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STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ABBOTT LABORATORIES AND
ABBOTT DIABETES CARE INC.,
Petitioner,
v.
ALTIVERA LLC,
Patent Owner,

Case No. IPR2024-00425
U.S. Patent No. 7,969,307 B2

DEPOSITION OF MAJID SARRAFZADEH
Wednesday, February 19, 2025
9:00 a.m. - 12:04 p.m. PST

Job No.: 14988

Pages: 1 - 107

Stenographically Reported By: Cara Foster, RPR,
CA CSR No. 11973

1 Deposition of MAJID SARRAFZADEH, conducted virtually via
2 Zoom videoconference.
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8 Pursuant to notice, before Cara Foster,
9 Registered Professional Reporter and Stenographic
10 Certified Shorthand Reporter Number 11973, in and for
11 the State of California.
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A P P E A R A N C E S

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I N D E X

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E X H I B I T S

EXHIBIT

DESCRIPTION

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P R O C E E D I N G S

* * *

THE STENOGRAPHER: We are going on the record.
The time is 9:00 a.m.

My name is Cara Foster. I am your CSR for
today. My license number is 11973.

Before I swear in the witness, would counsel
place their appearance on the record, please.

MR. PEKAREK KROHN: David Pekarek Krohn with
Perkins Coie on behalf of Patent Owner.

Also joining is Rodger Carreyn, also with
Perkin Coie.

MR. PETERS: Steven Peters with Latham and
Watkins on behalf of Petitioner and Witness.

MAJID SARRAFZADEH,
was called for examination, and after having been duly
sworn in under penalty of perjury by the stenographic
certified shorthand reporter, was examined and testified
as follows:

EXAMINATION

BY MR. PEKAREK KROHN:

Q. So, Dr. Sarrafzadeh, I know I deposed you
before. We've gone through some ground rules so I'm not
going to go through all that again.

My only question is, is there any reason you

1 can't give truthful testimony today?

2 A. No.

3 Q. And I'll just say I ask this of every witness.

4 There's no medication or medical condition that
5 would prevent you from giving truthful testimony today?

6 A. I have had a hand surgery a few days ago. That
7 might slow me down in going through the documents but
8 that won't prevent me from giving truthful answers.

9 Q. There's no pain medication that would prevent
10 you from giving truthful answers then?

11 A. No.

12 Q. Thank you.

13 And I'm sorry to hear that you had to go
14 through hand surgery. I heard there was something about
15 your hand, but I didn't know that you had to have
16 surgery.

17 A. Yeah.

18 Q. How did you prepare for this deposition?

19 A. I reviewed my reply declaration and other
20 declarations that I have submitted and related documents
21 and patents, by way of example.

22 Q. Did you do any preparation with other people?

23 A. Yes.

24 Q. And who did you do preparation with?

25 A. I met with Mr. Steven Peters.

1 Q. And when was that?

2 A. It was mostly earlier last week. It was a
3 couple of occasions. Most of it was early last week.

4 Q. On the first such occasion, how long did you
5 meet with him?

6 A. I would guesstimate that as a couple of
7 hours.

8 Q. And was that online or in person or over the
9 phone?

10 A. Video phone. Zoom, I think, or variations of
11 it.

12 Q. And what about the next meeting to prepare for
13 this deposition, how long was that?

14 A. I would say half a day, give or take. Maybe
15 longer.

16 Q. Was that also a web conference?

17 A. It was.

18 Q. Any other meetings with anyone else to prepare
19 for this deposition?

20 A. Yes.

21 Q. Okay.

22 A. I also met with Mr. Peters yesterday.

23 Q. Was that in person or also over the web?

24 A. It was over the web.

25 Q. And how long was that?

1 A. Give or take, 10 to 15 minutes.

2 Q. Other than Mr. Peters, did you meet with anyone
3 to prepare for this deposition?

4 A. I did not.

5 Q. During any of these preparation sessions, were
6 you shown any documents?

7 A. Well, there were some documents that I referred
8 to earlier today. For example, the patents, we might
9 have looked at some of them together.

10 Q. Were there any documents that you were shown by
11 Mr. Peters that refreshed your recollection?

12 MR. PETERS: Object to form.

13 THE WITNESS: These are the documents that I
14 was familiar with.

15 BY MR. PEKAREK KROHN:

16 Q. Did you bring any documents with you today?

17 A. I did.

18 Q. And what are those documents?

19 A. I have a hard copy binder, which has my two
20 declarations, patents, and related matters. This is a
21 hard copy. I also have electronic copies of pretty much
22 the same set of documents, maybe more.

23 Q. In your binder, do you have tabs indicating
24 different documents?

25 A. I do.

1 Q. Other than those tabs, do you have any other
2 Post-it's or highlighting or notes on any of the
3 documents?

4 A. There is also a table of contents that defines
5 what each tab contains.

6 Q. Do you have an electronic version of that table
7 of contents?

8 A. I don't think I do. I have to search. I might
9 have it somewhere.

10 Q. How many items are in your table of contents?

11 A. In the hard copy that I have, there are seven
12 items, seven tabs if you wish to call them, in the table
13 of contents.

14 Q. If you could just read out what each of those
15 tabs are?

16 A. My pleasure.

17 Tab Number One is the Supplemental Declaration
18 of Majid Sarrafzadeh. Tab Number Two is the Declaration
19 of Majid Sarrafzadeh. Tab Number Three says in the
20 Table of Contents U.S. Patent Number 7969307B2. Tab
21 Number Four simply states Beck. That's the Beck
22 reference that I've used in my declaration. Tab Number
23 Five says Bandy. That is the Bandy reference that I've
24 used in my declarations. Tab Number Seven says Heller.
25 That's the Heller reference that I have used in my

1 declarations. Tab Number Seven is the declaration of
2 Steve Warren.

3 Q. So I just want to make sure we have the record
4 correct.

5 I think you said Tab Seven was Heller or is Tab
6 Six Heller?

7 A. Tab Six is Heller.

8 Q. Okay. Thank you.

9 Other than the table of contents, is there any
10 other writing or additions of the documents in your hard
11 copy?

12 A. Other than perhaps accidentally. Maybe my
13 pencil touched the paper and there might be a dot here
14 and there. There is no explicit notes or writing that I
15 have provided in the table of contents.

16 Q. Or highlighting? No highlighting either; is
17 that right?

18 A. No.

19 Q. Okay. And no Post-it's? There's no markings
20 of pages other than the tabs themselves?

21 A. Other than the tabs stating Tab Number One so I
22 can easily go to that or Tab Number X, there are no
23 other Post-it of any kind.

24 Q. So other than Zoom, are you running any other
25 programs on your computer right now?

1 A. Just a second.

2 Yes. There is a PDF reader. That's where I
3 have the electronic version of some of the documents.
4 There is a speech to text translation for when I want to
5 type things.

6 I did close my email client. I have closed my
7 browser. I'm sure there are a number of programs
8 running in the background, this being a General
9 Operating System Windows 10, but nothing that has been
10 specifically opened by myself.

11 Q. Do you have any filters running on your
12 camera -- on your webcam?

13 A. I don't think so, unless there is a built-in
14 filter that's used by either the operating system or
15 other apps.

16 Q. What is an interrogation protocol?

17 MR. PETERS: Objection. Form.

18 THE WITNESS: Where are you referring to in my
19 declaration?

20 BY MR. PEKAREK KROHN:

21 Q. I'm not referring to -- I mean, feel free to
22 refer to your declaration, either in an electronic copy
23 or a hard copy. I'm not referring to any particular
24 place in your declaration. I'm just asking, what is an
25 interrogation protocol?

1 MR. PETERS: Same objection.

2 THE WITNESS: So I have elaborated on
3 interrogation protocol in a number of places in my
4 declaration -- my reply declaration. I said that based
5 on the review of the Bandy reference and the testimony
6 from Dr. Bandy and Peeters, that Dr. Bandy contributed
7 to the cited passage reading relating to interrogation,
8 was significant when measuring against the full
9 disclosure of Bandy.

10 I have gone on to discuss the importance of an
11 example of interrogation protocol that was provided, and
12 that is in paragraph 22. And I've mentioned that where
13 Dr. Bandy describes that the state of the art could
14 interrogate a few tags per second but with his
15 contribution to this protocol -- and this is quote
16 from -- that he increased that to one thousand tags per
17 second. An example of such protocol is the binary tree
18 traversal protocol that appears to be the only
19 interrogation protocol disclosed in Bandy, including the
20 relation to various steps, for example, step 78 of
21 figure 7.

22 I have mentioned that the details of the
23 communication that is mentioned by Bandy talks about
24 communication that is dependent upon the protocol
25 embodiment, the protocol youth, is a binary tree

1 traversal protocol.

2 Q. So I just want to make sure the record is
3 clear.

4 Were you saying integrate or interrogate?

5 A. In paragraph 22, where I talked about the state
6 of the art could interrogate. The word is interrogate.
7 Not integration as in combination.

8 May I ask for a clarification? My note is to
9 the right so I usually lean to the right to read it.
10 And is it hard for Cara and for you to hear me?

11 Q. I can hear you fine. I think it's easier if
12 Cara can see your mouth move, if it's possible to stay
13 in the frame.

14 A. I'll do my very best.

15 Q. So you read some parts of your declaration, but
16 my question was not who contributed the protocol or the
17 examples of protocol. I just want to know, what is an
18 interrogation protocol?

19 MR. PETERS: Object to form.

20 THE WITNESS: Exactly as I mentioned. An
21 example is a binary tree traversal protocol. There are
22 other protocols out there. That is the interrogation
23 protocol that is disclosed in Bandy, including in
24 relation to step 78 of figure 7A.

25 BY MR. PEKAREK KROHN:

1 Q. What's another example of an interrogation
2 protocol other than the binary tree traversal
3 protocol?

4 A. There could be a hierarchy called graph-based
5 interrogation protocol.

6 Q. So what is the interrogation protocol
7 interrogating?

8 A. Well, by way of example, this is for
9 interrogating the tags as is stated in paragraph 22 of
10 my report. And by way of example, the binary tree
11 traversal protocol is an example of an interrogation
12 protocol. And that seems to be the only one that is
13 disclosed in Bandy.

14 By way of example, in relation to step 78 of
15 figure 7A, I'll be happy to go through that figure and
16 describe it in more details if that's what you're
17 asking.

18 Q. I think you answered my question.
19 My next question is, what does it mean to
20 interrogate a tag?

21 MR. PETERS: Object to form.

22 THE WITNESS: So in the context of this patent,
23 Bandy, by way of example, when you interrogate, what you
24 can do is among other things to -- your interrogation
25 can go with various speed to interrogate the tags and

1 the speed will be very different how fast you can do the
2 interrogation. It could be just a few tags per second
3 or more than that.

4 BY MR. PEKAREK KROHN:

5 Q. But again, what does it mean when it's
6 interrogating?

7 I understand it can be faster or it can be
8 slower, but what does it mean to interrogate a tag?

9 MR. PETERS: Object to form.

10 THE WITNESS: I mentioned that, for example, as
11 is stated in the patent by Bandy, the Bandy protocol is
12 as specifically to isolate a tag. And more
13 specifically, I stated that Dr. Peeters didn't seem to
14 have contributed to the interrogation beyond his
15 assertion that the possessed background knowledge,
16 general knowledge. So that's when you're, for example,
17 isolating a tag using Bandy's protocol.

18 BY MR. PEKAREK KROHN:

19 Q. What makes a good interrogation protocol versus
20 a bad interrogation protocol?

21 MR. PETERS: Object to form.

22 THE WITNESS: In what context?

23 BY MR. PEKAREK KROHN:

24 Q. If you were building a system that used some
25 sort of RFID tags, what considerations would you use to

1 figure out what type of interrogation protocol to use?

2 MR. PETERS: Object to form.

3 THE WITNESS: I have not opined on that in my
4 report.

5 In general, when you do a system design, you
6 could consider multiple objectives: Speed. Area.
7 Reliability. Security. Power consumption. This is
8 outside of any of these patents. That's the general
9 system design.

10 And one thing that seems to be, according to
11 Dr. Bandy and Dr. Peeters, is the speed of
12 interrogation. In fact, Dr. Bandy describes very
13 specifically that the state of the art could interrogate
14 a few tags per second, but with his contribution, he
15 increased it to a thousand tags per second. So speed is
16 something that he has used as an objective.

17 BY MR. PEKAREK KROHN:

18 Q. In what situations is speed an important
19 objective for an interrogation protocol?

20 MR. PETERS: Object to form.

21 THE WITNESS: Again, outside of this patent in
22 general, in the field of computer engineering, speed is
23 one of the objectives that one looks at in designing a
24 system and speed could have many implications. It could
25 provide a faster turnaround of a system.

1 For example, the laptop you have, the clock
2 that is being clocked to clock the processor in your
3 laptop, the speed of that could be an objective. And
4 why is that important? Because you can do more things
5 in a given amount of time, better user experience, et
6 cetera. That's why in computer engineering, we do look
7 at speed as one of the many objectives in a design
8 process.

9 BY MR. PEKAREK KROHN:

10 Q. So as an example, if you have a fast processor,
11 it allows your computer to more easily multitask; right?
12 Run multiple programs at once; is that right?

13 MR. PETERS: Object to form.

14 THE WITNESS: You have a uniprocessor or a
15 multiprocessor?

16 BY MR. PEKAREK KROHN:

17 Q. A state-of-the-art microprocessor?

18 A. Again, clarification.

19 Is it a uniprocessor, one known man model of
20 computation, or a parallel processor?

21 Q. Let's say for ease of discussion, it's a
22 uniprocessor.

23 A. Okay. A uniprocessor using one known man model
24 of computation, as the classical model that has been
25 used, can do one step at a given time; hence the name

1 uniprocessor or serial model of computation.

