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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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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 STEVEN WARREN, PH.D.

THURSDAY, DECEMBER 19, 2024

10:00 A.M. CST

Job No.: 562218
Pages: 1 - 75
Reported by: Sean W. Gumm, CSR No. 13168, CRR, RMR

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A P P E A R A N C E S

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PROCEEDINGS

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DECEMBER 19, 2024

REMOTE DEPOSITION

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WITNESSES IN CHRONOLOGICAL ORDER

PAGE

FOR THE PETITIONER:

STEVEN WARREN, PH.D.

DIRECT EXAMINATION BY MR. PATHMANABAN:

8

EXHIBITS

FOR THE PETITIONER:

NO.	DESCRIPTION	ID.	EVD.
1001	'307 Patent	10	
1007	Beck Document	62	
2009	Declaration of Steven Warren, Ph.D	29	

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FOR THE PETITIONER:

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PG. / LN.

Question	That was regarding the dispute between Gentag and Abbott?	12	12
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1 DECEMBER 19, 2024 -- REMOTE DEPOSITION

2 (Whereupon the following proceedings were held
3 electronically via Zoom conferencing in the presence
4 of the Court Reporter, Counsel and the Parties.)

5 --oOo--

6 PLANET DEPOS TECHNICIAN DORU HALIP: Thank
7 you to everyone for attending this proceeding
8 remotely, which we anticipate will run smoothly.
9 Please remember to speak slowly, and do your best
10 not to talk over one another. Please be aware that
11 we are recording this proceeding for backup
12 purposes.

13 Any off-the-record discussions should be
14 had away from the computer. Please remember to mute
15 your mic for those conversations. Please have your
16 video enabled to help the reporter identify who is
17 speaking.

18 If you are unable to connect with video
19 and are connecting via phone, please identify
20 yourself each time before speaking. We will provide
21 a complimentary, unedited recording of this
22 deposition with the purchase of a transcript. I

1 apologize in advance for any technical-related
2 interruptions.

3 Thank you.

4 STEVEN WARREN, PH.D.,

5 (For the Petitioner)

6 called as a Witness, having been duly and
7 regularly sworn, testified as follows:

8 THE WITNESS: Yes.

9 DIRECT EXAMINATION

10 BY MR. PATHMANABAN:

11 Q. Good morning, Dr. Warren.

12 A. Good morning.

13 Q. My name is Giri Pathmanaban. I'm with
14 Latham & Watkins representing Abbott. Could you
15 please state your full name for the record?

16 A. My full name is Steven Warren.

17 Q. And, Dr. Warren, you understand that this
18 is a Patent Office proceeding, specifically an IPR
19 proceeding that Abbott filed?

20 A. That's my understanding.

21 Q. Have you been deposed before?

22 A. Yes.

1 Q. How many times have you been deposed
2 before?

3 A. I think this will be my seventh.

4 Q. Okay. And have all of your prior times
5 been as an expert witness?

6 A. Yes, they have.

7 Q. All right. So you -- you know the rules
8 of a deposition. I'm not going to belabor the
9 rules, but generally let's try not to talk over each
10 other, and give a chance for the court reporter to
11 take down a linear transcript.

12 A. Agreed.

13 Q. Right? Okay. Where are you this morning?

14 A. I am in my office on the Kansas State
15 University campus.

16 Q. Are you alone in your office?

17 A. Yes.

18 Q. Okay. And you have the Zoom software
19 open. Do you have anything else running on your
20 computer right now?

21 A. The only other thing I have opened is one
22 folder that has clean copies of some of the

1 materials I anticipate we would use today. I'm glad
2 to close that if you prefer to send me exhibits
3 directly.

4 Q. Um, if you don't mind, I think I would
5 prefer that. We are -- we're going to drop the
6 exhibits in the chat. In fact, we already dropped
7 in Exhibit 1001, which is the '307 Patent, but we
8 don't need to open that just yet.

9 Is that okay with you?

10 A. Yeah, I might go on and download it to
11 make sure we have a link suitable.

12 Q. Sure. What did you do to prepare for your
13 deposition today?

14 (Petitioner's Exhibit 1001 marked for
15 identification.)

16 A. I'm sorry. One moment. Let me get a
17 proper folder to put this in, and I'll be with you.
18 To prepare for the deposition today, I reviewed my
19 declaration. I reviewed sections of the material
20 that I cited in my declaration. I spoke with
21 counsel a few times, in terms of preparation.

