. At a high level, there is this guy,
6 Moore, who started Intel computers. And he made
7 an observation which was sometimes called a law
8 that the size of the components used to make
9 electronic devices, the chips, decreases over
10 time and the density of the packaging decreases
11 over time in such a way that there is sort of a
12 linear relationship between that density and the
13 time.

14 So that you could extrapolate
15 between say now and next year, what you would
16 expect things to be in terms of size, what an
17 observation, he looked at the last 20 or so years
18 and there is a graph, basically, a sort of a
19 linear decrease in, or increase in density of the
20 circuitry over time.

21 So, it is a way of projecting and
22 saying given Moore's Law given next year or the

1 next five years, we will have this much computing
2 power in the palm of our hand versus five years
3 ago.

4 So, it is sort of a way it is
5 describing the way computer technology has become
6 smaller and more dense and yet more powerful over
7 time.

8 Q. Does Moore's Law -- sorry.

9 Does Moore's Law apply to AA
10 batteries?

11 A. My understanding is that Moore's Law
12 applies to the transistors and the solid state
13 devices.

14 Q. So, Moore's law does not apply to AA
15 batteries, correct?

16 A. I'm not sure. Because there is, I
17 don't know if it is called Moore's Law, but there
18 is a similar observation in batteries. I don't
19 know whether it is related to Moore or relating
20 to someone else.

21 But there is also the same kind of
22 path looking at battery technology over time.

1 And that is what people are looking at. For
2 example, with the Tesla and other companies that
3 are working on the battery technology.

4 You could extrapolate the battery
5 density over time using the same idea.

6 So there is the equivalent of that
7 in batteries today, using, for example, lithium
8 ion instead of what acid of 20 years ago.

9 And this is also seen as the way
10 that devices will be smaller and more powerful
11 over time; it is the battery, there tends to be a
12 lag behind in silicon in terms of how fast you
13 can compress it, the size.

14 Q. But that is not Moore's Law,
15 correct?

16 A. Moore's Law specifically is applied
17 to silicon devices or also solid-state devices.

18 Q. Have AA batteries shrunk in size
19 since 2002?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: That doesn't actually
22 make any sense. AA batteries describes the

1 size of a battery. So, what has happened
2 over the years is if you take a AA battery
3 and cut it in half, you will see more and
4 more there is more air space than there was
5 years ago.

6 So, AA is a standard size; it is not
7 density. But the density of the AA battery
8 has changed over the last 20 years if you
9 open up a AA today, it is probably a AAA
10 battery is shown in it because it is a more
11 denser than it used to be.

12 So to answer your question, the
13 density has increased but you are asking me
14 about the standard size. The standard size
15 hasn't changed, but it is a definition of
16 size.

17 BY MS. LAM:

18 Q. So, the standard AA batteries have
19 not changed in size since 2002?

20 MS. HOEKEL: Objection to form.

21 THE WITNESS: It can't change in
22 size because a AA battery by definition has a

1 size, a physical size. It is a standard.

2 So, a AA battery is by definition a certain
3 height and a certain diameter.

4 So, the standard has not changed.

5 The AA battery is still a AA battery.

6 BY MS. LAM:

7 Q. Does Moore's Law apply to ports?

8 MS. HOEKEL: Object to the form.

9 THE WITNESS: To the extent that the
10 ports exist on a chip and are made of
11 silicon, yes.

12 BY MS. LAM:

13 Q. Does Moore's Law apply to USB ports?

14 MS. HOEKEL: Object to the --

15 THE WITNESS: I don't think so, no.

16 I would say no.

17 BY MS. LAM:

18 Q. Is a USB Type A port today the same
19 size as a USB Type A port from 2002?

20 MS. HOEKEL: Object to the form.

21 THE WITNESS: It is, again are you
22 asking about a size standard.

1 So, the size standard has not, the
2 size standard has not changed over time, as
3 far as I know. I have never heard of one
4 change.

5 So, the standard USB size is, by
6 definition, is the same size as it always has
7 been and always theoretically will be.

8 BY MS. LAM:

9 Q. Does Moore's Law apply to air pumps?

10 MS. HOEKEL: Object to the form.

11 THE WITNESS: Air pumps. If you are
12 talking about traditional or standard air
13 pumps, they pump, they pump air, not that I
14 know of.

15 BY MS. LAM:

16 Q. So, let's turn to Paragraph 91 of
17 your declaration.

18 A. Okay.

19 Q. In this paragraph you provide
20 examples of wrist-worn devices, correct?

21 A. That's correct, yes.

22 Q. So, I would like to introduce

1 Exhibit 1058 from the IPR related to the '735
2 patent that is at Tab 42B as in boy.

3 (Bergeron Exhibit 1058, '735
4 marked for identification.)