2 Q. But if you have a very fast uniprocessor,
3 you're able to switch between tasks -- switch between
4 programs processing for each program without the user
5 using that; is that correct?

6 MR. PETERS: Object to form.

7 THE WITNESS: I don't understand your question
8 premise and all the assumptions that you're making.

9 BY MR. PEKAREK KROHN:

10 Q. Let's go back to the interrogation protocol.

11 You mentioned that Dr. Bandy said the state of
12 the art was being able to read a few tags in a second;
13 is that right?

14 A. Dr. Bandy, I've mentioned in paragraph 22, says
15 he discussed that the state of the art could interrogate
16 a few tags per second but that with his contribution,
17 "We increased that to about a thousand tags per second."
18 That's from Exhibit 1030, 2119 through 2222.

19 Q. So the value of speed in this particular
20 situation is that you could interrogate more tags in the
21 same amount of time; is that right?

22 MR. PETERS: Object to form.

23 THE WITNESS: These systems are rather complex.
24 There are multiple things that one looks at. Generally
25 speaking, speed is always a good thing to consider in

1 most computer engineering problems. Therefore, faster
2 usually and almost in all cases in computing means
3 better outside of this patent in general.

4 BY MR. PEKAREK KROHN:

5 Q. But I think you mentioned there are other
6 things to consider. Things like power consumption;
7 correct?

8 A. I did mention that in the field of computer
9 engineering, this is general outside of this patent,
10 power consumption is considered as objective. By way of
11 example, if you have the fastest cell phone in your
12 pocket but you have to charge your phone every hour,
13 that will annoy you and you probably would not buy that
14 cell phone or get rid of it ASAP.

15 Q. So if you only have one tag that you need to
16 interrogate, there's less value to the speed of
17 interrogation; correct?

18 MR. PETERS: Object to form.

19 THE WITNESS: That's not necessarily the case.
20 Doing anything faster in general is a good thing in
21 computer engineering. I have to look at the specifics
22 of it and how the system is designed.

23 BY MR. PEKAREK KROHN:

24 Q. That's not something you opined on; is that
25 correct?

1 A. Me? Sorry.

2 Q. You haven't rendered an opinion on whether it's
3 valuable to have a faster interrogation when you only
4 have one tag; is that right?

5 A. My opinion that starts with paragraph 18 and
6 goes to paragraph 22 talks about the contribution of
7 Dr. Bandy to the interrogation protocol. I have quotes
8 from them and related documents. That's what my opinion
9 discusses here.

10 Q. When you say you have codes from them, what do
11 you mean?

12 A. Quote.

13 Q. Oh, quotes?

14 A. Yes.

15 Q. Thank you.

16 A. Sure.

17 Q. You also mentioned area as a thing as something
18 to consider when designing a computer system; is that
19 right?

20 A. I said outside of these patents, one of the
21 objectives that the designer or a team of the designer
22 do look at the area of a chip.

23 For example, again, the chip that is in your
24 cell phone, if it's 1 inch square versus 20 inches a
25 square would make a big difference. You don't want a

1 cell phone that's bigger than your laptop. So area is
2 normally considered when designing a general computing
3 system.

4 Q. In the RFID context is physical distance that
5 you can read from a consideration when designing an
6 interrogation protocol?

7 A. I don't believe I have opined on that. If I
8 have it is in my declaration. My declaration, starting
9 with paragraph 18 going to paragraph 22, talks about the
10 interrogation protocol that Dr. Bandy has contributed
11 to.

12 Q. So you have not -- and I don't believe it's in
13 your declaration so I just want to make sure I
14 understand.

15 You have not analyzed the value -- or you have
16 not analyzed what type of interrogation protocol would
17 be useful based on distance between the reader and the
18 tag; is that right?

19 MR. PETERS: Object to form.

20 THE WITNESS: What I have opined on is the fact
21 that Dr. Bandy has contributed to the interrogation
22 protocol based on quotes that he has provided that I
23 have duplicated in paragraph 22 and 21 and other related
24 paragraphs of my report in concluding the contribution
25 of Dr. Bandy to the interrogation protocol.

1 BY MR. PEKAREK KROHN:

2 Q. And so if it's not in your report you have not
3 analyzed it; correct?

4 MR. PETERS: Object to form.

5 THE WITNESS: Again, what was relevant here is
6 the contribution of Dr. Bandy to the interrogation
7 protocol that's what section A is on page 11. There are
8 a number of other things in my declaration and reply
9 declaration and they speak for themselves. I have
10 analyzed a number of things related to area systems.

11 BY MR. PEKAREK KROHN:

12 Q. But you haven't analyzed the considerations of
13 what type of interrogation protocol you might use for
14 different RFID situations; is that right?

15 MR. PETERS: Object to form.

16 THE WITNESS: What I have analyzed in relation
17 to section A that starts in paragraph 11 is whether
18 Dr. Bandy has made a contribution to interrogation
19 protocol or not. And I've stated with a number of
20 reasons that he has. I've given an example of binary
21 tree protocol techniques. I have a quotation from him
22 saying that with his interrogation protocol, he was able
23 to go from a few tags per second interrogation to about
24 a thousand tags per second.

25 And the rest of my declaration and reply

1 declaration talks about a number of various things and
2 it speaks for itself.

3 BY MR. PEKAREK KROHN:

4 Q. Dr. Bandy did not invent all interrogation
5 protocols; correct?

6 MR. PETERS: Object to form.

7 THE WITNESS: Just to make sure I understand
8 your question.

9 Are you saying, did Dr. Bandy invent every and
10 each interrogation protocol that ever existed as of
11 today?

12 BY MR. PEKAREK KROHN:

13 Q. Let me put it differently.

14 You quote Dr. Bandy as talking about the state
15 of the art being able to interrogate a few tags seconds
16 per second; correct? That's in your paragraph 22;
17 right?

18 A. Yes, paragraph 22 talks about a few tags per
19 second and in the state of the art.

20 Q. And that state of the art is not something that
21 Dr. Bandy invented; right? That was the state of the
22 art prior to his specific interrogation protocol;
23 correct?

24 MR. PETERS: Object to form.

25 THE WITNESS: I have not opined on that in my

1 report one way or another.

2 BY MR. PEKAREK KROHN:

3 Q. So you don't know whether there was an
4 interrogation protocol not invented by Dr. Bandy that
5 could interrogate a few tags per second prior to
6 Dr. Bandy's contribution to the Bandy reference; is that
7 right?

8 A. What I can say is that I have not opined on all
9 possible interrogation protocols that existed before.

10 I have opined on the fact that Dr. Bandy states
11 that the state of the art could interrogate a few tags
12 per second but that with his contribution, "We increased
13 that to a thousand tags per second," that's my opinion
14 and that's what I have focused on.

15 Q. Do you know whether Dr. Bandy invented the
16 binary tree traversal protocol?

17 MR. PETERS: Object to form.

18 THE WITNESS: He says that an embodiment -- it
19 says that an embodiment that's from Bandy 1641 to 51.
20 The protocol used as a binary tree traversal protocol.
21 And he also states that a few tags per second, which was
22 the state of the art, was increased to about a thousand
23 tags per second.

24 BY MR. PEKAREK KROHN:

25 Q. I understand that's the -- that's the

1 embodiment that's in Bandy. But do you know whether
2 Dr. Bandy invented the binary tree traversal protocol or
3 whether it was an existing interrogation protocol prior
4 to the Bandy reference?

5 MR. PETERS: Object to form.

6 THE WITNESS: Dr. Bandy uses the binary tree
7 traversal protocol. Whether he did all of it from
8 scratch or based on some known technique that is
9 something that I have not opined on.

10 I have opined on the fact that he uses the
11 binary tree traversal protocol, and he says we go from a
12 few tags per second to about a thousand tags per
13 second.

14 BY MR. PEKAREK KROHN:

15 Q. Have you ever -- separate from your expert
16 work, you're an engineer other than doing expert work;
17 is that correct?

18 A. Yes. That's my main job being a professor at
19 UCLA in Computer Science and Engineering.

20 Q. And do you also develop -- products is probably
21 too narrow.

22 Do you develop systems as part of your work?

23 A. Yes.

24 Q. And have you ever used an interrogation
25 protocol in any of your work?

1 A. I have to go back and check. I've been doing
2 research for 35 years. I have definitely designed
3 protocols in various subjects. I need to go back to see
4 if any of them were an interrogation protocol.

5 Q. So what would you have to look for to determine
6 whether a protocol was an interrogation protocol?

7 A. I just need to go back and look at my notes and
8 see what the problem statement were. Again, some of
9 these are 30, 35 years old. I don't really recall all
10 of that. And that's not an investigation that I have
11 performed for today's deposition.

12 Q. So what kind of problem statement would
13 indicate to you that the solution was an interrogation
14 protocol?

15 A. I need to think about that. That's something
16 that I haven't thought about. I need to look at what
17 the problem is. What is it that we were trying to
18 solve. Were we trying to interrogate a smart shoe, for
19 example, as one way of example of the kind of thing I've
20 done, and see if I would classify that as an
21 interrogation protocol or not.

22 Q. And you said, "a smart shoe." Do you mean like
23 s-h-o-e, a shoe that you put on your foot?

24 A. Yes. Correct. We design shoes that are smart
25 in detecting various gait analysis and related.

1 Q. And did those smart shoes have RFID tags?

2 A. They don't.

3 Q. Have you done any work that involved a system
4 that used RFID tags?

5 A. I have used --

6 MR. PETERS: Object to form.

7 THE WITNESS: Sorry, Mr. Peters.

8 BY MR. PEKAREK KROHN:

9 Q. So when you need --

10 A. Sorry. You did not allow me to finish.

11 Q. Please do.

12 MR. PETERS: Sorry. I didn't know if there was
13 an overlap. I objected to form.

14 Go ahead.

15 THE WITNESS: Thank you.

16 Yes, so I have used systems that do use RFID
17 tags.

18 BY MR. PEKAREK KROHN:

19 Q. In those systems that used RFID tags, were they
20 using UHF or NFC or some other wavelength for
21 communication?

22 A. I have to go back and look. Some of these are
23 older projects from more than 20 years ago. But I do
24 know that in my lab I've worked with a variety of
25 systems and subsystems and chips and protocols and

1 methodologies.

2 Q. Do you think you have systems that used RFID
3 tags going back 20 years?

4 MR. PETERS: Object to form.

5 THE WITNESS: I have designed systems that go
6 back 35 years. Regarding RFID tags, I have to go check.
7 That's not something I prepared for today to discuss.

8 BY MR. PEKAREK KROHN:

9 Q. Do you remember what's the oldest system using
10 RFID tags that you designed that you remember today?

11 MR. PETERS: Object to form.

12 THE WITNESS: Yeah, I don't know. I have to go
13 back and check. I would say more than 10 years ago.

14 BY MR. PEKAREK KROHN:

15 Q. And that project that was more than 10 years
16 ago using RFID tags, what type of reader were you using
17 to read those RFID tags?

18 A. I have to go back and check. I do about 20 to
19 30 projects every year. I've built companies, multiple
20 of them. They get really involved. Then I teach PhD
21 level courses where there are about 30 or 40 projects
22 per course, per quarter -- semester. So there's quite a
23 bit of them. So without reviewing, I prefer not to get
24 into that because I don't know it accurately sitting
25 here today.

1 Q. Do you know whether there are interrogation
2 protocols that are better for different types of radio
3 frequency signals?

4 MR. PETERS: Object to form.

5 THE WITNESS: That's not something that I have
6 opined on in my report.

7 BY MR. PEKAREK KROHN:

8 Q. And you don't know sitting here today as well;
9 is that right?

10 MR. PETERS: Object to form.

11 THE WITNESS: I need to think about that. The
12 purpose of the interrogation protocol analysis that I
13 have performed is as stated in paragraph 18 to 22, among
14 other places. And the main goal was, by way of example,
15 where Dr. Bandy says that his protocol could go from a
16 few tags per second to about a thousand tags per second,
17 to me that sounds significant.

18 BY MR. PEKAREK KROHN:

19 Q. Do you know whether some interrogation
20 protocols were better for UHF than other types of radio
21 frequency signals?

22 MR. PETERS: Object to form.

23 THE WITNESS: That's not something I have
24 opined on in my declaration. And if I have, my
25 declarations speak for themselves.

1 BY MR. PEKAREK KROHN:

2 Q. Are there interrogation protocols that work
3 better for near-field communication than other types of
4 radio frequency signals?

5 MR. PETERS: Object to form.

6 THE WITNESS: I have not opined on that in my
7 declaration. I'm focusing on my reply declaration
8 today.

9 I have focused on the fact that Dr. Bandy has
10 made a contribution to interrogation protocol based on
11 the binary tree traversal protocol that goes from a few
12 tags per second speed to about a thousand tags per
13 second and to me that sounds significant.

14 BY MR. PEKAREK KROHN:

15 Q. What is a binary tree?

16 A. A graph consists of a set of vertices and a set
17 of edges. A graph that has no cycle is a tree. A
18 binary tree has a root, meaning a vertex of N degree 0
19 and its art degree is 2. And that is true of every
20 vertex/node in the topology of the system. So when you
21 have such a topology, you call it a binary tree.