22 And I got plenty of sleep.

1 Q. You mentioned that you reviewed your
2 declaration. Who wrote that declaration?

3 A. The opinions in the declaration are all
4 mine. Different material was drafted by me versus
5 the attorneys, depending on whether, for example, it
6 was a legal section or a technical section. I
7 drafted the material related to my background and
8 related to my technical opinions.

9 Counsel drafted the material related to
10 the legal sections.

11 Q. Okay. Did you -- in preparing either your
12 declaration or to prepare for your deposition today,
13 did you talk to anyone other than Counsel?

14 A. No.

15 Q. Have you talked to Mr. John Peeters about
16 this matter?

17 MR. PEKAREK KROHN: I'll just caution the
18 witness not to reveal communications that might be
19 privileged, which would involve conversations where
20 the attorneys were present.

21 THE WITNESS: I did not speak with
22 Mr. Peeters with regard to this deposition.

1 MR. PATHMANABAN:

2 Q. Well, first of all, have you talked to
3 Mr. Peeters about the matter between Gentag and
4 Abbott, generally?

5 MR. PEKAREK KROHN: Objection, form.

6 THE WITNESS: I have only spoken with
7 Dr. Peeters one time, and that was almost a year ago
8 on a group call that was quite short, which involved
9 myself, Dr. Peeters, and the counsel for Perkins
10 Coie.

11 MR. PATHMANABAN:

12 Q. That was regarding the dispute between
13 Gentag and Abbott?

14 MR. PEKAREK KROHN: Objection. I'm going
15 to instruct the witness not to answer on privilege
16 matters, and also object as to form.

17 THE WITNESS: I will follow, excuse me,
18 Counsel's suggestion and not answer.

19 MR. PATHMANABAN: Okay. Well, let's mark
20 that part of the transcript, please.

21 (Petitioner's record, Page 12, Record
22 Marked.)

1 I don't believe it's privileged when all I
2 asked, first of all, was generally regarding the
3 dispute between Gentag and Abbott. I mean, that's
4 the kind of information that would go on a
5 privileged log, even if that conversation was
6 privileged.

7 But the second issue is I'm allowed to ask
8 him, generally, about what he talked about related
9 to Gentag and Abbott, but we note your objection.

10 And let's open up the '307 Patent.
11 Mr. Halip, can you share that on the screen as well,
12 please?

13 PLANET DEPOS TECHNICIAN DORU HALIP: Yes.
14 One moment, please.

15 MR. PATHMANABAN:

16 Q. So the '307 Patent is Exhibit 1001 to this
17 proceeding, Dr. Warren; you understand that?

18 A. Yes, I do.

19 Q. And this is Gentag's patent, which is
20 challenged in this IPR; right?

21 A. Yes.

22 Q. Okay. So I want to -- now, you've

1 provided some opinions about claim construction
2 relating to this patent; correct?

3 A. That is correct.

4 Q. So I want to ask you about the claims
5 first.

6 MR. PATHMANABAN: Can you give me control,
7 please, Mr. Halip?

8 PLANET DEPOS TECHNICIAN DORU HALIP: Yes.
9 One moment, please.

10 MR. PATHMANABAN:

11 Q. While he's doing that, Dr. Warren, did you
12 know Mr. Peeters before this lawsuit?

13 A. No.

14 Q. Who contacted you first about this
15 lawsuit?

16 MR. PEKAREK KROHN: Objection. Form.

17 THE WITNESS: The very initial contact
18 came from IMS Legal Services.

19 MR. PATHMANABAN:

20 Q. Okay.

21 MR. PATHMANABAN: Sorry, do I have control
22 yet, Mr. Halip?

1 PLANET DEPOS TECHNICIAN DORU HALIP: No.
2 Something is happening, and it doesn't allow me to
3 give you control. I gotta figure out --

4 MR. PATHMANABAN:

5 Q. Okay. That's fine. Can you scroll down
6 to the claims, which is Column 19, in particular?

7 MR. PEKAREK KROHN: Giri, if you are going
8 to ask him about his claim construction opinions, I
9 think you asked him to close his local copy of his
10 materials. Are you going to put his declaration to
11 the chat for him to reference?

12 MR. PATHMANABAN: First of all, I don't
13 appreciate speaking objections. Second, I can ask
14 him whatever I want to ask him. You can make an
15 objection, form. And I'm asking about the patent
16 that he's opined about.