5 BY MS. LAM:

6 Q. Do you recognize this exhibit?

7 A. Yes. It is a Amazon page showing a
8 Invicta Men's Pro Diver Watch.

9 Q. And you relied on this exhibit in
10 your declaration?

11 A. Yes.

12 Q. And the watch in this reference is
13 used for water sports. Correct?

14 MS. HOEKEL: Object to the form.

15 THE WITNESS: I think that is how it
16 is marketed at least, yes.

17 MS. LAM: I would like to look at
18 Exhibit 1059 to the IPR related to the '753
19 patent and that is Tab 43B as in boy.

20 (Bergeron Exhibit 1059, '753
21 marked for identification.)

22 BY MS. LAM:

1 Q. Do you recognize this exhibit?

2 A. I do, yes.

3 Q. And what do you recognize it to be?

4 A. It is an iKey wearable wrist
5 keyboard.

6 Q. And did you rely on this in your
7 declaration?

8 A. I did, yes.

9 Q. And the wearable keyboard in this
10 reference is used in a military setting.
11 Correct?

12 A. That is my understanding, yes.

13 MS. LAM: And I would like to
14 introduce Exhibit 1045 from the IPR related
15 to the '735 patent. That is at Tab 40B as in
16 boy.

17 (Bergeron Exhibit 1045, '735
18 marked for identification.)

19 BY MS. LAM:

20 Q. Do you recognize this exhibit?

21 A. Yes, it is another Amazon page from
22 an advertisement within Amazon and shows a

1 arm/wristband holder for an iPhone, iPhone or
2 other smartphone for use with exercising.

3 Q. And you relied on this exhibit in
4 your declaration?

5 A. I did, yes.

6 Q. And in this exhibit there is only
7 one cell phone attached to the arm band.
8 Correct?

9 A. Only one -- well there is a picture
10 of two iPhones. One is attached to the arm; one
11 is attached to the wrist.

12 Q. But on a single device there is only
13 one cell phone shown. Correct?

14 A. Correct. Yes.

15 Q. And, you mentioned that this device
16 is used for running. Correct?

17 A. Or exercise. Sometimes exercise,
18 yes.

19 Q. And in examples we have just
20 discussed in Exhibits 1058 and 1059, and 1045,
21 none of these examples are described as being
22 used in a hospital setting. Correct?

1 A. That is correct.

2 MS. LAM: So now I would like to
3 introduce Exhibit 1057 from the IPR related
4 to the '753 patent that is at Tab 41B as in
5 boy.

6 (Bergeron Exhibit 1057, '753
7 marked for identification.)

8 BY MS. LAM:

9 Q. And do you recognize this exhibit?

10 A. I do, yes.

11 Q. And what do you recognize it to be?

12 A. This is a Patent 4,883,055.
13 Artificially Induced Blood Pulse For Use With a
14 Pulse Oximeter.

15 Q. And you relied on this exhibit in
16 preparing your opinions?

17 A. I did.

18 Q. And so I'm going to call this a
19 Merrick reference.

20 A. Okay.

21 Q. And you provided Merrick as an
22 example of a pulse oximetry cuff, correct?

1 A. It is a type of pulse oximeter, yes.

2 Q. And the pulse oximeter includes a
3 cuff?

4 A. This is a cuff, yes, I believe this
5 is Number 10 on this figure.

6 Q. Is Merrick's cuff noninvasive?

7 A. I can call it minimally invasive.

8 Q. Why would you call it --

9 A. It doesn't break the skin. So, if
10 it is something that breaks the skin, it is
11 invasive, definitely. But it is minimally
12 invasive because it causes, in my opinion it
13 would cause pain to the user in a normal use.

14 Q. And Merrick's cuff does not break
15 the skin?

16 A. Does not. So I consider it to be
17 noninvasive in terms of that definition. It
18 would not break the skin, so it is noninvasive.
19 But it would be, I would say again it would be
20 minimally invasive because of the nature of the
21 cuff and how it would cause pain to the user.

22 Q. And does Merrick's pulse oximeter --

1 let me rephrase.

2 Is Merrick's pulse oximeter
3 light-based?

4 A. Is it light-based? It is the --
5 based on -- as I recall, I need to see the rest
6 of the patent.

7 But based on Figure 1 I recall I
8 believe that there was a pressure transducer in
9 continuity with the cuff.

10 Q. If we could turn to Column 2 of this
11 reference. And do you see Claim 1 at the bottom?

12 A. Again, let me move my, yes, let me
13 move the pictures out of the way of the icons of
14 our body here, okay.

15 Yes, this uses the traditional two
16 wavelength light method of determining the blood,
17 or the oxygenation. So this uses light.