22 Q. And when you say, "a graph that has no cycle,"
23 I want to make sure I understand.

24 That means that there's no connection from the
25 node sort of up to a node so that could sort of complete

1 a circuit.

2 Is that what you mean?

3 A. Let me be formal if you don't mind.

4 A path is a sequence of vertices and edges.

5 Some people call it nodes and links. A path where the
6 starting vertex and the ending vertex are the same is
7 called a cycle.

8 Q. Thank you.

9 What is the purpose in computer science of a
10 binary tree?

11 MR. PETERS: Object to form.

12 THE WITNESS: There are many purposes in
13 computer science for using a binary tree. For example,
14 if you have a sorted list and you are looking for a
15 particular item in your sorted list, what you can do is
16 to compare your item -- let's say you are looking for
17 number seven in your sorted list. You compare seven
18 with the middle element. If the middle element is less
19 than the key you are looking for, seven, you only focus
20 on the right part of the system -- of the numbers,
21 because it's sorted. Otherwise, you focus on the left.
22 You do this recursively. The time complexity of such a
23 search is time of N is equal to time of N divided by 2,
24 plus order 1. Order 1 because it takes constant time to
25 compare your key with the middle element.

1 When you solve this recursion, and if you'd
2 like I can show you how to solve it, you get T of N is
3 equal to capital O of log N, which says binary search
4 methodology based on binary tree gives you logarithmic
5 speed finding a key, whereas a trivial method would be a
6 linear scan order N. There is an explanation difference
7 between log of the number and the number itself. So if
8 you have only 10 items -- if you have 10,024 items, the
9 log of that is just 10. That's very fast as opposed to
10 doing 10,024 searches.

11 Does that answer your question?

12 Q. That helps.

13 So you said if you had 10,024 items, did you
14 mean 1,024 items?

15 A. Yes. I'm SORRY. 1,024 which is 2 to the power
16 10.

17 Q. Then you could -- then you would have a log of
18 10 searches you would need to do; is that right?

19 A. You need a log of 1,024. In computer science
20 when we say "log," we always mean log-based 2. So
21 log-based 2 of 1,024 is 10.

22 So a linear scan will give you 1,024 a step,
23 whereas a binary scan will give you only 10 a step. So
24 much, much faster.

25 And of course when N, the total volume gets

1 larger, you appreciate the difference more and more.
2 That's what you call asymptotic analysis.

3 Q. What if N is 3?

4 MR. PETERS: Object to form.

5 BY MR. PEKAREK KROHN:

6 Q. What is the -- how many steps in a binary
7 search when N is 3 would there be -- a binary tree
8 search?

9 A. It is actually a binary search, not a binary
10 tree search. The topology behind it is a binary tree.
11 We call this a binary search of the system. So you just
12 take log N, base 2. I don't have my calculator. I
13 don't know what that number is. It's closer to 2 maybe
14 or 1.5.

15 Q. And what about if it was a linear search with
16 3 -- with N of 3?

17 MR. PETERS: Object to form.

18 THE WITNESS: So just the asymptotic analysis
19 would give you a value of 3. But there are also hidden
20 overhead factors of the data structure that you're
21 using, et cetera. So this is a rough high-level answer.
22 For detail I need a pen and paper and the exact computer
23 that you're using in order to perform the analysis.

24 BY MR. PEKAREK KROHN:

25 Q. And we've been talking about a binary search

1 that's backed up by a binary tree data structure;
2 correct?

3 A. Correct -- sorry, no. I don't know what you
4 mean by "backed up." You just made that up.

5 Q. You said the topology behind it. So we've been
6 talking about binary search, the topology behind that
7 binary search being a binary tree; correct?

8 A. That's what I said.

9 Q. Is that binary search a binary tree
10 traversal?

11 A. We don't call it that. We just call it -- we
12 just say the backbone or the topology of the system
13 behaves like a binary tree. The correct methodology and
14 term that one uses is that this is a binary search.

15 Q. So what is a binary tree traversal?

16 MR. PETERS: Object to form.

17 THE WITNESS: Just the concept of binary tree
18 traversal?

19 BY MR. PEKAREK KROHN:

20 Q. Yes.

21 A. Okay. So we talked about what a binary tree
22 is. I defined that precisely.

23 If you have a binary tree and you want to
24 traverse the binary tree, the way you would proceed to
25 go from one vertex to another vertex or from vertex to

1 all vertices of the binary tree is typically called a
2 binary tree traversal.

3 Q. So are the results of the binary tree traversal
4 a sorted list?

5 A. No, not necessarily.

6 Q. Okay. So I'm a little confused still on what a
7 binary tree traversal is.

8 So for a binary tree traversal, do you start at
9 the root vertex?

10 A. Depends on what you want to do. You could.
11 You don't have to. You can start from a leaf.

12 Q. What if what you want to do is interrogate a
13 set of RFIDs?

14 MR. PETERS: Object to form.

15 THE WITNESS: Sorry. That does not make any
16 sense.

17 How do you map the RFIDs to the binary tree
18 that we've been talking about?

19 BY MR. PEKAREK KROHN:

20 Q. That's a good question. I don't know. But
21 Dr. Bandy -- you said that Dr. Bandy contributed the
22 binary tree traversal protocol which involves RFIDs.

23 And so I'm asking how you would interrogate
24 RFIDs using a binary tree traversal?

25 MR. PETERS: Object to form.

1 THE WITNESS: I have not opined on the details
2 of the binary tree methodology that Dr. Bandy uses. I
3 have mentioned that the protocol that is used is a
4 binary tree traversal. And what it does is it goes from
5 a few tags per second interrogation to a thousand tags
6 per second, and to me that's significant. That's my
7 opinion.

8 BY MR. PEKAREK KROHN:

9 Q. If you have a vertex with no edges is that a
10 binary tree?

11 MR. PETERS: Object to form.

12 THE WITNESS: You could call that a binary
13 tree. It depends on the definition. And I've seen
14 multiple.

15 BY MR. PEKAREK KROHN:

16 Q. There are lots of different kinds of sensors
17 that monitor vital functions; correct?

18 A. Please repeat your question.

19 Q. There are lots of different kinds of sensors
20 that monitor vital functions; correct?

21 A. There are plenty of sensors out there for
22 physiological monitoring. That's correct.

23 Q. And ones that specifically monitor vital
24 functions; right?

25 A. There are different types of sensors, yes.

1 Q. Do you know of any disposal sensors that
2 monitor vital functions?

3 MR. PETERS: Object to form.

4 THE WITNESS: There are. I have seen disposal
5 sensors that, for example, measure heart rate.

6 BY MR. PEKAREK KROHN:

7 Q. Is heart rate a vital function?

8 A. I guess there are different definitions.

9 How do you define "vital functions"?

10 Q. So you talk about vital functions in quoting
11 Bandy --

12 A. Right.

13 Q. -- in paragraph 29 of your report. And so I'm
14 trying to understand what you understand "vital function
15 data" to be.

16 So in your view, are the disposable heart rate
17 sensors, are they disposable sensors that monitor vital
18 functions?

19 A. One could consider generally outside of this
20 patent heart rate to be a vital function. Blood
21 pressure to be another vital function. So it all
22 depends. And people use these terms somewhat
23 interchangeably.

24 Q. Do you consider monitoring glucose to be a
25 vital function?

1 MR. PETERS: Object to form.

2 THE WITNESS: Again, different -- other
3 different inventors use the terms differently. One may
4 consider a glucose monitor in a certain setting to be a
5 vital function of an individual.

6 BY MR. PEKAREK KROHN:

7 Q. Can you name any sensors of vital functions
8 that are not disposable?

9 MR. PETERS: Object to form.

10 THE WITNESS: A blood pressure cuff.
11 Traditional blood pressure cuffs that many people have
12 used.

13 BY MR. PEKAREK KROHN:

14 Q. What is a smart card?

15 A. Where are you referring to?

16 Q. I think a smart card is referred to in Bandy so
17 I'm asking what a smart card is?

18 MR. PETERS: Object to form.

19 THE WITNESS: By way of an example, I mentioned
20 that I have discussed in Bandy's disclosure of a smart
21 card or badge that is affixed to a person or animal,
22 such that the sensor element of the RF adjustable sensor
23 are proximate to the surface of the skin. And I
24 explained that for such a fixing, a POSITA would have
25 understood that the sensor element would be interrogated

1 with some sort of adhesive material and such details are
2 disclosed in Heller.

3 BY MR. PEKAREK KROHN:

4 Q. So are you -- is your definition of a smart
5 card something that is affixed to a person or animal
6 such the sensor elements of the RF addressable sensor
7 are proximate to the surface of the skin?

8 A. That is an example of a smart card.

9 Q. Sure. So that's what I'm trying to get at.
10 Beyond that particular example, what makes
11 something a smart card?

12 A. A smart card, generally speaking, outside of
13 this patent is a card that has some sort of intelligence
14 building, whether reading or processing or a combination
15 of them. By way of example -- an example of that is
16 what I have stated in paragraph 28 of my report in this
17 context of Bandy in view of Heller.

18 Q. So do you think -- when you go into work, do
19 you scan a card to get in -- scan your ID or something
20 to get into certain areas?

21 A. Is there a question?

22 Q. Yes. When you go into work, do you have an ID
23 that you scan, you know, at a door to get into certain
24 areas?

25 A. No. We are a public university.

1 Q. You don't have any labs that are secured from
2 the public?

3 A. I have old-fashioned keys for that.

4 Q. Have you ever gone into a company, whether the
5 university or somewhere else, where you've used a card
6 to unlock a door?

7 A. I might have in the past.

8 Q. Would you consider those smart cards?

9 A. Some may consider them smart cards.

10 Q. And those aren't disposable; right?

11 A. It depends on the definition of disposability.
12 If you lose, for example, your hotel key, if you lose
13 that, it's not the end of the world. So it all
14 depends.

15 Q. But they do reprogram those hotel keys; right?
16 If you turn it in they'll reprogram it and use it for
17 the next person; is that right?

18 MR. PETERS: Object to form.

19 THE WITNESS: They do. And if you lose it they
20 probably won't charge you.

21 BY MR. PEKAREK KROHN:

22 Q. And do you -- would you consider those hotel
23 keys smart cards?

24 A. Some may consider them smart cards.

25 Q. Do you make a distinction between a smart card

1 and a smart badge?

2 A. I have to think about that. In some examples
3 they might be the same thing.

4 Q. Can you explain the difference between
5 GPS-based geolocation and non-GPS-based geolocation?

6 MR. PETERS: Object to form.

7 THE WITNESS: I'm Sorry. You're asking me to
8 do that?

9 BY MR. PEKAREK KROHN:

10 Q. Yes.

11 A. Sure. So generally speaking, a GPS-based
12 geolocation using GPS information to perform
13 geolocating. And a non-GPS does not use, as the name
14 suggests GPS, to do geolocating and use things such as
15 time of arrival to do a triangulation of multiple
16 systems to do the location of.

17 Q. What is GPS information?

18 A. Information that you get through GPS.

19 Q. What is GPS?

20 A. It's a system that has been put in place for
21 many years to do -- to localize, by way of example, an
22 individual or a thing in an environment.

23 Q. How does it do that in the GPS -- I mean, what
24 you just said sounds like geolocation generally. So I'm
25 trying to understand what makes it a GPS geolocation?

1 MR. PETERS: Object to form.

2 THE WITNESS: Yeah, so GPS uses GPS information
3 and not time of arrival. And non-GPS uses a multiway,
4 time of arrival, to locate an individual or a thing.

5 BY MR. PEKAREK KROHN:

6 Q. So what is, again, GPS information?

7 A. Information that you get through GPS.

8 Q. What do you mean "through GPS"?

9 A. Exactly that. It's information that you get
10 through a GPS system. It does not use, for example, the
11 time of arrival. Typically, time of arrival
12 information.

13 Q. I understand what it doesn't use. I'm trying
14 to understand what it does use.

15 A. Okay.

16 Q. What do you mean that you get information
17 through GPS?

18 MR. PETERS: Object to form.

19 THE WITNESS: Yeah, so it uses the global
20 positioning system. One of the reports that I have
21 provided is an FCC report that talks about that and how
22 one uses that, either using the global positioning
23 system that is available or it uses time of arrival with
24 a triangulation algorithm as an example of a non-GPS
25 radar responsive tag geolocation.

1 BY MR. PEKAREK KROHN:

2 Q. So what is the global positioning system?

3 MR. PETERS: Object to form.

4 THE WITNESS: I guess, if I understand your
5 question correctly, so in order to find GPS coordinates,
6 one uses the latitude and longitude finder. They will
7 address the field by looking at GPS coordinates to
8 display them. It will map the coordinates. It could
9 have a correction mechanism based on previous data to
10 better estimate the location based on this
11 information.

12 BY MR. PEKAREK KROHN:

13 Q. How do you use GPS to find a latitude and
14 longitude?

15 A. There is a GPS system that is available in
16 order to get them.

17 Q. So is the GPS system a computer?

18 A. It's a satellite-based system by way of
19 example.

20 Q. So, in your view, the GPS satellites are only
21 one example of the GPS system?

22 A. That is what is typically used in conversation
23 but one could also have -- generally speaking, outside
24 of all these patents, one could have a temporary
25 localized satellite to get information. But when the

1 FCC report talks about GPS, it's the satellite-based
2 system that has been discussed in a number of places.

3 Q. So do you think the '307 patent claims to
4 discuss GPS systems mean the permanent GPS satellite
5 system?

6 MR. PETERS: Object to form.

7 THE WITNESS: Where is it specifically in the
8 patent, if you could refer me to that?

9 BY MR. PEKAREK KROHN:

10 Q. And just for the record, we've talked about
11 your report a fair amount. And just to make sure the
12 record is clear, we're talking about Exhibit 1033 to the
13 IPR; correct?