17 MR. PEKAREK KROHN: I wasn't making an
18 objection, I was just asking a question to you as
19 the person taking this deposition whether you were
20 going to allow him to review his declaration when
21 you are asking him questions about his claim
22 construction opinions.

1 MR. PATHMANABAN: I'm going to ask my
2 questions, and we will certainly -- I will certainly
3 have a number of questions about his declaration.

4 Q. Mr. -- excuse me, Dr. Warren you see in
5 Claim 1 -- why did it become small for me? Okay.
6 So Claim 1 the preamble says, "A radio frequency
7 addressable diagnostic sensor unit comprising [AS
8 READ]..."

9 Do you see that?

10 A. Yes.

11 Q. Do you believe that the preamble of this
12 claim is limiting?

13 MR. PEKAREK KROHN: Objection.

14 Foundation. Objection, relevance.

15 THE WITNESS: Yeah, at this point I would
16 like to request I see my declaration so that I can
17 clearly respond to your questions.

18 MR. PATHMANABAN:

19 Q. Well, I get to ask you my questions, and
20 you need to answer. It's -- so my question is do
21 you believe this preamble is limiting?

22 A. You are asking me.

1 MR. PEKAREK KROHN: The objection was
2 foundation and relevance.

3 THE WITNESS: Counsel, you are asking me a
4 legal question, and I think it's reasonable for me
5 to be able to look at my declaration.

6 MR. PATHMANABAN:

7 Q. So sitting here today, you don't know if
8 you opined whether the preamble is limiting or not?

9 MR. PEKAREK KROHN: Objection, form.
10 Objection, badgering.

11 MR. PATHMANABAN: All right --

12 THE WITNESS: Not what you asked me
13 originally. Originally you asked me if the preamble
14 was limiting, and my response is that is a legal
15 question. And I think it's as reasonable for me
16 then to look at my declaration to just confirm what
17 I'm thinking in my head.

18 MR. PATHMANABAN:

19 Q. Okay. But tell me what you recall about
20 what you opined about regarding the preamble?

21 MR. PEKAREK KROHN: Objection, relevance.
22 Objection, foundation. Objection, asked and

1 answered.

2 MR. PATHMANABAN: Asked and answered is
3 not a proper objection, Mr. Krohn.

4 THE WITNESS: I do not recall a specific
5 opinion related to whether or not the preamble is
6 limiting.

7 MR. PATHMANABAN:

8 Q. Okay. What is a sensor unit?

9 MR. PEKAREK KROHN: Objection. Form.

10 THE WITNESS: Are you asking for a
11 classical definition, or are you asking for the use
12 of the term as used in the asserted patent?

13 MR. PATHMANABAN:

14 Q. Let's start with the latter, the use of
15 sensor unit as used in the '307 Patent.

16 MR. PEKAREK KROHN: Objection, foundation.

17 THE WITNESS: The description of a sensor
18 unit is laid out in the claim limitations, the Claim
19 1. Namely, it is, "A radio frequency addressable
20 diagnostic sensor unit comprising" -- and then --
21 "at least one sensor element; at least one reference
22 sensor element; a unique identification number; a

1 sensor interface having an analog-to-digital
2 converter, coupled to the at least one sensor and
3 reference sensor element; at least one antenna; a
4 substrate; an RF power and communication interface
5 coupled to the at least one antenna and sensor
6 interface; a controller coupled to the RF power and
7 communications interface and the sensor interface;
8 and a memory coupled to the controller and the
9 sensor interface [AS READ]."

10 MR. PATHMANABAN:

11 Q. Okay. So the sensor unit is defined in
12 the body of the claim; is that effectively your
13 answer?

14 MR. PEKAREK KROHN: Objection. Misstates
15 prior testimony.

16 MR. PATHMANABAN: Okay. That is not a
17 proper objection, Mr. Krohn. You limit your
18 objections to form, otherwise we're going to get on
19 a call with the Board.

20 THE WITNESS: Can you please ask your
21 question again?

22 MR. PATHMANABAN:

1 Q. The sensor unit in Claim 1 is defined in
2 the body of the claim; is that right?

3 MR. PEKAREK KROHN: Objection. Form.

4 THE WITNESS: My answer to the prior
5 question was the Claim 1 describes the sensor unit.

6 MR. PATHMANABAN:

7 Q. How is -- hold on. Is there anywhere in
8 Claim 1 that -- withdrawn. Is the sensor unit
9 described in Claim 1 limited in size by the claim?