18 Q. Okay. So, Merrick's pulse oximeter
19 uses light?

20 A. Correct.

21 Q. Have you ever seen a commercial
22 version of Merrick's pulse oximeter?

1 A. No, I haven't.

2 MS. LAM: I think I would like to
3 take a short break here.

4 MS. HOEKEL: Okay, ten minutes.

5 MS. LAM: Yes.

6 THE VIDEOGRAPHER: Okay, stand by,
7 please. The time is 4:11 p.m. Off the
8 record.

9 (Recess taken -- 4:11 p.m.)

10 (After recess -- 4:22 p.m.)

11 THE VIDEOGRAPHER: The time is
12 4:22 p.m. Back on the record.

13 BY MS. LAM:

14 Q. I would like to introduce
15 Exhibit 1008 in the IPR for the '735 patent that
16 is at Tab 12B as in boy.

17 (Bergeron Exhibit 1008, '735
18 marked for identification.)

19 BY MS. LAM:

20 Q. Do you recognize this exhibit?

21 A. Yes, it is the Money exhibit.
22 Patent 5,919,141.

1 Q. And you relied on this exhibit in
2 preparing your opinions for these IPRs?

3 A. I did.

4 Q. Let's take a look at Figure 1. And
5 Figure 1 is a block diagram of Money's monitoring
6 device. Correct?

7 A. I believe that is the definition,
8 yes.

9 Q. Do you see the pump for the Blood
10 Pressure Interface Circuit, 25?

11 A. I do. It is about mid-level on the
12 left-hand side.

13 Q. Do you see any other pump in this
14 diagram?

15 A. No, I don't.

16 Q. So, now I would like to turn to
17 Figure 2C. And Figure 2C shows a partial circuit
18 diagram of Money's device. Correct?

19 A. I will have to check the patent if
20 that is the definition, but it sounds right.

21 Q. Did you consider Figure 2C in
22 preparing your declaration?

1 A. I did.

2 Q. And is that referenced in your
3 declaration anywhere?

4 A. Two C specifically or the Money, the
5 Money is definitely referenced. I can search for
6 Figure 2C if you want. But you might -- if you
7 already know, I will take your word for it or if
8 not I'll search for it.

9 Q. Go ahead and search.

10 A. No 2C referenced.

11 Q. So, Figure 2C of Money is not
12 referenced in your declaration?

13 A. Not by that name; I don't recall
14 referencing it by any other name. So, no.

15 Q. So, looking at Figure 2C do you see
16 the item labeled 16 in this diagram?

17 A. I do.

18 Q. And Money refers to this item as a
19 serial debug and programming port or an external
20 debug programming port. Correct?

21 A. Correct.

22 Q. What does the DB-9 next to Item 16

1 in this diagram mean?

2 A. What does it mean? That is a type
3 of connector.

4 Q. And is that an external connector?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: I can't tell from this
7 diagram. This is a circuit diagram which
8 shows the electrical connection, not the
9 physical connection.

10 BY MS. LAM:

11 Q. Could the DB-9 port be an external
12 port?

13 MS. HOEKEL: Object to the form.

14 THE WITNESS: This doesn't tell
15 either internally or externally. It could be
16 either.

17 BY MS. LAM:

18 Q. Is the DB-9 port a physical port?

19 MS. HOEKEL: Shannon, you broke up
20 there.

21 BY MS. LAM:

22 Q. Is the DB-9 port a physical port?

1 MS. HOEKEL: Objection.

2 THE WITNESS: That is my

3 understanding, yes. DB-9 is a standard piece
4 of hardware.

5 BY MS. LAM:

6 Q. Do you see the item labeled 34 in
7 this diagram?

8 A. 34. Give me a second. Okay, yes,
9 34, yes.

10 Q. And do you see the J1 next to item
11 34?

12 A. I do.

13 Q. What does J1 mean?

14 A. Typically in a diagram like this J
15 is jacks. It is supposed to be a 30 pin jack,
16 for example.

17 Q. Item 34 shows a set of pins?

18 A. Right. So it is a set of, it would
19 be, in this case it would be a set of 30
20 connectors, wires, jacks. As opposed to a, some
21 other number of connections. So, this is J2 has
22 five pins and J1 has 30 pins.