14 MR. PETERS: Object to form.

15 THE WITNESS: I'm looking at my report and at
16 the bottom it says, "EX. 1033."

17 BY MR. PEKAREK KROHN:

18 Q. Thank you.

19 So I think that you said this was your binder.
20 So this is Exhibit 1001, which is U.S. Patent 7,969,307.

21 And if you can go, for example, to Claim 9 in
22 column 20.

23 A. Yes.

24 Q. So the Claim 9 says, "The system according to
25 Claim 1, wherein the system further includes a GPS means

1 for geolocating set system."

2 Do you see that?

3 A. Yes.

4 Q. So what's your understanding of the scope of
5 GPS means?

6 A. These are means for obtaining GPS information.
7 And let me get more into that, please.

8 So in my original report, paragraph 151 through
9 157, I've talked about geolocation means. I have
10 elaborated on that. And I've talked, for example, about
11 the FCC report that explicitly recognizes both the
12 network-based solution, which don't require an
13 implication of the geolocation component in the wireless
14 device itself, and a handset-based solution, which would
15 require such implications. Importantly, the entire
16 purpose of the FCC report was to address the lack of
17 handset-based solution for the geolocation.

18 So I've elaborated on, for example, paragraph
19 153 where it says, "While a petitioner inserts that an
20 internal cellular phone would have been required to have
21 GPS and non-GPS geolocation capability before the prior
22 to date of the '307 patent." That is patently false.

23 "For this assertion the petitioner cites the
24 FCC report, citing Exhibit 1017 but petitioner and its
25 expert ignored the ways it existed to the geolocation

1 device and didn't require any structure for the
2 geolocation in the device itself." That's where I talk
3 about geolocation means, and I talk about GPS and
4 non-GPS methodologies.

5 Q. I want to make sure I understand where you're
6 referring.

7 Which exhibit are you looking at?

8 A. I'm looking at -- I don't know. It has an
9 exhibit number but it says, "IPR2024-004225."

10 MR. PETERS: You're looking at Warren's
11 declaration, aren't you?

12 THE WITNESS: Oh, sorry. The previous one. My
13 bad.

14 Yeah, so that's exactly my argument in my reply
15 that I disagree with the comments made by Dr. Warren on
16 this.

17 If you go to Exhibit 1003, I talk about the
18 claim function for this limitation. The geolocation
19 means, is geolocation. A POSITA would understand
20 geolocation to have its plain and ordinary meaning,
21 which is determining the geographic positioning of an
22 object. This is consistent with the definition of
23 geolocation technology. A technology used to determine
24 the geographic coordinate of radio equipment by device,
25 for example, a cellular handset.

1 Then I talk about the structure being a
2 geolocation by GPS and geolocation without GPS. And the
3 structure identified in the '307 patent for geolocating
4 by GPS and geolocating without GPS in sections that I
5 have described in Exhibit 1003, and those are IB3 and
6 IB4 of that exhibit. And I have gone into further
7 elaboration and details of that.

8 BY MR. PEKAREK KROHN:

9 Q. So I'm not talking about geolocation generally.
10 I'm talking about GPS. And you said that the structure
11 for geolocation could be by GPS and geolocation without
12 GPS. So what is the structure for geolocation by GPS?

13 A. So I mentioned that the claim function for the
14 limitation related to GPS is geolocating said system by
15 GPS. The corresponding structure for performing the
16 claim function of these terms are wireless reader
17 devices, such as a cell phone or PDA or GPS method or
18 processing logic for determining a geographic location
19 of an object.

20 More specifically, the '307 patent incorporates
21 Patent Number 6,031,454 for disclosure relating to
22 reading analysis and geolocating by GPS or non-GPS means
23 and that's incorporation is in '307 patent, column 17.

24 Q. So is your understanding that GPS means is only
25 for the permanent GPS satellites that are out there or

1 is GPS means broader than that?

2 MR. PETERS: Object to form.

3 THE WITNESS: What I mentioned is that the
4 structure related to GPS means is to perform the claim
5 function of this term, which is using a device such as a
6 cell phone or PDA and GPS method or processing logic for
7 determining a geographic position of an object. I
8 believe that's a structure, and I've elaborated on that
9 in my first declaration.

10 BY MR. PEKAREK KROHN:

11 Q. I'm still not sure.

12 So when you say, "GPS or processing logic," is
13 that processing logic just to process the signals from
14 the permanent GPS satellites or is it broader than
15 that?

16 MR. PETERS: Object to form.

17 THE WITNESS: Well, it is the structure for
18 performing the claim function of this term, which are
19 wireless reader device such as a cell phone or a PDA and
20 GPS methods or processing logic for determining a
21 geographic position of an object. That's what I have
22 opined on.

23 BY MR. PEKAREK KROHN:

24 Q. What is a GPS method?

25 A. These are methods for performing GPS based or

1 geolocation as I have discussed in paragraph 74 through
2 77 of my report.

3 Q. Do those GPS methods use the GPS satellites?

4 MR. PETERS: Object to form.

5 THE WITNESS: Whatever method they are, the
6 structure for performing the claim function of this
7 term, that's what I've opined on are wireless reader
8 devices, such as a cell phone or a PDA, and GPS methods
9 or processing logic for determining a geographical
10 position of an object.

11 And I have mentioned that this specification of
12 '307 discloses that the wireless device or the sensors
13 can also be geolocated anywhere by a global position
14 system GPS, and/or non-GPS triangulation means.

15 The specification also teaches that the
16 microprocessor and RFID reader reaching wireless devices
17 to enable the processing function 500, which includes
18 reading analysis and geolocating by a global positioning
19 system or a non-GPS means.

20 BY MR. PEKAREK KROHN:

21 Q. So when you say by a global positioning system,
22 does that refer to the global positioning system
23 satellites or does that refer to something else?

24 A. It is a global positioning system. That's what
25 I've opined on.

1 Q. So what is a global positioning system?

2 A. Exactly that. It's a global positioning
3 system.

4 Q. What makes it -- what makes geolocation based
5 on a global positioning system as opposed to just
6 geolocation generally?

7 A. Sorry. I don't understand the question.

8 Q. So geolocation means finding where I am in the
9 world; right? Geolocation; right?

10 A. Correct.

11 Q. And there are ways to do that. I think you
12 said there are ways to do that using the global
13 positioning system and ways to do that that are not a
14 global positioning system; correct?

15 A. That's what I've opined on in paragraph 74.
16 That there are GPS-based methods and non-GPS-based
17 methods.

18 Q. So if I have a geolocation processor, how do I
19 know, in your view, whether that geolocation processor
20 is using a global positioning system or not?

21 MR. PETERS: Object to form.

22 THE WITNESS: Sorry. I don't follow your
23 question. It's whether you have built a GPS-based
24 methodology or non-GPS-based methodology.

25 BY MR. PEKAREK KROHN:

1 Q. So how would I build a GPS-based methodology?

2 A. I have not opined on building such a system.
3 The patent '307 talks about them. The FCC report talks
4 about them.

5 Q. And my understanding is that GPS system refers
6 to the satellites that I think everyone thinks of as
7 GPS. And I'm trying to understand, is that your
8 understanding as well, or do you think GPS includes
9 something else?

10 A. Oh.

11 MR. PETERS: Object to form.

12 THE WITNESS: GPS generally is satellite based.
13 But whatever the patent and FCC report is talking about,
14 GPS and non-GPS, those are indeed the geolocation
15 means.

16 BY MR. PEKAREK KROHN:

17 Q. How does the FCC report discussion of GPS
18 affect your understanding of the patent's claims to
19 GPS?

20 A. FCC -- for example, the FCC report talks about
21 a wireless carrier who employed a Phase 2 location
22 technology that requires new, modified, or upgraded
23 handset, such as global-positioning-system-based
24 technologies.

25 So what I've used, in my analysis, is to say

1 based on the FCC report and a number of other things,
2 new exhibits that have been provided, emails that are --
3 that have newly seen it shows that including GPS means
4 in the system are obvious.

5 Q. My question wasn't about whether the FCC report
6 made GPS means in the system obvious.

7 My question was, how does the FCC report affect
8 your understanding of the patent's claims?

9 MR. PETERS: Object to form.

10 THE WITNESS: What the FCC report does and
11 among other examples that I have, not limited to FCC, is
12 to show exactly that. That having GPS in a system in
13 the corresponding time frame was obvious to a POSITA.

14 BY MR. PEKAREK KROHN:

15 Q. Are you familiar with glucose meters that use
16 test strips?

17 A. We talked about that in the last deposition and
18 my answer was and is yes.

19 Q. Is that glucose meter a medical device?

20 MR. PETERS: Object to form.

21 THE WITNESS: One could consider a glucose
22 meter as a medical device.

23 BY MR. PEKAREK KROHN:

24 Q. Are the test strips used by the glucose meter
25 components of the glucose meter?

1 A. I don't believe I have opined on that in my
2 previous report or this report.

3 Q. Can you purchase test strips separate from the
4 glucose meter?

5 A. I know some glucose meters you buy the meter
6 and the test strip all together and sometimes you can
7 get the test strips separately.

8 Q. Are the test strips sensors?

9 MR. PETERS: Object to form.

10 THE WITNESS: I have not opined on that. And
11 you asked me the exact same question, and I gave you the
12 exact same answer. There are sensing being performed in
13 a glucose meter.

14 BY MR. PEKAREK KROHN:

15 Q. Does the glucose meter have a serial number?

16 MR. PETERS: Object to form.

17 THE WITNESS: Are you referring to part of my
18 report?

19 BY MR. PEKAREK KROHN:

20 Q. I don't know if you've talked about this. I'm
21 just asking whether glucose meters have serial
22 numbers?

23 MR. PETERS: Object to form. Foundation.

24 THE WITNESS: I don't believe I have opined on
25 that. I have opined on the fact that Beck says serial

1 numbers retrieved from the medical device and other
2 information from the medical device is discussed.

3 And I do also mention that the POSITA would
4 have understood that the serial number or identification
5 code for the medical device is a unique ID number that
6 would uniquely identify the medical device and the
7 corresponding sensor.

8 BY MR. PEKAREK KROHN:

9 Q. But you don't know whether a glucose meter
10 would have such a unique serial number?

11 MR. PETERS: Same objections.

12 THE WITNESS: I guess the question is, would
13 you call -- certainly it has an identification. You
14 need to know that. Whether people universally call that
15 a serial number or not, I'm not 100 percent sure. I
16 would suspect that some companies, they call the number
17 on their glucose meter a serial number.

18 BY MR. PEKAREK KROHN:

19 Q. Do test strips have serial numbers?

20 MR. PETERS: Object to form.

21 THE WITNESS: On them?

22 BY MR. PEKAREK KROHN:

23 Q. Is there a way of identifying test strips
24 uniquely?

25 MR. PETERS: Object to form.

1 THE WITNESS: I have not opined on that in my
2 reports.

3 BY MR. PEKAREK KROHN:

4 Q. Given the unique ID of the glucose meter, you
5 can't determine all of the test strips that have been
6 used by that particular glucose meter based on that
7 unique ID; correct?

8 MR. PETERS: Object to form.

9 THE WITNESS: I don't understand your
10 question.

11 BY MR. PEKAREK KROHN:

12 Q. Let's say I have a glucose meter and it has a
13 serial number or a unique identifier stamped on it that
14 says 123; right?

15 A. Yes.

16 Q. Are you following me so far?

17 A. Yes.

18 Q. Given that number 123, I can't figure out all
19 the test strips that have been used with that particular
20 glucose meter; correct?

21 MR. PETERS: Object to form. Foundation.

22 THE WITNESS: We would know which types of test
23 strips to be used with that glucose meter, if that's
24 your question. So when you go out and buy it, they will
25 give you the right test strips.

1 BY MR. PEKAREK KROHN:

2 Q. That wasn't my question.

3 My question is, do you know the exact
4 individual specific test strips that were used, not the
5 type of test strip?

6 MR. PETERS: Same objections.

7 THE WITNESS: So you are saying if you buy a
8 set of test strips, you use half of them and don't use
9 the other half, somehow you know which half were used?

10 BY MR. PEKAREK KROHN:

11 Q. Based on the serial number on the glucose
12 meter. That's right?

13 MR. PETERS: Same objections.

14 THE WITNESS: Yeah, the one that has a blood
15 stain on them you used them otherwise you haven't used
16 them.

17 BY MR. PEKAREK KROHN:

18 Q. But can I use the serial number, the 123
19 stamped on the glucose meter to figure out which ones
20 have been used and which ones haven't?

21 MR. PETERS: Same objections.

22 THE WITNESS: I'm sorry. Your question doesn't
23 make sense to me at all.

24 BY MR. PEKAREK KROHN:

25 Q. Why not?

1 A. I don't know. You're not phrasing it properly.
2 I gave you a few scenarios. You know which strip to buy
3 if you look at a blood stain you know which strips have
4 been used. Beyond that I'm not sure what you are
5 getting at.

6 Q. I'm asking whether you could use the serial
7 number -- so let's say I've used half the strips and I
8 haven't used half the strips. I throw all the strips
9 away?

10 A. All of them?

11 Q. All of them, used and not used?

12 A. Okay.

13 Q. I now want to figure out which strips to use in
14 my meter. I can't just take the serial number of the
15 meter to figure out which strips were used; right?