10 MR. PEKAREK KROHN: Objection, foundation.

11 THE WITNESS: I do not see wording in
12 Claim 1 that limits the size of the sensor unit. I
13 do see wording in a dependent claim that limits the
14 size of the sensor unit.

15 MR. PATHMANABAN:

16 Q. Which dependent claim is that?

17 A. As an example, Claim 3.

18 Q. So your testimony is Claim 3 -- which
19 requires a disposable, wireless skin patch -- limits
20 the size of the sensor unit of Claim 1?

21 MR. PEKAREK KROHN: Objection, form.

22 THE WITNESS: My testimony is that all of

1 the claims that are described in the patent must be
2 considered as a whole. The dependent claim,
3 therefore, informs the reader with regard to what
4 Claim 1 is teaching.

5 MR. PATHMANABAN:

6 Q. Would you agree that Claim 1 is not
7 limited to a wireless skin patch?

8 MR. PEKAREK KROHN: Objection, form.
9 Objection, calls for legal conclusion.

10 THE WITNESS: I would agree that Claim 1
11 is not limited to a wireless skin patch, because it
12 does not use those words.

13 MR. PATHMANABAN:

14 Q. Okay. And you would agree that Claim 1
15 doesn't limit the size of the sensor unit; right?

16 MR. PEKAREK KROHN: Objection, form.

17 THE WITNESS: I would say that Claim 1, on
18 its own, does not limit the size of the sensor unit.
19 However, the size of the sensor unit should be
20 considered, given all information that is presented
21 in the claim limitations, not just Claim 1.

22 MR. PATHMANABAN:

1 Q. Is there anywhere in Claim 1 a requirement
2 for maintaining security and privacy?

3 MR. PEKAREK KROHN: Objection, form.
4 Objection, foundation.

5 THE WITNESS: Can you state your question
6 again, please?

7 MR. PATHMANABAN:

8 Q. Is there a requirement for maintaining
9 security and privacy of the overall system in Claim
10 1?

11 MR. PEKAREK KROHN: Objection, form.
12 Objection, foundation.

13 THE WITNESS: Yes.

14 MR. PATHMANABAN:

15 Q. And what is that?

16 A. Specifically, in the claim limitation that
17 states, "Wherein, the remote server authenticates
18 said unique sensor ID associated with said unique
19 wireless device ID, and communicates to said
20 wireless device processed information relating to
21 said sensor data and software related to the unique
22 sensor ID, thereby, allowing said wireless device to

1 interpret said sensor anywhere worldwide."

2 MR. PATHMANABAN:

3 Q. Do you agree that authentication is not,
4 quote, "Extensive with security and privacy"?

5 A. I disagree. Authentication is an
6 important part of security and privacy.

7 Q. Have you done a search for the word,
8 "Privacy," in this '307 Patent, Dr. Warren?

9 MR. PEKAREK KROHN: Objection, relevance.

10 THE WITNESS: I don't recall if I've done
11 a search or not. I'm glad to do a search.

12 MR. PATHMANABAN:

13 Q. Please do. Tell me how many hits you
14 find.

15 A. I don't see any hits on the word
16 "Privacy," but linguistically any person of ordinary
17 skill would know that authentication in security and
18 privacy go hand and hand.

19 Q. Just to be clear, you just did a search
20 for the word "privacy," and the word "privacy" does
21 not appear anywhere in the '307 Patent; correct?

22 MR. PEKAREK KROHN: Objection. Asked and

1 answered, which is an objection that Mr. Peters made
2 during the deposition of Dr. Sarrafzadeh.

3 MR. PATHMANABAN: Well, I don't care what
4 deposition -- what objection Mr. Peters made during
5 the objection of Dr. Sarrafzadeh. Asked and
6 answered is not a proper objection in the PTAB
7 proceeding. So if you make that objection again,
8 we're going to call the Board.

9 Q. Dr. Warren, I'm going to ask my question
10 again. Just to be clear, you just did a search for
11 the word "privacy" in the '307 Patent, and that word
12 does not appear anywhere in the '307 Patent;
13 correct?

14 MR. PEKAREK KROHN: Objection, form.
15 Objection, argumentative.

16 THE WITNESS: That is correct, but that
17 does not in any way mean that the notion of privacy
18 is not addressed in the specification.