1 Q. And a jack is a physical connector?

2 A. Yes.

3 Q. And then Item 34, there are
4 Numbers 1 to 30. Correct?

5 A. Correct, yes.

6 Q. And what do each of those numbers
7 mean?

8 A. Pin numbers.

9 Q. And Pins 1 to 9 are connected to the
10 external debug programming Port 16. Correct?

11 A. This is the one I can't tell in this
12 diagram is connected to DB-9 which is labeled 16,
13 whether or not it is external I can't tell from
14 this diagram. Again, it doesn't tell me whether
15 it is external or internal, but it is connected
16 to a DB-9, Connector 16.

17 Q. So, Pins 1 to 9 are connected to the
18 DB-9?

19 A. Actually Pins 2, 4, 5, 6, 7, 8,
20 and 9. Pins 1 and 3 are not.

21 Q. And Pins 21 and 22, those are
22 connected to the SpO2 data in and SpO2 data com

1 out lines, correct?

2 A. Well those are labeled as the SP
3 data in and SP data com out lines.

4 Q. So, the diagram in Figure 2C shows
5 that the DB-9 Port 16 is connected to Pins 2
6 and 4 through 9 and the SpO2 data in and SpO2 com
7 out lines go to different Pins 21/22.

8 Is that accurate?

9 A. Well, that is not making small or
10 nothing, but it labels 21 and 22 are labeled as
11 SpO2 data in or SpO2 out. So, data in and com
12 out.

13 This doesn't tell me direction. You
14 are saying, I don't know if you said from or to
15 or whatever, but those are the lines.

16 Line 21 is the SpO2 data input line,
17 or pin and Pin 22 is the SpO2 com out pin, on
18 Jack 1.

19 Q. But the question was, though, Pins
20 21, 22 which are labeled SpO2 data in and SpO2 com
21 out are different pins than the pins connected to
22 the DB-9. Correct?

1 A. Different pins? Sure, so, each of
2 these, each of the pins on the jack are uniquely
3 labeled. There are 30 pins on this Jack 1, J1.
4 And each pin is a, each number of pin is a
5 separate connection. It can be a separate
6 connection electrically.

7 And so, yes, Pins 21 and 22 have
8 nothing to do with the top nine pins. They are
9 separate. Each pin is separate in this jack.

10 Q. Do you see the collection of items
11 collectively labeled as 17 in this diagram?

12 A. 17. Yes. I do. The box to the
13 left center.

14 Q. And Money refers to Item 17 as a
15 serial data I/O interface unit. Correct?

16 A. I'm not sure. I would have to check
17 the patent. But, if you say that is what it is
18 called, that would make sense. I will accept
19 that, I will go with that.

20 Q. So, that is at Column 6, Line 15 if
21 you wanted to reference it.

22 THE VIDEOGRAPHER: Let me know if

1 you want me to go there in this document.

2 THE WITNESS: Let's leave the
3 schematics up so I can see it. So, let's
4 see, Money was exhibit which?

5 BY MS. LAM:

6 Q. Tab 12B.

7 A. That is, let me review something --
8 okay, there we go, there it is. Okay. It popped
9 up. And tell me it was lines please --

10 Q. Column 6, Line 15.

11 A. Yes, okay, correct. You are correct
12 in that item location is 17. Yes.

13 Q. And so Item 17 is a serial data I/O
14 interface unit. Correct?

15 A. Correct.

16 Q. And Item 17 also appears in
17 Figure 1. Is that correct?

18 A. Let me check.

19 MS. LAM: Henry, if we could put
20 Figures 1 and 2C side-by-side.

21 THE WITNESS: Okay, sorry. My
22 system is getting slower and slower as the

1 day goes on. So, I see 17 on the right and
2 17 on the left, yes.

3 BY MS. LAM:

4 Q. So, Item 17 appears in both
5 Figures 1 and Figures 2C?

6 A. Correct.

7 Q. And in the diagram of Figure 2C,
8 some lines from certain pins of Item 34 go into
9 Serial Data I/O Interface Unit 17. Correct?

10 A. Yes.

11 Q. So, the lines labeled SpO2 data in
12 and SpO2 com out from Pins 21 and 22, go into the
13 Serial Data I/O Interface Unit 17. Correct?

14 A. Correct.

15 Q. And, lines from Pin 7, or, lines
16 from Pins 6 to 9 of Serial Port 16 also go into
17 the Serial Data I/O Interface Unit 17, correct?

18 A. 6 to 9 of, say that again, please.

19 Q. So, Pins 6 to 9 of, Pins 6 to 9 of
20 Item 34 go into the Serial Data I/O Interface
21 Unit 17. Correct?

22 A. Correct. I think before you asked

1 me about 16 which wasn't really mapped that way.