16 MR. PETERS: Objection to form. Foundation.

17 THE WITNESS: Sorry. I don't understand what
18 you're saying.

19 BY MR. PEKAREK KROHN:

20 Q. I think you understand. I think my question
21 might sound a little ridiculous and I think it is but I
22 just want to be clear.

23 You can't just use a serial number on the
24 glucose meter device to figure out which strips were
25 used; right? Those are separate products that may or

1 may not have their own identification but you can't use
2 the serial number on the glucose meter to determine if
3 they were used or not; right?

4 MR. PETERS: Same objections.

5 THE WITNESS: It's not about being used. It's
6 about the practical application of it is when you go to
7 CVS or a pharmacy and you want to buy strips, you give
8 them your, for example, serial number of your glucose
9 monitor, and they'll give you the right test strip.

10 BY MR. PEKAREK KROHN:

11 Q. Right but then I don't know. They give me 50
12 test strips. I use three of them and then I can't
13 figure out the serial number of which three that I used
14 right?

15 MR. PETERS: Same objections.

16 THE WITNESS: I don't understand that because
17 give me an example of why you want to do that?

18 BY MR. PEKAREK KROHN:

19 Q. How does the test strip work in a glucose
20 meter?

21 MR. PETERS: Object to form.

22 THE WITNESS: You take a blood sample. You put
23 it on a test strip. You insert that in the glucose
24 meter. The reader will tell you what the glucose level
25 is. That's generally high level how it works.

1 BY MR. PEKAREK KROHN:

2 Q. But the test strips have some chemicals in
3 them; right?

4 A. They do.

5 Q. And you might need to calibrate your glucose
6 meter for particular test strips; right?

7 MR. PETERS: Object to form.

8 THE WITNESS: I haven't opined on that. I'm
9 not sure.

10 BY MR. PEKAREK KROHN:

11 Q. So you never quite said that a test strip was a
12 sensor. I think you said it had some sensing
13 capabilities; is that right?

14 A. I said the glucose meter has sensing
15 capabilities.

16 Q. What about the test strip? Is the test strip a
17 sensor?

18 MR. PETERS: Object to form.

19 THE WITNESS: You asked that before and my
20 answer was there is sensing where you exactly draw the
21 line is not something that I have opined on. Same
22 answer for today.

23 BY MR. PEKAREK KROHN:

24 Q. So what is the sensor in a glucose meter?

25 MR. PETERS: Object to form.

1 THE WITNESS: Again, there is sensing being
2 performed in a glucose meter. That information is then
3 transformed into a number. Where do you actually draw
4 the box around what is and is not a sensor is not
5 something that I've opined on.

6 BY MR. PEKAREK KROHN:

7 Q. Just to wrap up what we were talking about
8 before. I think you said you haven't opined on this so
9 you just want to make sure.

10 You don't know whether you can determine which
11 strips were used based on the serial number or other
12 identifying number on the glucose meter; correct?

13 MR. PETERS: Object to form. Foundation.

14 THE WITNESS: I just said your question doesn't
15 make any sense. A few variations of it which I think I
16 understand, I explained. But it seems you're asking
17 something else and I asked you specifically for an
18 implication of what you're asking and you have not
19 provided that.

20 BY MR. PEKAREK KROHN:

21 Q. So it doesn't like you don't understand the
22 question. You just don't understand the implications of
23 the question so can you answer the question?

24 A. The same thing.

25 Q. So does the serial number tell you anything

1 about the specific strips that were used?

2 MR. PETERS: Object to form.

3 MR. PEKAREK KROHN: Strike that.

4 BY MR. PEKAREK KROHN:

5 Q. Does the serial number on the glucose meter
6 tell you anything about the specific strips that were
7 used within that glucose meter?

8 A. What the serial number tells you is which strip
9 to buy or if you already have a strip have you bought
10 the right strip or not.

11 Q. Does it tell you anything else about the
12 strips?

13 MR. PETERS: Object to form. Foundation.

14 THE WITNESS: That's not something I have
15 opined on.

16 BY MR. PEKAREK KROHN:

17 Q. And so you don't know?

18 MR. PETERS: Objection to form.

19 THE WITNESS: This is the first time I'm
20 hearing this question that we both agreed doesn't make
21 any sense. Therefore, it requires further analysis to
22 make sense of your question.

23 MR. PETERS: We're at 92 minutes whenever you
24 have a chance.

25 MR. PEKAREK KROHN: Sure. We can take a

1 break.

2 MR. PETERS: All right. Thank you.

3 (Off the record: 10:33 a.m. - 10:43 a.m.)

4 BY MR. PEKAREK KROHN:

5 Q. So, Dr. Sarrafzadeh, before we took our break,
6 I was trying to say I did not mean to imply that the
7 question I was asking didn't make sense.

8 What I meant was, I think the answer to my
9 question is quite obvious, meaning it seems like a
10 little bit of a silly question but I still haven't
11 gotten an actual answer from you.

12 And so the question is, does the serial number
13 of a glucose meter tell you anything about the specific
14 strips that were used by that glucose meter?

15 MR. PETERS: Object to form. Foundation.
16 Argumentative.

17 THE WITNESS: What I can say, which is what I
18 stated before, the serial number on a glucose monitor
19 will tell you which strip to buy and/or if you have
20 bought the right strip.

21 BY MR. PEKAREK KROHN:

22 Q. Does it tell you anything else?

23 MR. PETERS: Same objections.

24 THE WITNESS: The serial number on the glucose
25 monitor may tell you the year that it was built.

1 BY MR. PEKAREK KROHN:

2 Q. Does it tell you anything else about the test
3 strips other than telling you which type of strip to buy
4 or if you've bought the right strip?

5 MR. PETERS: Objection. Form.

6 THE WITNESS: It may. This is purely a
7 speculation. It may tell you the accuracy of the test
8 strip at the time that the glucose monitor was built.

9 BY MR. PEKAREK KROHN:

10 Q. But it doesn't tell you anything that would
11 help you identify the particular strip that was used by
12 that glucose meter; is that right?

13 MR. PETERS: Objection to form. Foundation.

14 THE WITNESS: What it -- if you want to know
15 which strips you have actually used, you look at them.
16 If they have a blood stain they have been used.

17 BY MR. PEKAREK KROHN:

18 Q. But that's not from the serial number, right?
19 That's just from observing the strips; correct?

20 A. Yeah, that's how you would use a glucose.

21 Q. Because you can't tell from the serial number
22 of the glucose meters which strips were used; right?

23 MR. PETERS: Same objections.

24 THE WITNESS: Again, that question by itself I
25 don't understand what it means.

1 What I do understand is the type of a strip,
2 maybe the accuracy of the strip or when they were
3 manufactured, those you can possibly tell by the glucose
4 meter itself.

5 BY MR. PEKAREK KROHN:

6 Q. How can you tell when the glucose meter strips
7 were manufactured based on the serial number of the
8 glucose meter?

9 MR. PETERS: Object to form. Foundation.

10 THE WITNESS: That's not something that I've
11 opined on. There might be a table that provides the
12 correspondence. Maybe all the strips are made all at
13 once and the glucose serial number potentially could
14 tell you that but it's not something that I've opined on
15 or discussed.

16 BY MR. PEKAREK KROHN:

17 Q. So since you don't seem to be willingly to
18 actually answer the question, I'm going to put it
19 slightly different.

20 How can you take the serial number of the
21 glucose meter and determine which strip was used in that
22 glucose meter?

23 MR. PETERS: Object to form. Foundation.

24 THE WITNESS: I don't know if anybody would be
25 interested in that.

1 BY MR. PEKAREK KROHN:

2 Q. If they were, how would you do it?

3 MR. PETERS: Same objections.

4 THE WITNESS: Why would they be interested in
5 such information? I've never been interested in that.

6 BY MR. PEKAREK KROHN:

7 Q. Well I'm interested in that so I'm asking
8 you --

9 A. Why are you interested in that?

10 Q. To keep inventory so we know which strips were
11 used with which meter for recall purposes?

12 A. That does not --

13 MR. PETERS: Object to foundation.

14 Doctor, please give me some time to object.

15 MR. PEKAREK KROHN: I get to ask the questions.
16 Unless your attorney instructs you not to answer, your
17 job is to answer the questions, not to ask me why I'm
18 asking the question.

19 BY MR. PEKAREK KROHN:

20 Q. So again, how can you take the serial number
21 from a glucose meter and determine which strip was used
22 in that glucose meter?

23 MR. PETERS: Object to form. Foundation.
24 Argumentative.

25 THE WITNESS: Now that's something that I don't

1 relate to. I don't know how to generally answer
2 because -- and I apologize if I'm asking you a question
3 that's not what I meant today. I wanted to clarify so
4 perhaps to shed some light on what are you after.
5 Otherwise, a question that I think you said is
6 ridiculous. I don't know how to answer it
7 scientifically and technically.

8 BY MR. PEKAREK KROHN:

9 Q. The reason it's ridiculous is because I
10 think -- I don't know how you could do this and so I'm
11 asking you as the expert, how you can take the serial
12 number from the glucose meter and determine what glucose
13 strips were used in that glucose meter?

14 MR. PETERS: Objection. Form. Foundation.

15 THE WITNESS: As an expert, I tell you you
16 don't need to do that.

17 BY MR. PEKAREK KROHN:

18 Q. You're familiar with EKG machines; correct?

19 A. I am.

20 Q. And EKG machines have a number of leads;
21 right?

22 A. Yes.

23 Q. And at the end of the leads are electrodes;
24 correct?

25 A. Correct.

1 Q. And the electrodes are attached to the body
2 with some sort of temporary adhesive; right?

3 MR. PETERS: Object to form.

4 THE WITNESS: Sorry. I did answer --

5 BY MR. PEKAREK KROHN:

6 Q. The electrodes are attached to the body with
7 some sort of temporary adhesive; correct?

8 MR. PETERS: Object to form.

9 THE WITNESS: It depends on the EKG. But some
10 EKGs I've seen there is some form of adhesive or the
11 like that attached an electrode to a various location in
12 the body.

13 BY MR. PEKAREK KROHN:

14 Q. And then you remove those electrodes at some
15 point; right?

16 A. At some point the electrodes, when the test is
17 done, is removed from the body.

18 Q. And the electrodes are sensors; correct?

19 MR. PETERS: Object to form.

20 THE WITNESS: I don't believe I have opined on
21 that or drawn a box where the sensing will start and
22 end.

23 BY MR. PEKAREK KROHN:

24 Q. But you throw away the electrodes after you
25 pull them off of the patient; correct?

1 A. There are parts of the system that is connected
2 to the wires. I'm not sure if that end of it is also
3 considered as part of the electrode or not. So I'm not
4 sure.

5 Q. But the part that you stick on the patient, you
6 don't reuse that part, you throw that away; correct?

7 MR. PETERS: Object to form.

8 THE WITNESS: Some systems that I've seen the
9 sticky part on the patient is thrown away.

10 BY MR. PEKAREK KROHN:

11 Q. But you don't have an opinion on whether the
12 electrodes are sensors; whether the leads are sensors;
13 whether the EKG machine is a sensor; is that right?

14 A. That's not what I said. I said I haven't
15 discussed how to, quote unquote, draw a box around what
16 the sensing part is.

17 Q. So would that box be drawn to at least include
18 the electrode?

19 A. I have not opined on that. I need to look at
20 it.

21 Q. Would the box be drawn to at least include the
22 lead?

23 MR. PETERS: Object to form.

24 THE WITNESS: I do know that an EKG has sensing
25 capability. That's how it gets the signals in each of

1 its leads -- ports, I should say. What exactly is the
2 components that form sensing is not something I have
3 opined on.

4 BY MR. PEKAREK KROHN:

5 Q. What's the difference between a lead and a
6 port?

7 A. Port is what goes in the box. It's an IO port
8 or just an I port. That's typically what the port in
9 the computing system is defined as.

10 Q. And what's a lead?

11 A. Lead is kind of the distal part of that which
12 is closer to the body, not the box.

13 Q. In a 12 lead EKG machine, there are two or
14 three electrodes that are called "reference sensors";
15 correct?

16 A. That's what I told you last time that you
17 deposed me. The answer is still the same.

18 Q. And the answer is yes; correct?

19 A. As I stated before, the answer is yes.

20 (Exhibit 2023 was marked.)

21 BY MR. PEKAREK KROHN:

22 Q. I'm going to put into the chat what will be
23 Exhibit 2023.

24 A. Do I find that in the chat of Zoom?

25 Q. It should be in the chat of Zoom.

1 MR. PETERS: I don't see it.

2 BY MR. PEKAREK KROHN:

3 Q. Hold on. For some reason it just went to Cara.
4 Let me know when you're able to see this and
5 you're able to download it?

6 A. I do see it.

7 Q. Just for the record, **Exhibit 2023** is U.S.
8 Patent Publication Number 2016/0026767.

9 Let me know when you're able to open it.

10 A. I've opened it.

11 Q. This is a patent publication you're a named
12 inventor on; right?

13 A. Correct.

14 Q. What is the patent about?

15 MR. PETERS: Object to form.

16 THE WITNESS: This is about 10 years ago. So
17 this patent talks about a purchase that includes a
18 sensor configure to detect a variable characteristic.
19 The variation of the characteristic, including variation
20 indicative of an individual swallowing when the sensor
21 is positioned in the neck area of the individual.

22 The purchase includes a wireless data
23 communication interface configured to receive
24 information related to the characteristics and transmits
25 the information externally.