19 MR. PATHMANABAN:

20 Q. Let's talk about the word authentication.
21 What does authentication mean?

22 MR. PEKAREK KROHN: Objection, foundation.

1 Objection, form.

2 THE WITNESS: I would need to a specific
3 context. That word is a word that means different
4 things in different contexts.

5 MR. PATHMANABAN:

6 Q. Well, you are a person of skill in the
7 art. What is the ordinary meaning of the word
8 "authentication"?

9 MR. PEKAREK KROHN: Objection, foundation.
10 Objection, form.

11 THE WITNESS: Well, I would say an
12 ordinary meaning of authentication would be
13 verifying that, for example, a device is the device
14 that you think it is, or that a user is the user
15 that you think is using the device, or that the
16 model of the device is the model that you think it
17 is. It really could have -- your question could
18 have different responses, depending on the specific
19 instance within which that word is used.

20 MR. PATHMANABAN:

21 Q. Do you know where the specification --
22 well, first of all, you understand that the

1 specification must describe and enable what's
2 claimed by a patent; do you understand that?

3 MR. PEKAREK KROHN: Objection, form.

4 THE WITNESS: I do understand that.

5 MR. PATHMANABAN:

6 Q. Okay. So can you show me where in the
7 specification of the '307 Patent it describes
8 authenticating a sensor ID?

9 MR. PEKAREK KROHN: Objection, relevance.
10 Objection, foundation.

11 THE WITNESS: The idea of sensor
12 authentication permeates the entire specification.

13 MR. PATHMANABAN:

14 Q. Give me a couple of examples.

15 A. Well, let's start with the title of the
16 document, "Diagnostic Radio Frequency Identification
17 Sensors and Applications Thereof."

18 RFID, or "radio frequency identification,"
19 is premised upon the notion that an RFID unit, or an
20 RFID tag would have a specific identification number
21 that would allow that device to be authenticated
22 within the spectrum of other available devices.

1 Q. I'm sorry, where did you just read from,
2 the abstract?

3 MR. PEKAREK KROHN: Objection. Form.

4 THE WITNESS: I read the title for you,
5 "Diagnostic Radio Frequency Identification Sensors
6 and Applications Thereof."

7 MR. PATHMANABAN:

8 Q. Okay. I'd like you to show me where in
9 the specification it describes authenticating a
10 sensor ID.

11 A. Again, my first response would be that the
12 notion of authentication permeates the
13 specification, because the RFID technology itself is
14 based upon the notion of authentication using unique
15 identification numbers stored on radio frequency
16 tags or radio frequency units.

17 As an example, if you look in Column 7,
18 Lines 47, 48 and 49, the specification states, "The
19 data tables, 68, are also capable of storing the
20 identification number of each sensor."

21 This is a fundamental capability of an
22 RFID tag. There would be no reason to store the

1 identification of an RFID sensor if one did not
2 intend to use that number as an authentication
3 mechanism.

4 As another example, in Column 12, starting
5 with Line 41 the specification states, "Using the
6 approach described in Figures 7 through 10, any
7 specific disposable wireless RFID test strip can be
8 produced, since each RFID tag 10 contains its own
9 electronic identification number 64, wireless device
10 2 can immediately recognize the type of sensor
11 involved and perform the correct analysis."

12 MR. PEKAREK KROHN: Before you ask your
13 next question, I'm going to state again that because
14 we think you need to let Dr. Warren review his
15 declaration, and if you are not going to allow that,
16 we're going to stop the deposition and call the
17 Board.

18 MR. PATHMANABAN: You can do that if you
19 want. I will show his declaration -- I have plenty
20 of questions about his declaration. I will show it
21 to him.

22 MR. PEKAREK KROHN: You are asking

1 questions that involve his declaration without
2 showing his declaration. So if you are not going to
3 allow him to review his declaration -- which he has
4 available to him on his local computer, but you told
5 him not to look at it -- we're going to -- we need
6 to go off the record and call the Board.

7 MR. PATHMANABAN: We'll save ourselves
8 the trouble. Let's drop in his declaration into the
9 chat. Exhibit 2009.

10 (Petitioner's Exhibit 2009 marked for
11 identification.)