2 But, yes.

3 Q. And that Pins 6 to 9 of Item 34 go
4 into the Serial Data I/O Interface Unit 17.

5 A. Correct. Yes.

6 Q. And in Figure 1, Serial Port 16 and
7 SpO2 24 are connected to the Serial Data I/O
8 Interface Unit 17. Correct?

9 A. Hold on here. So, let's start with
10 the first one again? Which item?

11 Q. Serial Port 16 is connected to the
12 Serial Data I/O Interface Unit 17, correct?

13 A. Correct through J1.

14 Q. And that is shown in Figure 1,
15 correct?

16 A. That is shown in Figure 2, actually.

17 Q. Okay. But, Figure 1 shows the
18 Serial Port 16 connected to the Serial I/O
19 Interface 17. Correct?

20 A. It does, yes.

21 Q. And Figure 1 also shows the SpO2 24
22 connected to the Serial I/O Interface. Correct?

1 A. It does, yes.

2 Q. And so, going back to Figure 2C, do
3 you see the item labeled 35 in this diagram?

4 A. Yes.

5 Q. And, Money refers to Item 35 as a
6 Serial Data I/O Driver.

7 Correct?

8 A. That sounds right.

9 Q. And the Serial Data I/O Driver 35 is
10 included in the Serial Data I/O Interface
11 Unit 17. Correct?

12 A. That is correct. Yes.

13 Q. And Pins 6 to 9 in Item 34 connect
14 to the Serial Data I/O Driver 35. Correct?

15 A. Hold on. You said, Items 6 to 9 of
16 Item 35?

17 Q. Pins 6 to 9 in Item 34.

18 A. 34.

19 Q. Connect to the Serial Data I/O
20 Driver, 35. Correct?

21 A. Correct, yes.

22 Q. Do you see the item labeled 36 in

1 this diagram?

2 A. I do.

3 Q. And Money refers to Item 36 as a
4 Serial Port Switch. Correct?

5 A. I could search. But I will assume
6 that is right. It looks right. This is the
7 right place, okay.

8 Q. What does a serial port switch do?

9 A. Well let me look it up. But in
10 general serial port switch is a way of sharing a
11 serial port.

12 So, serial ports are very costly to
13 make on a chip. It takes a lot of space and so
14 you don't have many of them typically. You
15 switch or multiplex those ports.

16 So, you put more data than you have
17 lines on one side of the switch and then you
18 switch, using a clock, to the different things
19 are being signaled in port and then using time to
20 track which pins would be affected at which time
21 have data that will go through all of those ports
22 put on a single wire, a single wire output.

1 So, you have the example of the pin,
2 Pin Y2, for example. Data on the input from the
3 left-hand side, depending on how it is columned.
4 So, it is a way of switching the multiple inputs
5 to a lower number of output pins.

6 Q. So, a serial port switch allows for
7 switching between different physical ports to
8 alternately connect those physical ports to the
9 processor serial port?

10 MS. HOEKEL: Object to the form.

11 THE WITNESS: Same thing, yes.

12 BY MS. LAM:

13 Q. And do you see Pins Y2 and Y3 on
14 this Serial Port Switch 36?

15 A. I do.

16 Q. And Y2 and Y3 are connected to
17 Pins 21 and 22 on Item 34. Correct?

18 A. That is correct, yes.

19 Q. And Pins 21 and 22 are labeled SpO2
20 data in and SpO2 com out. Correct?

21 A. That is correct, yes.

22 Q. And do you see Pins Y0 and Y1 on the

1 Serial Port Switch 36?

2 A. I do. Yes.

3 Q. And Y0 and Y1 are connected to the
4 Serial Data I/O Driver 35. Correct?

5 A. That is correct, yes.

6 Q. So, this serial port switch allows
7 switching between the Serial I/O Driver 35 and
8 the SpO2 Pins 21, 22, correct?

9 A. It is actually switching the Z and
10 the E lines, so that it is, it is allowing the
11 large number of pins on the left-hand side to
12 talk to the pins on the right-hand side.

13 Q. Okay. I would like to go back to
14 your declaration for the '735 patent.

15 A. Okay. Okay.

16 Q. Sorry, actually if we could go back
17 to Money in the Figure 2C again.

18 A. One second. There you go, okay.

19 Q. So, is it your opinion that the
20 Serial Port Switch 36 does not allow for
21 switching between the Serial I/O Driver 35 and
22 the SpO2 pins?

1 MS. HOEKEL: Object to the form.

2 THE WITNESS: I am saying I think we
3 are probably saying the same thing.

4 I'm saying that it is a switch
5 allowing multiple inputs and outputs to
6 connect to a smaller number of wires. That
7 is the whole purpose of the switch.