1 The sensor may be, for example, an acoustic
2 sensor, a piezoelectric sensor, a capacitive sensor, or
3 a pressure sensor. That practice may include a sensor
4 interface to sample a signal from the sensor and provide
5 data related to the signal for transmission externally.

6 A system may use the information related to the
7 characteristic to identify eating habits and type of
8 food eaten. Feedback may be provided to the individual
9 to help the individual change their dietary intake and
10 habits. That's kind of the abstract of this.

11 BY MR. PEKAREK KROHN:

12 Q. Not just kind of, you just read the abstract;
13 right?

14 A. I did. I think I might have added a word or
15 two to clarify.

16 Q. So the abstract and the patent generally talk
17 about sensors; correct?

18 MR. PETERS: Object to form. Foundation.

19 THE WITNESS: The abstract talks about many
20 things.

21 BY MR. PEKAREK KROHN:

22 Q. But it does -- for example, it says the sensor
23 may be, for example, an acoustic sensor, a piezoelectric
24 sensor, capacitive sensor, or a pressure sensor;
25 correct?

1 A. It has the word "sensor" and it talks about a
2 few examples of sensors. Correct.

3 Q. Are the examples of the sensors that it talks
4 about analog or digital sensors?

5 MR. PETERS: Object to form. Foundation.
6 Scope.

7 THE WITNESS: Well, I've built this system so
8 they have sensing capability and they all, as a system
9 would have, they have A to D converters. So again,
10 depending how you draw the box, one answer might be it's
11 a combination of analog and digital sensing
12 subsystems.

13 BY MR. PEKAREK KROHN:

14 Q. You mentioned that they have A to D converters.
15 So each of these sensors has an analog digital
16 converter; is that right?

17 A. I don't know about all of them but some of them
18 certainly do, yes.

19 Q. The ones that don't have A to D converters, is
20 that because they're natively digital or is it because
21 you're doing some computation on the analog signal?

22 MR. PETERS: Object to form.

23 THE WITNESS: The reason is this is 10 years
24 old. I probably wrote it 15 years ago. I just don't
25 recall. So I left some wiggle room in my response.

1 BY MR. PEKAREK KROHN:

2 Q. If you look at figure 12, this illustrates an
3 example of processes for detecting swallows from signals
4 from a variety of sensors; correct?

5 MR. PETERS: Object to form. Foundation.
6 Scope.

7 THE WITNESS: Figure 12 has multiple sensors on
8 the upper left and it goes through a sequence of signal
9 processing methodologies.

10 BY MR. PEKAREK KROHN:

11 Q. And so this contemplates using more than one
12 sensor to detect a swallow; correct?

13 MR. PETERS: Same objections.

14 THE WITNESS: I have to go back and look. This
15 has been a while. I think not.

16 It's -- I guess what you mean by "multitude"?
17 Do you mean one or the other or do you mean all in
18 parallel?

19 BY MR. PEKAREK KROHN:

20 Q. I guess either here or when you built the
21 system -- you said you built the system; correct?

22 A. I did, yes.

23 Q. Did you ever have a situation where you were
24 using multiple sensors to detect a swallow?

25 A. I don't recall such a situation. But, again,

1 this is old. I might have had prototypes or my PhD
2 students might have built prototypes where they use more
3 than one sensor. But the ones I do recall, they just
4 had one sensor.

5 Q. So if you go to Claim 1, which is column -- I
6 guess page 9. It's not columns.

7 A. Correct.

8 Q. Okay. Are you there?

9 A. Yes, I am.

10 Q. One of the limitations of Claim 1 is a sensor
11 configured to detect a variation of a characteristic.

12 Do you see that?

13 A. Yes.

14 Q. Would an analog sensor fall within the scope of
15 that claim?

16 MR. PETERS: Objection. Form. Foundation.
17 Scope.

18 THE WITNESS: I don't know. I have to go back
19 and look.

20 BY MR. PEKAREK KROHN:

21 Q. You don't know whether this could be an analog
22 sensor? You think it might only refer to digital
23 sensors?

24 MR. PETERS: Same objections.

25 THE WITNESS: I just don't know. I wrote it

1 probably about 15 years ago. I built the system around
2 15 years ago.

3 I'd be more than happy to spend a couple of
4 hours to refresh my mind if you would like me to, but I
5 think it's inappropriate for me to provide responses
6 without really looking at this. It's something I
7 haven't looked at for 15 years.

8 BY MR. PEKAREK KROHN:

9 Q. Let's look at Claim 7. Claim 7 comprises --
10 says, "further comprising at least one additional
11 sensor."

12 Do you see that?

13 A. I see the words, "further comprises at least
14 one additional sensor."

15 Q. So does that refresh your recollection as to
16 whether the system you built used more than one sensor
17 to detect a swallow?

18 MR. PETERS: Object to form.

19 THE WITNESS: No, claims is not equal to
20 systems that I built.

21 BY MR. PEKAREK KROHN:

22 Q. I understand. I'm just asking whether it
23 refreshes your recollection as to whether the system
24 you've built might have used more than one sensor?

25 MR. PETERS: Object to form.

1 THE WITNESS: I was as specific, to the best of
2 my knowledge, the system that I built had only one
3 sensor, as best as I remember.

4 BY MR. PEKAREK KROHN:

5 Q. So looking at this -- forgetting the system you
6 built. Looking at these claims, would you be able to
7 design a system that used more than one sensor as
8 described in Claim 7?

9 MR. PETERS: Object to form, foundation, and
10 scope.

11 THE WITNESS: If your question is general
12 outside of this patent that I'm an inventor on, and
13 generally you could have systems with multiple sensors,
14 sure.

15 BY MR. PEKAREK KROHN:

16 Q. And you could have systems with multiple analog
17 sensors; correct?

18 MR. PETERS: Same objections.

19 THE WITNESS: I have not opined on that in my
20 declaration or reply declaration.

21 BY MR. PEKAREK KROHN:

22 Q. I understand. But you said you could have
23 systems with multiple sensors. So I'm asking, could you
24 also have a system with multiple analog sensors?

25 MR. PETERS: Same objections.

1 THE WITNESS: Outside the scope of these
2 patents that you are discussing today, right now I
3 cannot think of a system that has multiple analog
4 sensors but they may exist. So I have not provided an
5 opinion on that.

6 BY MR. PEKAREK KROHN:

7 Q. I understand you haven't provided an opinion
8 about it until now. And I'm just asking some general
9 questions.

10 If you can go to paragraph 49 of this
11 publication.

12 A. Yes.

13 Q. You see that it says, "Sensor device 110 may
14 output an analog signal."

15 Do you see that?

16 A. Sorry. 49?

17 Q. Yes, 0049. It's page 19 of the PDF, page 3 of
18 the document.

19 A. Yeah, please give me a moment to read that.

20 Q. Of course.

21 A. And your question again was?

22 Q. That it refers to a sensor device as
23 outputting, as an example, an analog signal; right?

24 A. Paragraph 49 does talk about an analog signal
25 as an output.

1 Q. And then in paragraph 50, it talks about
2 performing different functions on an analog signal,
3 including converting it to digital through an analog to
4 digital converter; correct?

5 A. Paragraph 50 says, "For example, sensor
6 interface 120 may perform one or more of the sample of
7 analog sensor signal to convert the signal to digital
8 performed by a way of analog to digital converter ADC."

9 Q. It also says that, "You could filter a sensor
10 signal or a version of the signal to isolate frequencies
11 of interest."

12 Do you see that? "And/or to remove noise."

13 A. You read that correctly.

14 Q. And that's something you can do on an analog
15 signal; correct?

16 MR. PETERS: Object to form. Foundation.
17 Scope.

18 THE WITNESS: I have to go back and look. I'm
19 not sure what has been discussed here.

20 BY MR. PEKAREK KROHN:

21 Q. So either in this document or in the system you
22 developed or just in any of your 35 years of experience,
23 have you ever encountered a situation where you have
24 multiple analog sensors where there is a computation or
25 a combination or a calculation that uses both -- that

1 uses more than one analog signal prior to converting the
2 analog signal to digital?

3 MR. PETERS: Object to form, foundation, and
4 scope.

5 THE WITNESS: I don't recall building such a
6 system.

7 BY MR. PEKAREK KROHN:

8 Q. Do you recall building any system with multiple
9 analog sensors?

10 A. None comes to mind related to physiological
11 monitoring.

12 Q. What about related to anything else?

13 A. I have to think about that. I'm not ready to
14 respond to that today. As I said, I have 35 years of
15 experience. I've built hundreds of systems. I need to
16 go back and look.

17 Q. Is there any reason you couldn't design a
18 system that used multiple analog sensors and combined
19 those signals from those sensors before going to an
20 analog to digital converter?

21 MR. PETERS: Object to form.

22 THE WITNESS: What do you mean by "combine"?

23 BY MR. PEKAREK KROHN:

24 Q. Do some sort of analog computation given two
25 analog signals?

1 MR. PETERS: Object to form.

2 THE WITNESS: Doing analog computation on
3 analog signals is quite expensive. Expensive meaning,
4 time, power, et cetera. So that's why the system would
5 always do a conversion and doing well-known with an A to
6 D converter and using well-known methodologies to
7 perform interesting computations on them.

8 BY MR. PEKAREK KROHN:

9 Q. If you could go to 1001, which is the '307
10 patent.

11 You served as an expert in a number of patent
12 cases; is that correct?

13 A. I have.

14 Q. Do you understand the meaning of the term
15 "comprising," in the context of patent claims?

16 A. Generally speaking, it means it contains these
17 things and maybe then some.

18 Q. In Claim 1 of the '307 patent, claim 1 requires
19 a diagnostic sensor unit comprising a unique
20 identification ID number; correct?

21 A. Sorry. Where are you looking at?

22 Q. Claim 1. So it says, "A radio frequency RF
23 adjustable sensor unit comprising."

24 A. Yes.

25 Q. And then three down it says, "A unique

1 identification ID number."

2 Do you see that?

3 A. Yes.

4 Q. So under your understanding of the term
5 comprising, that would mean that the RF addressable
6 diagnostic sensor unit contains a unique identification
7 ID number and could contain other things; correct?

8 A. That's what I understand generally what
9 comprising means in patent law, but I'm not an
10 attorney.

11 Q. What does it mean for the identification ID
12 number to be unique?

13 MR. PETERS: Object to form.

14 THE WITNESS: So, for example, depending on the
15 context, when you have a serial number of a device, you
16 could say that's a unique number because you know what
17 kind of software to deliver to it.

18 BY MR. PEKAREK KROHN:

19 Q. So in the example of the glucose meter with a
20 serial number 123, if I had another glucose meter next
21 to it that also has a serial number 123, that would no
22 longer be a unique identification number; correct?

23 MR. PETERS: Object to form.

24 THE WITNESS: I would say that is unique
25 because the whole purpose is what kind of software you

1 are delivering to these systems. And the general use
2 case is that you have one glucose monitor in an
3 environment, let's say, in a home. Therefore, that ID
4 can be used to deliver the right software to it for
5 interpretation.

6 BY MR. PEKAREK KROHN:

7 Q. So in your view, if I have a -- if I have 10 RF
8 addressable diagnostic sensor units and they each have
9 the exact same serial number, in your view that's still
10 a unique identification ID number?

11 MR. PETERS: Object to form.

12 THE WITNESS: Typically, again in an
13 environment, you have one such system. The purpose of
14 having unique IDs, as I've explained throughout my
15 declaration, is to make sure the right software gets
16 delivered and that would be a unique ID for the
17 system.

18 BY MR. PEKAREK KROHN:

19 Q. I'm not sure you quite answered my question
20 though.

21 So if they all have the same serial number,
22 let's say 123, is that still a unique identification ID
23 number?

24 MR. PETERS: Object to form.

25 THE WITNESS: I mentioned in my reply that,

1 "Ground three combination renders an obvious unique
2 combination ID number as we cited in Claim 1. For
3 example, Beck discloses that the client-computing device
4 identifies the medical device without the need for the
5 user to enter identifying information for the medical
6 device, including through identification code and serial
7 numbers retrieved from the medical device."

8 BY MR. PEKAREK KROHN:

9 Q. What paragraph are you reading from?

10 A. By way of example, this is paragraph 43. And
11 my discussion of unique identification ID number starts,
12 among other places, at paragraph 43 and goes to
13 paragraph 45.

14 Q. So sometimes you will have stamped on a device,
15 a medical device for example, a model number and a
16 serial number; right?

17 MR. PETERS: Object to form.

18 THE WITNESS: Please proceed. I have to think
19 about that.

20 BY MR. PEKAREK KROHN:

21 Q. Would the model number meet the limitation of a
22 unique identification ID number if it was a model number
23 of a RF addressable diagnostic sensor unit?

24 MR. PETERS: Object to form. Scope.

25 THE WITNESS: What I have opined on is, as I

1 mentioned, that Beck discloses that the client-computing
2 device 120 identifies the medical device without the
3 need for the user to enter identifying information for
4 the medical device, including through identification
5 codes and serial number retrieved from the medical
6 device.

7 BY MR. PEKAREK KROHN:

8 Q. I understand that's what you said. I'm trying
9 to understand how broad you think this term goes.

10 I understand if it's a unique serial number, if
11 it's 123 on one of them and 456 on the other, I
12 understand those would be unique identification ID
13 numbers.

14 What I'm asking is, what if it's 123 on item
15 one and 123 on item two, does that still meet the
16 limitation of a unique identification ID number?