12 THE WITNESS: I would continue the answer
13 to my previous response. Stating further in that
14 same Column 12, Line 45, "This is because a given
15 modified cell phone can download the necessary
16 software, data tables, etc., from a remote location
17 via a wireless link, and can instantly become a
18 'smart' device for any given type of a RFID
19 sensor" --

20 MR. PATHMANABAN:

21 Q. Okay. And so --

22 A. -- states what authentication means in the

1 context of the claimed limitations to which you
2 point.

3 Q. Okay. So Column 12, Line 41 through 49
4 states what authentication means in the context of
5 the claim limitation, which requires the remote
6 server authenticates said unique sensor ID
7 associated with said unique wireless device ID?

8 MR. PEKAREK KROHN: Objection, form.
9 Objection, argumentative.

10 THE WITNESS: My statement is that Column
11 12, lines 41 through 49 of the '307 Patent give an
12 example for -- of authentication using a diagnostic
13 sensor unit that helps inform the reader what is
14 meant by the wording in the claims.

15 MR. PATHMANABAN:

16 Q. When you say "reader," you are talking
17 about a person with skill in the art; correct? Not,
18 like, a device reader? I just want to make clear.

19 A. When I say a "reader," a person. A person
20 taught by the words in the specification.

21 Q. Okay. Does the specification describe a
22 unique wireless ID anywhere?

1 MR. PEKAREK KROHN: Objection, form.

2 Objection, relevance.

3 THE WITNESS: Yes.

4 MR. PATHMANABAN:

5 Q. Why is that?

6 A. For example, in Column 5, starting with
7 Line 33, "Ideally the RFID electronic chip
8 technology is fully compatible with international
9 RFID readers and tag standards, making the
10 technology completely universal and transparent in
11 any country, or for any class of RFID chip."

12 International RFID reader and tag
13 standards would inherently incorporate unique IDs in
14 such readers, and in such tags.

15 MR. PATHMANABAN:

16 Q. So international RFID readers would
17 necessarily have unique wireless IDs; is that your
18 testimony?

19 MR. PEKAREK KROHN: Objection, form.

20 THE WITNESS: RFID readers and tags
21 compatible with international standards would
22 inherently incorporate unique identification

1 numbers.

2 MR. PATHMANABAN:

3 Q. Does the specification describe
4 associating a unique sensor ID with a unique
5 wireless device ID?

6 MR. PEKAREK KROHN: Objection, form.
7 Objection, relevance.

8 THE WITNESS: Can you please ask your
9 question again?

10 MR. PATHMANABAN:

11 Q. Sure. Does the specification describe
12 associating a unique sensor ID with a unique
13 wireless device ID?

14 MR. PEKAREK KROHN: Same objection.

15 THE WITNESS: Yes. I would point you to
16 Column 12, again. Again, at Line 41, which states,
17 "Using the approach described in Figures 7 through
18 10, any specific disposable wireless RFID test strip
19 can be produced. Since each RFID tag contains its
20 own electronic identification number, wireless
21 device 2 can immediately recognize the type of
22 sensor involved and perform the correct analysis.

1 "This is because a given modified cell
2 phone can download the necessary software, data
3 tables, etc., from a remote location via a wireless
4 link, and can instantly become a 'smart' device for
5 any given type of a RFID sensor.

6 "Furthermore, since many different types
7 of tests can be performed at once on the same
8 disposable wireless platform, cross-validation and
9 calibration is possible.

10 "Because of the remote data access and
11 remote processing capabilities of the wireless
12 reader, the technology described here allows for
13 ubiquitous sensing and analyses for any type of RFID
14 sensor using a single, common wireless platform,
15 such as a modified cell phone."

16 This explicitly states the need for
17 association between the unique ID of the sensor and
18 the unique ID of the reader as seated in the claim
19 limitations, and as also emphasized in my
20 declaration.

21 MR. PATHMANABAN:

22 Q. Well, to be clear, Column 12, Line 41

1 through 56 -- which you just read into the record --
2 does not discuss a wireless device ID at all;
3 correct?

4 MR. PEKAREK KROHN: Objection, form.
5 Objection, relevance.

6 THE WITNESS: A person of ordinary skill
7 reading the text that I just read to you would
8 understand that both the RFID sensor or diagnostic
9 sensor unit, and the wireless reader, would each
10 have their own unique ID. And in order for this
11 process to be successful and secure, that those two
12 unique IDs must be associated with one another.