8 It is called a multiplexer of a
9 switch, it allows sharing of, in this case
10 the through lines with multiple, multiple
11 inputs.

12 Wait, let me just -- let me find the
13 reference in the Money itself.

14 Are you reading from a particular
15 area in Money where I can just go to it or do
16 you want me to search to see where we are
17 talking about.

18 BY MS. LAM:

19 Q. No I'm not reading from a particular
20 area.

21 So you agree that the Serial Port 36
22 does allow for switching between the Serial I/O

1 Driver 35 and the SpO2 pins?

2 MS. HOEKEL: Object to the form.

3 THE WITNESS: Just it is the way you
4 are saying it. It is just that the SpO2
5 pins, if you are talking about the SpO2 pins
6 on the right-hand side, which are 21 and 22
7 of Jack 1, those are connected to the Switch
8 Y2 and Y3 at all times. Right.

9 So, they are connected together.
10 There is nothing changing. That is the
11 static connection.

12 So, in that respect, it does allow
13 them to talk to those two ports.

14 BY MS. LAM:

15 Q. So, does the Serial Port Switch 36
16 allow for switching between Y0, Y1 and Y2 and Y3?

17 A. That is part of the switching, yes.
18 If you are looking at paragraph, or Column 7 of
19 Money down to Lines 57 or so, this says, "Further
20 illustrated in Figure 2, the serial and data
21 input and output port of Processors 14 is
22 electrically connected to a Serial Port Switch 36

1 which directs the RS-232 port on Processor 14 to
2 either external debug/programming port 16, or to
3 serial data received from pulse oximetry
4 transducer 39."

5 So it is provided a switch between
6 changing modes. It is saying do we want it to
7 monitor the pulse oximetry device or are we in
8 debug mode. That is the way I read this
9 description.

10 And depending on the mode, it puts
11 the data onto Y2Y3 which is the data in and out
12 or we switch over to the chip on the top of 35.
13 Which is connected to the DBI connector which is
14 the debugging port.

15 So depending on the mode you have to
16 go to the Jack 1, 21 and 22 or pins 21 and 22 are
17 in debug mode Y0 and Y1 goes through that U3 or 4
18 which is labeled 35 and the output goes to, it is
19 the output on the Pins 7, 14, and 13 with respect
20 to the Table 1 and Pins 7, 8, and 9 which go to
21 the DNI factor.

22 Q. So now let's go back to your

1 declaration for the '735 patent?

2 A. Okay.

3 Q. Do you know what the legal standard
4 is for whether a reference is analogous art?

5 MS. HOEKEL: Object to the form.

6 THE WITNESS: The legal standard?

7 I'm not an attorney, so I would say no. All
8 I know is what the attorney told me relative
9 to this case. So, I'm sure there is a lot
10 involved that I am not aware of.

11 BY MS. LAM:

12 Q. Is the legal standard for analogous
13 art provided for in your declaration?

14 A. I believe I put a paragraph in there
15 about that, I believe so. Let me search.

16 Q. Can you show me where?

17 A. So, let's see. I mentioned a step
18 or a stay or whatever is an R -- sorry, it is in
19 Paragraph 100.

20 But you are asking me for a legal
21 discussion of what an RSR is, an analogous law
22 is.

1 Q. Yes. Does Paragraph 100 set forth
2 the legal standard for whether a reference, for
3 how to determine whether a reference is analogous
4 art?

5 A. It does not.

6 Q. Did you apply the correct legal
7 standard for determining whether a reference is
8 analogous art?

9 A. I believe I did, because the
10 attorneys checked over this document. But, as I
11 recall in discussing this analogous art issue, is
12 it is a Venn diagram where you have a reference
13 and another reference and basically the Venn
14 diagram should fit snugly over the two, so, it is
15 a complete overlap in terms of what is contained
16 in the first one.

17 So, analogous art would be art that
18 doesn't add anything new to the discussion. But
19 that it has, it provides the examples, further
20 examples to illustrate the point involved, but it
21 doesn't add anything new.

22 Again, not an attorney, just sort of

1 paraphrasing what I recall at this time. But I
2 do recall having discussions with the attorneys
3 over what constituted analogous art.

4 I don't recall writing a paragraph
5 in this declaration describing that standard.

6 MS. LAM: Okay. I think we are
7 almost ready to wrap. If we could just take
8 a slightly longer break.

9 THE WITNESS: Sure.

10 THE VIDEOGRAPHER: All right, stand
11 by, please. The time is 4:56 p.m. Going off
12 the record.

13 (Recess taken -- 4:56 p.m.)

14 (After recess -- 5:12 p.m.)