17 MR. PETERS: Object to the form.

18 THE WITNESS: Yeah, so for obviousness analysis
19 that I've performed, what is stated here by Beck which
20 says, "The medical device without the need for the user
21 to enter identifying information for a medical device,
22 including through identification code and serial number,
23 retrieved from the medical device." That will be your
24 unique identification number. That's what I've
25 stated.

1 BY MR. PEKAREK KROHN:

2 Q. So is your view of Beck that that serial number
3 could be the same for multiple devices or is your view
4 of Beck that that serial number would have to be
5 different for multiple devices?

6 MR. PETERS: Object to form.

7 THE WITNESS: It is exactly as Beck describes,
8 that the identification code and serial code in
9 paragraph -- in Exhibit 1003 of Beck, is what makes it
10 obvious to one in the ordinary skill of the art is
11 there's a unique identification ID number.

12 BY MR. PEKAREK KROHN:

13 Q. What I'm trying to understand is what does it
14 mean for it to be unique?

15 I thought unique meant it would only be on that
16 one device and, therefore, it's unique to that one
17 device.

18 But you said something else earlier and that's
19 why I'm trying to figure out how broad this is. Whether
20 you believe that two items with the same number, that
21 number could still be unique?

22 MR. PEKAREK KROHN: Object to form.

23 THE WITNESS: Yeah, what I did say was that the
24 identification code and the serial number that Beck
25 talks about is the unique identification ID number. And

1 then you read Beck in discussion of this, one would
2 recognize that these are indeed unique identification ID
3 numbers.

4 BY MR. PEKAREK KROHN:

5 Q. And when you say, "they're unique
6 identification ID numbers," does that mean that each
7 device would have a different number than all other
8 devices?

9 MR. PETERS: Object to form.

10 THE WITNESS: Exactly as Beck has used. I'll
11 be happy to go to Beck to quote the part he describes
12 this, where he states that, "The client computing device
13 identifies the medical device without the need for the
14 user to enter identifying information for the medical
15 device, including through identification code and serial
16 number." So when the medical device meets these
17 constraints then you have a unique ID number.

18 BY MR. PEKAREK KROHN:

19 Q. So I think there's different ways to read what
20 "identifies" means there; right?

21 Identifies could mean, I have identified it as
22 an EKG machine or I have identified it as an EKG machine
23 made by General Electric; right?

24 Identifies could also mean, I've identified
25 this EKG machine that is the only one and is different

1 than all the other EKG machines in the world.

2 Which definition of "identifies" do you think
3 Beck is using?

4 MR. PETERS: Object to form.

5 THE WITNESS: And this is specifically to Beck;
6 is that the question?

7 BY MR. PEKAREK KROHN:

8 Q. Because you're relying on Beck for the unique
9 identification ID number and you are relying on those
10 particular statements for that as you just read. And so
11 I want to understand.

12 Do you think it is identifying the type of
13 device, or do you think it's identifying the particular
14 device?

15 A. Going back to my original declaration, the
16 first one, I do mention that Beck discloses the element
17 of unique ID number. For example, Beck discloses that
18 the device identification component, that's 214 of the
19 client computing device 120, identifies the medical
20 device without the need for the user to enter
21 identifying information for the medical device.

22 Beck goes on to explain that reason for,
23 "Identifying the medical device 130 include through
24 identification code retrieved from the medical device,
25 serial number retrieved from the medical device, and

1 other information retrieved from the medical device.
2 The POSITA would have understood that the serial number
3 or identification code for the medical device is a
4 unique ID number that would uniquely identify the
5 medical device and the corresponding sensor."

6 So from what Beck describes the system here and
7 its ID number, a POSITA would understand that to be a
8 unique ID number and would define a unique ID number as
9 such is.

10 Q. Unique to that particular device or unique to
11 that type device?

12 MR. PETERS: Object to form.

13 THE WITNESS: Exactly as Beck mentions it. He
14 says, "The serial number retrieved from the medical
15 device, identification code retrieved from the medical
16 device, this would be all examples of a unique ID
17 number."

18 BY MR. PEKAREK KROHN:

19 Q. Unique to what?

20 A. Unique in the systems that has been analyzed in
21 '307 and described by Beck via obviousness.

22 Q. So let's say that Beck is only identifying a
23 type of device, would that still meet the limitation in
24 your mind of a unique identification ID number?

25 MR. PETERS: Object to form.

1 THE WITNESS: Beck says, "Ways of identifying
2 the medical device include through identification code
3 retrieved from the medical device or serial number
4 retrieved from the medical device and other
5 information."

6 To me, that's the definition of -- or that's an
7 example of a unique ID number.

8 BY MR. PEKAREK KROHN:

9 Q. Right. But you won't tell me whether that's
10 unique to the particular device or the type of device.
11 So I'm asking you, let's assume -- I know this may not
12 be your opinion, but let's assume that Beck is only
13 identifying the type of device.

14 Are you with me so far?

15 A. By serial number?

16 Q. Well, yes, because you wouldn't tell me whether
17 you could have two serial numbers that were the same and
18 that would still be unique.

19 So let's assume you could have multiple serial
20 numbers that are the same and all Beck is doing is
21 identifying the type of device.

22 Are you with me so far?

23 MR. PETERS: Objection. Form.

24 THE WITNESS: Yes.

25 BY MR. PEKAREK KROHN:

1 Q. Would that still meet the limitation of a
2 unique identification ID number?

3 MR. PETERS: Objection. Form.

4 THE WITNESS: So again, certainly what Beck
5 describes which is ways of identifying the medical
6 device, including through an identification code
7 retrieved from the medical device or serial numbers
8 retrieved from the medical device would constitute a
9 unique ID number as a POSITA would understand it.

10 BY MR. PEKAREK KROHN:

11 Q. Right. And so now we're assuming that that is
12 just the type. But let's assume that is just
13 identifying the model number of the mole device, okay?

14 A. Okay.

15 Q. So would that still meet the limitation of a
16 unique identification ID number?

17 MR. PETERS: Object to form.

18 THE WITNESS: Again, what Beck says is the
19 serial number retrieved from the medical device or
20 identification code retrieved from the medical device,
21 those are considered unique ID numbers by a POSITA.

22 BY MR. PEKAREK KROHN:

23 Q. Dr. Sarrafzadeh, I'd really appreciate it if
24 you'd actually listen to the questions I'm asking and
25 answer them because we've already -- you've already read

1 that three or four times, and we're now assuming that
2 only identifies the type of device, the model of the
3 device.

4 If that were the case -- and so we don't need
5 to look at Beck anymore. If that's all that Beck
6 disclosed, would that still meet the limitation of a
7 unique identification ID number?

8 MR. PETERS: Object to form. Foundation.
9 Scope. Argumentative.

10 THE WITNESS: Given that Beck describes serial
11 number that is retrieved from the medical device, that's
12 an example of a unique ID number.

13 BY MR. PEKAREK KROHN:

14 Q. Because it's unique to that particular medical
15 device; right?

16 MR. PETERS: Object to form.

17 THE WITNESS: Because that's what serial
18 numbers are. A POSITA would understand the serial
19 number that is retrieved from the medical device to be
20 the unique ID number described in the patent.

21 BY MR. PEKAREK KROHN:

22 Q. Right. So serial number was just the type of
23 device or the model number that wouldn't be a unique
24 identification number; correct?

25 MR. PETERS: Object to form. Foundation.

1 THE WITNESS: Beck says a serial number
2 retrieved the medical device or identification code
3 retrieved from the medical device a POSITA and myself
4 understand that to be a unique ID number.

5 BY MR. PEKAREK KROHN:

6 Q. Unique to that particular device; correct?

7 MR. PETERS: Object to form.

8 THE WITNESS: Unique ID number for obviousness
9 analysis of the '307 patent, Claim 1.

10 BY MR. PEKAREK KROHN:

11 Q. Obviousness you can make some logical leaps
12 perhaps, but I'm just asking about the disclosure.

13 Is that disclosing a unique number for a
14 particular device or is that simply disclosing a unique
15 number that could be the same for all devices of that
16 same model?

17 MR. PETERS: Object to form.

18 THE WITNESS: Again, "Serial number retrieved
19 from the medical device or identification code retrieved
20 from the medical device," and other things that I've
21 mentioned throughout my first and second report, "would
22 inform a POSITA that it is a unique ID number."

23 BY MR. PEKAREK KROHN:

24 Q. And how does that identify the corresponding
25 sensor?

1 A. Sorry. I don't understand your question.

2 Q. Well, the claim isn't about devices; right?

3 MR. PETERS: Object to form.

4 THE WITNESS: Correct.

5 BY MR. PEKAREK KROHN:

6 Q. Right. It's about sensors.

7 So how does the unique number for the medical
8 device identify the corresponding sensor?

9 MR. PETERS: Object to form.

10 THE WITNESS: So in my reply report, a number
11 of places by way of example, I mention that by
12 identifying the medical device, Beck's unique ID
13 identifies every component of the device. For example,
14 an ID identifying a glucose meter also identifies the
15 sensor of the device as a glucose sensor.

16 BY MR. PEKAREK KROHN:

17 Q. But you just said you had no opinion on whether
18 identifying a glucose meter could identify all the
19 strips that were used in the glucose meter; right?

20 MR. PETERS: Object to the form.

21 THE WITNESS: So the sensing that comes in the
22 glucose sensing components are identified when you
23 identify the medical device.

24 BY MR. PEKAREK KROHN:

25 Q. But identifying the medical device does not

1 identify each individual test strip used with that
2 glucose meter; right?

3 MR. PETERS: Object to the form. Foundation.

4 THE WITNESS: Of course as we discussed, when
5 you know the medical device, you know the type of the
6 strips that is to be used.

7 BY MR. PEKAREK KROHN:

8 Q. But that's not -- type is not unique to the
9 strip. Type covers multiple strips; right?

10 MR. PETERS: Object to the form.

11 THE WITNESS: I have not opined on the strips
12 in my report. I've opined on the fact that Beck's
13 unique ID identifies every component of the device. For
14 example, an ID identifying the glucose meter also
15 identifies the sensor of the device -- sensors of the
16 device as glucose sensors. Meaning, what is needed for
17 the operation of the system.

18 BY MR. PEKAREK KROHN:

19 Q. So how does the serial number of the medical
20 device identify the corresponding sensor, whether those
21 sensors are the strips or something else?

22 MR. PETERS: Object to the form.

23 THE WITNESS: Exactly as that. When you
24 know -- this system is built as a whole when you know
25 the ID of the medical device, then you have identified

1 every component of the device.

2 BY MR. PEKAREK KROHN:

3 Q. Do leads have serial numbers?

4 MR. PETERS: Object to form. Foundation.

5 THE WITNESS: I have not provided an opinion on
6 that. EKG has a serial number.

7 BY MR. PEKAREK KROHN:

8 Q. You don't know whether leads have serial
9 numbers?

10 A. I have not provided an opinion on that in my
11 report.

12 Q. Are lead components of the EKG machine?

13 MR. PETERS: Same objection.

14 THE WITNESS: I have not provided an opinion on
15 that.

16 BY MR. PEKAREK KROHN:

17 Q. You can't tell given -- let's assume that leads
18 do have serial numbers. You can't tell from the serial
19 number of the EKG machine the serial number of the leads
20 that go with that EKG machine, can you?

21 MR. PETERS: Objection. Foundation.

22 THE WITNESS: I need to investigate the serial
23 number on the leads. That's not something I have
24 provided an opinion on in my report.

25 BY MR. PEKAREK KROHN:

1 Q. Do electrodes have serial numbers?

2 A. I have not provided an opinion on that specific
3 question.

4 Q. Let's assume that electrodes do have serial
5 numbers.

6 Does the serial number of the EKG machine tell
7 you anything about the serial numbers of the electrodes
8 being used?

9 MR. PETERS: Object to form. Foundation.

10 THE WITNESS: I have not provided an opinion on
11 a serial number of the electrodes. It was not relevant
12 to my analysis. Therefore, I cannot opine on that.

13 BY MR. PEKAREK KROHN:

14 Q. Does Beck disclose a unique identifying number
15 for any type of sensor?

16 MR. PETERS: Object to form.

17 THE WITNESS: As I mentioned, Beck goes on to
18 explain the ways of identifying medical devices,
19 including through identification code retrieved from the
20 medical device or the serial number retrieved from the
21 medical device.

22 BY MR. PEKAREK KROHN:

23 Q. Yeah, but I didn't ask about identifying
24 medical devices. I asked about identifying sensors.

25 Does Beck disclose a unique identifying number

1 for any type of sensor?

2 A. As I mentioned, that by identifying the medical
3 device, Beck's unique ID identifies every component of
4 the device, including obviously its sensors. So in that
5 sense, yes.

6 Q. If you could look at Exhibit 1005, which is
7 Bandy. And I'd like you to go to Figure 1.

8 Figure 1 disclosed a wireless sensor reader
9 interacting with a number of RF addressable sensors;
10 correct?

11 A. I'm sorry. I'm still trying to locate it.

12 Q. Sorry. Take your time.

13 A. Exhibit 1005 you said?

14 Q. I believe it's 1005. Yes.

15 A. And you want me to go to Figure 1?

16 Q. Figure 1.

17 A. Okay.

18 Q. I'll start over and ease us into it a little
19 bit.

20 You see in Figure 1 there's a wireless sensor
21 reader 140?

22 A. Yes.

23 Q. And you see that wireless reader is there
24 interacting through this sort of lightning bolts with a
25 number of RF addressable sensors; correct?