13 And I described this in my declaration.
14 If you look, for example, at Page 35, Paragraph 58
15 of my declaration I state, "The unique sensor ID and
16 the unique wireless device ID must, at some point,
17 both be authenticated because the remote server is
18 not plausibly going to send software to operate a
19 trusted sensor to a wireless device that is not,
20 itself, trusted.

21 "That would break the chain of trust, and
22 taint the reliability and verifiability of the

1 resulting data, ultimately stored in the remote
2 database."

3 MR. PATHMANABAN:

4 Q. So what you just read from Paragraph 58 of
5 your declaration, that is in the context of you
6 explaining that under your interpretation, a unique
7 wireless device ID must also be part of the
8 authentication -- withdrawn. Let me ask that again.
9 Withdrawn.

10 Paragraph 58 is in further support of your
11 proposed claim construction, which is the remote
12 server authenticates the unique sensor ID, and the
13 associated unique wireless device ID; is that right?

14 MR. PEKAREK KROHN: Objection, form.

15 THE WITNESS: My statement -- and you were
16 reading from Paragraph 54 -- my statement in the
17 declaration is, "Thus, as discussed below, it is my
18 opinion that the proper construction of this
19 limitation is" -- and I quote -- "'the remote server
20 authenticates the unique sensor ID, and the
21 associated unique wireless device ID,'" end quote.

22 MR. PATHMANABAN:

1 Q. That didn't answer my question. My
2 question is Paragraph 58 is in support of your
3 proposed claim construction; correct?

4 A. Yes. That is correct, as are paragraphs
5 54, 55, 56, 57, 58, 59, and so forth, until Page 42.
6 So 54 through 71 -- all of those paragraphs support
7 my opinion with regard to claim construction.

8 MR. PATHMANABAN:

9 Q. Is it possible for there to be an
10 association between a unique sensor ID, and a unique
11 wireless ID without authenticating the unique
12 wireless device ID?

13 MR. PEKAREK KROHN: Objection, form.

14 THE WITNESS: In response, I would first
15 note that that is a hypothetical. That is not the
16 situation that is described in the claim
17 limitations, or in the specification. I would state
18 in order for the claim limitations -- in this case,
19 Claim 1 of the '307 Patent -- to be properly
20 implemented.

21 That association between the unique IDs
22 must necessarily involve the remote server.

1 MR. PATHMANABAN:

2 Q. I want to make sure that I fully
3 understand your opinions. Your opinion is that the
4 remote server must authenticate the wireless device
5 ID in order for there to be an association between
6 the unique sensor ID and the unique wireless device
7 ID?

8 MR. PEKAREK KROHN: Objection, form.

9 THE WITNESS: No, that's not what I said.

10 MR. PATHMANABAN:

11 Q. Okay. Explain to me what you just said?

12 A. Well, I will try to restate it. My
13 statement is that the -- the situation that you
14 present, wherein a unique sensor ID, and a unique
15 wireless device ID are associated. In any other
16 situation separate from -- for example, the remote
17 sensor -- I would say, hypothetically, a situation
18 like that is possible, but it does not fulfill the
19 teaching of this claim limitation. Which is that,
20 "The remote server authenticates said unique sensor
21 ID associated with said unique wireless device ID,
22 and communicates to said wireless device processed

1 information relating to said sensor data and
2 software related to the unique sensor ID, thereby
3 allowing said wireless device to interpret said
4 sensor anywhere worldwide."

5 The requirement -- well, let me just read
6 another excerpt out of my declaration. This would
7 be Paragraph 56. No, let's start with 55. I state,
8 "The plain meaning of the claim term is that the
9 remote server authenticates the unique sensor ID,
10 and that such unique sensor ID is associated with a
11 unique wireless device ID.

12 "A POSITA would have understood that the
13 unique sensor ID could not be authenticated in a
14 vacuum, i.e., without reference to the unique
15 wireless ID" -- excuse me -- "without reference to
16 the unique wireless device ID.

17 "To the contrary, a POSITA would have
18 understood the claim language to require that the
19 unique sensor ID and unique wireless device ID are
20 associated with each other and authenticated by the
21 remote server."

22 (Whereupon, the reporter asks for

1 clarification.)

2 THE WITNESS: None of that prior -- I was
3 just reading from my -- from my declaration that
4 prior response, so none of that was in quotes per
5 se.

6 MR. PATHMANABAN:

7 Q. So in order to satisfy the association
8 between sensor ID and the wireless device ID, the
9 wireless device ID must be authenticated by the
10 remote server?