15 THE VIDEOGRAPHER: We are back on
16 the record. The time is 5:12 p.m.

17 MS. LAM: We have no further
18 questions.

19 MS. HOEKEL: I have just a couple of
20 follow up questions.

21 If we can pull up the Akai reference
22 which I should have looked up the Exhibit

1 Number, Tab 11A Exhibit 1007.

2 EXAMINATION

3 BY MS. HOEKEL:

4 Q. And Dr. Bergeron, you recall you
5 were asked some questions about the various
6 embodiments of this Akai reference?

7 A. Yes.

8 Q. I'm going to ask you to look at,
9 first let's go to Column 6 on Page 4 of the
10 document. The paragraph that starts with The
11 Mechanism of Sensor Unit 112.

12 Do you see that?

13 A. I do.

14 Q. And it says, "Namely sensor 112 may
15 comprise means for detecting vital signs other
16 than blood glucose levels, such as pulse wave,
17 oxygen saturation in the arterial blood (SpO2)."

18 Do you see that?

19 A. I do, yes.

20 Q. And if we could look at Figure 1 of
21 Akai, which is on Page 14.

22 Do you see the mechanism of Sensor

1 Unit 112 pictured on Figure 1?

2 A. I do.

3 Q. And what is that pointing at in
4 Figure 1?

5 A. The 112 would be the sensor, the SpO2
6 sensor.

7 Q. And then if we look at Page 5 of the
8 PDF at Column 7 -- at the top do you see that it
9 says, "The second embodiment is described in
10 Figures 3 and 4"?

11 A. Hold on.

12 Q. At the top of Column 7.

13 A. Yes, okay.

14 Q. And then it says, "Monitoring
15 system 210 comprises Monitoring Unit 212 attached
16 to the body of the person being monitored."

17 Do you see that?

18 A. I see that.

19 Q. Let's go to Figure 3 which is on
20 Page 16. And do you see that there is a Unit 212
21 which the specification refers to as the
22 monitoring unit?

1 A. I do, yes.

2 Q. And do you see an SpO2 sensor
3 depicted in detail in Figure 3?

4 A. No, I don't.

5 Q. Okay. And if we go to Figure 4A,
6 which is on the next page, do you see it says SpO2
7 Sensor 222 --

8 A. I do, yes. 222, yes.

9 Q. And that is within the Monitoring
10 System of 210. Do you see that?

11 A. Yes.

12 Q. So, the second embodiment includes
13 in Figure 4 the call-out of an SpO2 sensor,
14 correct?

15 MS. LAM: Objection.

16 THE WITNESS: I see the SpO2 sensor
17 in this diagram labeled as 222.

18 BY MS. HOEKEL:

19 Q. When we look at Figures 3 and 4A,
20 does it show the location of the SpO2 sensor on
21 the body?

22 MS. LAM: Objection.

1 THE WITNESS: Looking back up to
2 Figure 3, sorry, let's compare it to
3 Figure 4A, your question is about Figure 3
4 and 4A, correct?

5 BY MS. HOEKEL:

6 Q. Correct.

7 MS. HOEKEL: Henry, if you can also
8 pull up Figure 3.

9 THE WITNESS: Okay. And so, the
10 question was?

11 BY MS. HOEKEL:

12 Q. Looking at Figures 3 and 4A, does it
13 show the location of the SpO2 sensor on the body?

14 MS. LAM: Objection.

15 THE WITNESS: Well, the, at a higher
16 level the Figure 3 shows the Figure 213 which
17 is a measuring unit, which is pointed out to
18 in the Figure 3 on the left-hand side. The
19 measuring unit component of the monitoring
20 unit here on the wrist.

21 BY MS. HOEKEL:

22 Q. Okay. And, where would I look,

1 where would a POSITA locate the SpO2 sensor of the
2 second embodiment?

3 MS. LAM: Objection.

4 THE WITNESS: Typically it is
5 located on the finger tip or the ear lobe.
6 But as I recall these figures are cumulative.
7 In other words so that the details in the
8 previous images are understood to be part of
9 the later images.

10 So, in other words, the details
11 might be shown early on, but then dropped out
12 of the higher level block diagrams shown
13 later. But they are still to be incorporated
14 in those figures.

15 MS. HOEKEL: I have no further
16 questions. Thank you Dr. Bergeron. I pass
17 the witness back to Ms. Lam.

18 MS. LAM: Could I get ten minutes.

19 MS. HOEKEL: Sure.

20 THE VIDEOGRAPHER: All right. The
21 time is 5:18 p.m. Off the record.

22 (Recess taken -- 5:18 p.m.)

1 (After recess -- 5:24 p.m.)