1 A. There are connections called -- labeled 115
2 that connects 140 to elements 110, and I see three of
3 them.

4 Q. Right. I think five elements 110 but three of
5 them are being connected to the reader; is that
6 correct?

7 A. Yes.

8 Q. Does the '307 patent disclose a wireless sensor
9 reader interacting with more than one RF tag?

10 A. Is that from my declaration? Is that what
11 you're looking at?

12 Q. I'm not looking at your declaration. I'm just
13 asking about the patent that you're asserting is the
14 claims of which are obvious.

15 And I'm asking you whether that patent
16 disclosed the wireless sensor reader interacting with
17 more than one RF tag?

18 A. '307 says, "Why various embodiment of the
19 present invention have been described. Above, it should
20 be understood that they have been presented by way of
21 example only and not limitation. It will be apparent to
22 persons skilled in the relevant art that various changes
23 in form and detail can be made therein without departing
24 from the spirit and the scope of invention; thus the
25 breadth and scope of the present intervention shouldn't

1 be limited by any of the above-described embodiments but
2 should be defined only in accordance with the following
3 claims and their equivalence."

4 So one would understand that you could increase
5 the number of sensors.

6 Q. Just to be clear, I'm not talking about
7 sensors. I'm talking about RFID sensor units, I
8 suppose.

9 Do you see any -- other than that sort of
10 disclaimer at the end, is there anything in the '307
11 patent that discloses a wireless reader interacting with
12 more than one RF tag?

13 MR. PETERS: Object to form.

14 THE WITNESS: Again, the disclaimer makes it
15 clear that one could consider multiple tags when you
16 look at '307.

17 BY MR. PEKAREK KROHN:

18 Q. Other than that disclaimer, do you see any
19 actual disclosure of that in the '307?

20 A. I read the patent as a whole, including that
21 disclaimer, so I would say yes, it can deal with
22 multiple tags.

23 Q. Right. But other than that disclaimer, do you
24 see anything that discloses multiple tags?

25 A. Again, I read a patent as a whole, including

1 any disclaimer claims, prior art, background, and I
2 would say, based on all of that together, one POSITA
3 would understand that there could be multiple tags.

4 Q. Turning back to your supplemental declaration
5 1033, paragraph 12.

6 A. Yes.

7 Q. You say that the '307 patent does not discuss
8 or mention a wireless device ID?

9 A. Correct.

10 Q. If you can go to the '307 patent and go to
11 column 5, lines 13 through 16.

12 A. I apologize. Did you say '307 patent?

13 Q. The '307, yes. Let's take a step back.

14 You said the '307 patent does not discuss or
15 mention a wireless device ID; correct?

16 A. Yes, that's from paragraph 12 of my report.

17 Q. Yes. So now if we go to Exhibit 1001, which is
18 the '307 patent.

19 A. Yes.

20 Q. I'd like you to look at column 5, lines 13
21 through 16. The paragraph that starts, "Figure 1 is a
22 blocked diagram."

23 Do you see that?

24 Let me know when you're there.

25 A. I'm there.

1 Q. You see there's reference to a cellular
2 phone?

3 A. Yes.

4 Q. So does this reference to a cellular phone
5 indicate a wireless device ID to a POSITA?

6 A. What I'm saying in our 12 -- paragraph 12 is
7 that the wireless device ID is not explicitly mentioned
8 and discussed. That's the whole discussion of paragraph
9 12, in that, how do you interpret wireless device ID in
10 the claim. So that's what this is referring to. There
11 is no further discussion of what the wireless device ID
12 is. What it does. How it interacts with the rest of
13 the system.

14 Q. So do you believe the cellular phone has a
15 wireless device ID?

16 A. A cellular phone generally would have a device
17 ID, but what that ID is and how it's discussed and how
18 it interacts is what I'm referring to in paragraph 12,
19 that the patent doesn't teach you further what that is
20 and what the notion of association is.

21 Q. If you can go back to your supplemental
22 declaration, Exhibit 1033, and go to paragraph 22.

23 A. Yes.

24 Q. You cite Dr. Peeters -- this is the top -- sort
25 of the top 1/3 of page 13. You say Dr. Bandy's protocol

1 is specifically to isolate a tag and that's citing
2 Dr. Peeters testimony; correct?

3 A. Correct.

4 Q. But Dr. Peeters was talking about isolating a
5 tag within UHF technologies; correct?

6 MR. PETERS: Object to the form.

7 THE WITNESS: Can you show me Dr. Peeters,
8 where he talks about that?

9 BY MR. PEKAREK KROHN:

10 Q. I can.

11 A. Great.

12 (Exhibit 1032 was marked.)

13 BY MR. PEKAREK KROHN:

14 Q. So I'm going to put into the chat Exhibit 1032,
15 which is Dr. Peeters -- the transcript from Dr. Peeters'
16 deposition. And you can go to -- I believe, page 45 is
17 what you cite in your report?

18 A. Yes.

19 Q. So you cite page 45, starting at line 12.

20 A. Yes. I'm on page 45 of the PDF, which is 45 of
21 the transcript.

22 Q. So the first sentence that you quote a snippet
23 of, the full sentence is, "So this particular technology
24 is specifically to isolate a tag that is used within,
25 you know, UHF technologies which are essentially UHF

1 RFID technologies which are really supplied chain
2 technologies."

3 Do you see that?

4 MR. PETERS: Object to form.

5 THE WITNESS: Okay. I read that.

6 BY MR. PEKAREK KROHN:

7 Q. So the snippet that you quoted Dr. Peeters was
8 talking about in the context of UHF technologies;
9 correct?

10 MR. PETERS: Object to form.

11 THE WITNESS: Page 45 talks about -- starting
12 paragraph 19 talks about many things, including UHF
13 technologies. That's correct.

14 BY MR. PEKAREK KROHN:

15 Q. Do you know what distance UHF technologies are
16 effective?

17 A. I have not looked into that. I haven't
18 memorized it.

19 MR. PEKAREK KROHN: Let's take a break.

20 THE WITNESS: Sure.

21 (Off the record: 11:54 a.m. - 12:04 p.m.)

22 MR. PEKAREK KROHN: No further questions.

23 MR. PETERS: I have no questions. Thank you.

24 MR. PEKAREK KROHN: Cara, may I get a rough and
25 the final in a week?

1 MR. PETERS: I'll take the same.

2 THE STENOGRAPHER: Yes.

3 (Off the record at 12:04 p.m.)

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WITNESS'S CHANGES OR CORRECTIONS

Deponent: MAJID SARRAFZADEH

NOTE: If you are adding to your testimony, print the exact word/words you want to add. If you are deleting words from your testimony, print the exact word/words you want to delete. Specify with "Add" or "Delete" and sign below.

PAGE	LINE	CHANGE/ADD/DELETE
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Pursuant to Section 2025.520 of the Code of Civil Procedure of the State of California, I hereby certify that I have read my Statement Under Oath transcript, made those changes and corrections that I deem necessary, and approve the same as now true.

Date: _____ Signature: _____

DECLARATION UNDER PENALTY OF PERJURY

Case Name: ABBOTT LABORATORIES VERSUS ALTIVERA LLC

Date of Deposition: Wednesday, February 19, 2025

I, MAJID SARRAFZADEH, hereby certify under penalty of perjury under the laws of the State of _____ that the foregoing is true and correct.

Executed this _____ day of _____, 20____, at _____.

MAJID SARRAFZADEH

CERTIFICATE OF STENOGRAPHIC REPORTER

I, CARA M. FOSTER, a Stenographic Certified Shorthand Reporter and Registered Professional Reporter, hereby certify that the witness in the foregoing deposition:

That MAJID SARRAFZADEH, the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken before me on Wednesday, February 19, 2025, commencing at 9:00 a.m. - 12:04 p.m. PST, and is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage, I am not employed by or an attorney to any of the parties to this action, and that I am in no way interested, financially or otherwise, in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of February, 2025.



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February 26, 2025

Majid Sarrafzadeh
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555 Eleventh Street, NW
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Washington, DC 20004

Re: Abbott Laboratories and Abbott Diabetes
Care Inc. v. Altivera LLC
Date of Deposition: February 19, 2025

The transcript of your deposition taken in the above-entitled matter has been transcribed. The original transcript will be held for 30 days from the date of this letter before it is sealed and forwarded to the noticing attorney.

You have the right to review, sign and make corrections to your transcript within the 30-day period. Please call the above number, or e-mail to make an appointment for your review. It is our policy not to release the original transcript and complimentary copies are not provided.

If you are represented by an attorney, we advise that you contact your attorney to discuss this matter. If you are an independent witness and have questions, please contact the attorney who requested you to testify or this office for further instructions.

If you wish to waive signature, please sign and date below and return this letter to the above address. In the event you have not read, corrected, and signed your deposition within (30) days of receipt of this letter, it may be used with the full force and effect as though it had been read, corrected, and signed.

Cc: All counsel

DATE

Majid Sarrafzadeh

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global (14)	IB4 (1)	interpret (1)	laptop (3)
global-positioning-	ID (57)	interpretation (1)	larger (1)
system-based (1)	identification (41)	interrogate (18)	LATHAM (2)
glucose (64)	identified (6)	interrogated (1)	latitude (2)
go (42)	identifier (1)	interrogating (3)	law (1)
goal (1)	identifies (14)	interrogation (51)	laws (1)
goes (9)	identify (10)	intervention (1)	lead (6)
going (10)	identifying (27)	invent (2)	leads (9)
good (4)	IDs (1)	invented (4)	leaf (1)
gotten (1)	ignored (1)	invention (2)	lean (1)
GPS (65)	illustrates (1)	inventor (2)	leaps (1)
GPS-based (5)	implication (2)	inventors (1)	left (3)
graph (3)	implications (3)	inventory (1)	level (3)
graph-based (1)	imply (1)	investigate (1)	license (1)
Great (1)	importance (1)	investigation (1)	light (1)
ground (2)	important (2)	involved (2)	lightning (1)
guess (6)	Importantly (1)	involves (1)	limitation (9)
guesstimate (1)	inappropriate (1)	IO (1)	limitations (1)
< H >	inch (1)	IPR (1)	limited (2)
habits (2)	inches (1)	IPR2024-004225 (1)	line (3)
half (6)	include (5)	IPR2024-00425 (1)	linear (3)
hand (4)	includes (5)	isolate (4)	lines (2)
handset (2)	including (15)	isolating (2)	links (1)
handset-based (2)	incorporates (1)	item (4)	list (4)
happy (3)	incorporation (1)	items (7)	listen (1)
hard (6)	increase (1)	its (6)	little (4)
hear (3)	increased (5)	< J >	LLC (3)
heard (1)	indicate (2)	Job (3)	LLP (2)
hearing (1)	indicating (1)	John (1)	localize (1)
heart (4)	indicative (1)	joining (1)	localized (1)
Heller (7)	individual (9)	< K >	locate (2)
help (2)	inform (1)	keep (1)	location (5)
helps (1)	information (25)	key (4)	log (7)
hereinbefore (1)	insert (1)	keys (3)	logarithmic (1)
hereunto (1)	inserts (1)	kind (8)	log-based (2)
hidden (1)	instructs (1)	kinds (2)	logic (6)
hierarchy (1)	intake (1)	know (56)	logical (1)
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looked (3)	minutes (2)	Objection (12)	part (10)
looking (14)	model (11)	objections (13)	particular (16)
looks (2)	modified (1)	objective (4)	parties (2)
lose (3)	mole (1)	objectives (4)	parts (2)
lots (2)	moment (1)	observing (1)	passage (1)
< M >	monitor (11)	obtaining (1)	PATENT (50)
machine (9)	monitoring (3)	obvious (7)	patently (1)
machines (3)	mouth (1)	obviously (1)	patents (7)
Madison (1)	move (1)	obviousness (4)	patent's (2)
Main (3)	multiple (24)	occasion (1)	path (2)
MAJID (10)	multiprocessor (1)	occasions (1)	patient (3)
making (1)	multitask (1)	OFFICE (1)	PDA (4)
man (2)	multitude (1)	Oh (3)	PDF (3)
manufactured (2)	multiway (1)	Okay (13)	Peeters (11)
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marked (2)	name (5)	older (1)	pen (1)
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marriage (1)	narrow (1)	old-fashioned (1)	pencil (1)
material (1)	natively (1)	once (2)	people (5)
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mean (25)	necessary (1)	open (1)	performed (6)
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met (2)	notice (1)	Owner (3)	piezoelectric (2)
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			plus (1)

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 rate (4)
 rcarreyn@perkinscoie.
 com (1)
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upgraded (1) upper (1) use (27) useful (1) user (7) uses (12) usually (2) < V > valuable (1) value (4) variable (1) variation (3) variations (2) variety (2) various (8) version (3) versus (3) vertex (8) vertex/node (1) vertices (3) Video (1) videoconference (1) view (8) virtually (1) vital (14) volume (1) < W > want (21) wanted (1) Warren (2) Warren's (1) Washington (1) WATKINS (2) wavelength (1) way (20) ways (8) web (3) webcam (1) Wednesday (3) week (3) Well (9) well-known (2) went (1) we're (4) We've (6) WHEREOF (1) wiggle (1)	willingly (1) Windows (1) wireless (21) wires (1) Wisconsin (1) wish (1) witness (150) WITNESS'S (1) word (3) word/words (2) words (2) work (9) worked (1) works (1) world (3) wrap (1) writing (2) wrote (2) < Y > Yeah (11) year (2) years (16) yesterday (1) youth (1) < Z > Zoom (5)		
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