2 THE VIDEOGRAPHER: The time is

3 5:24 p.m. We are back on the record.

4 FURTHER EXAMINATION

5 BY MS. LAM:

6 Q. Dr. Bergeron, did you have any
7 discussions with counsel during the breaks about
8 these IPRs?

9 A. No.

10 MS. LAM: No further questions.

11 MS. HOEKEL: No further questions
12 here, either.

13 THE VIDEOGRAPHER: This marks the
14 end of today's deposition. The time is
15 5:24 p.m.

16 (Whereupon, signature not having been
17 waived, the deposition ended at 5:24 p.m.)

18 * * *

19

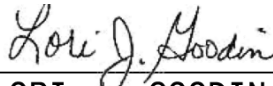
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22

1 CERTIFICATE OF COURT REPORTER

2 I, LORI J. GOODIN, RPR, CLR, CRR,
3 CA CSR # 13959, the reporter before whom the
4 foregoing deposition was taken, do hereby certify
5 that the witness whose testimony appears in the
6 foregoing deposition was sworn by me; that the
7 testimony of said witness was taken by me in
8 machine shorthand and thereafter transcribed by
9 computer-aided transcription; that said
10 deposition is a true record of the testimony
11 given by said witness; that I am neither counsel
12 for, related to, nor employed by any of the
13 parties to the action in which this deposition was
14 taken; and, further, that I am not a relative or
15 employee of any attorney or counsel employed by
16 the parties hereto, or financially or otherwise
17 interested in the outcome of this action.

18 

19 LORI J. GOODIN, RPR, CLR, CRR
20 Notary Public in and for:

21 STATE OF FLORIDA, COUNTY OF SARASOTA
22 Notary Commission Number: GG987804

My Commission expires: May 12, 2024

STATE OF CALIFORNIA, CA CSR# 13959

My Commission expires: February 22, 2022

STATE OF MARYLAND, COUNTY OF ANNE ARUNDEL

My Commission expires: August 2, 2021

DISTRICT OF COLUMBIA, WASHINGTON DC

My Commission expires: May 31, 2026

COMMONWEALTH OF VIRGINIA, COUNTY OF FAIRFAX

My Commission expires: February 28, 2022

STATE OF DELAWARE: COUNTY OF KENT

My Commission expires: October 9, 2021

STATE OF PENNSYLVANIA, COUNTY OF LEHIGH

My Commission expires: April 5, 2025

1 Bryan Bergeron, Ph.D., c/o
HUSCH BLACKWELL, LLP

2 190 Carondelet Plaza, Suite 600
Saint Louis, Missouri 63105

3

Case: Sotera Wireless, Inc. v. Masimo Corp.

4 Date of deposition: June 9, 2021

Deponent: Bryan Bergeron, Ph.D.

5

6 Please be advised that the transcript in the above
referenced matter is now complete and ready for signature.

7 The deponent may come to this office to sign the transcript,
8 a copy may be purchased for the witness to review and sign,
9 or the deponent and/or counsel may waive the option of
10 signing. Please advise us of the option selected.

11 Please forward the errata sheet and the original signed
12 signature page to counsel noticing the deposition, noting the
13 applicable time period allowed for such by the governing
14 Rules of Procedure. If you have any questions, please do
15 not hesitate to call our office at (202)-232-0646.

16

17

18 Sincerely,

19 Digital Evidence Group

20 Copyright 2021 Digital Evidence Group

21 Copying is forbidden, including electronically, absent
22 express written consent.

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2 Washington, D.C. 20036
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3
4 SIGNATURE PAGE
Case: Sotera Wireless, Inc. v. Masimo Corp.
5 Witness Name: Bryan Bergeron, Ph.D.
Deposition Date: June 9, 2021

6
7 I do hereby acknowledge that I have read
and examined the foregoing pages
of the transcript of my deposition and that:

8
9 (Check appropriate box):
() The same is a true, correct and
10 complete transcription of the answers given by
me to the questions therein recorded.
11 () Except for the changes noted in the
attached Errata Sheet, the same is a true,
12 correct and complete transcription of the
13 answers given by me to the questions therein
14 recorded.

15
16 _____
17 DATE WITNESS SIGNATURE
18
19
20
21 _____
22 DATE NOTARY

1 Digital Evidence Group, LLC
2 1730 M Street, NW, Suite 812
3 Washington, D.C. 20036
4 (202) 232-0646
5

6 ERRATA SHEET
7

8 Case: Sotera Wireless, Inc. v. Masimo Corp.

9 Witness Name: Bryan Bergeron, Ph.D.

10 Deposition Date: June 9, 2021

11 Page No. Line No. Change
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21 _____
22 Signature Date