11 MR. PEKAREK KROHN: Objection, form.

12 THE WITNESS: I think the answer to your
13 question would be well stated by just re-reading
14 Paragraph 56. "A POSITA would have understood that
15 the unique sensor ID could not be authenticated in a
16 vacuum, i.e., without reference to the unique
17 wireless device ID. To the contrary, a POSITA would
18 have understood the claim language to require that
19 the unique sensor ID and unique wireless device ID
20 are associated with each other and authenticated by
21 the remote server."

22 MR. PATHMANABAN:

1 Q. Dr. Warren, I know what you wrote in
2 Paragraph 56. I have the declaration with me. The
3 point of the deposition is I ask questions to
4 clarify what you wrote. So that just re-reading
5 Paragraph 56 did not clarify for me my question, so
6 let me repeat my question.

7 Withdrawn. In order to satisfy the
8 association resided in Claim 1 between a sensor ID
9 and a wireless device ID, the wireless device ID
10 must be authenticated by the remote server?

11 MR. PEKAREK KROHN: Objection, form.

12 THE WITNESS: I just answered your
13 question. Let me answer it with some additional
14 language. This is Paragraph 57. "Requiring an
15 association between the unique wireless device ID
16 and the unique sensor ID in the claim would have
17 been meaningless, unless the unique wireless ID was
18 part of the authentication process, i.e., it would
19 have served no purpose if not needed for
20 authentication."

21 MR. PATHMANABAN:

22 Q. Would you associate unique sensor ID and a

1 unique wireless device ID if the remote server does
2 not authenticate the unique wireless ID?

3 MR. PEKAREK KROHN: Objection --

4 THE WITNESS: I don't fully understand
5 your question. I'm sorry, Counsel.

6 MR. PATHMANABAN:

7 Q. Well, earlier you told me that it is
8 possible to associate a unique sensor ID and a
9 unique wireless device ID without the remote server
10 authenticating the wireless device ID. I'm asking
11 you how is that possible?

12 MR. PEKAREK KROHN: Objection, form.

13 THE WITNESS: You asked me a hypothetical
14 question within the scheme of possibilities. And
15 what I was saying is that in a system where you have
16 a unique sensor ID and a unique wireless device ID,
17 that system might have a different topology than the
18 topology of the '307 specification. In such a
19 hypothetical context, you can establish association
20 between those two elements without the use of a
21 remote server.

22 But in this context -- meaning the '307

1 specification -- the remote server is an integral
2 part of the authentication process, as is the
3 association between the unique sensor ID and the
4 unique wireless device ID.

5 MR. PATHMANABAN:

6 Q. Can you look at Figure 22 of the '307
7 Patent, please? Figure 22. It's on top. No --

8 MR. PATHMANABAN: Can you just take this
9 down? I think he has a local copy.

10 Q. Let me re-ask the question. Dr. Warren,
11 can you turn to Figure 22 of the 307 Patent? It's
12 Page 24 of the exhibit. Actually, Mr. Peters --
13 Steve Peters is going to share it on the screen.

14 So, Dr. Warren, in this Figure 22 -- by
15 the way, if you can have the discussion in Column 17
16 and 18 handy -- the flow begins in Figure 22 by
17 reader retrieving an ID from an RFID tag in
18 Step 700; right?

19 A. I see 700 is labeled, "ID Retrieval From
20 RFID Tag."

21 Q. And if the tag is not recognized by the
22 reader, the reader connects to the internet to

1 download software in Step 720, and 730, and 738;
2 correct?

3 A. Let me specifically answer your question
4 with words from the specification. This is Column
5 18, starting in Line 16. And I quote, "However, if
6 the software is not available, then the device must
7 first obtain it from a given remote database 400,
8 via function 720. This may be a centralized
9 database for RFID tags, or a diagnostics database
10 that is accessed only by paying an access fee.

11 "Subsequently, the ID of the RFID sensor
12 is matched to a given class of sensor, e.g., a
13 glucose sensor, and the software and/or instructions
14 for the analyses are downloaded into the reader 2,
15 as shown in function 738."

16 Q. So part of the authentication is to match
17 a given class of sensor using its RFID tag; correct?

18 MR. PEKAREK KROHN: Objection, form.

19 THE WITNESS: I would say that's an
20 incomplete description. And I do address this in my
21 declaration. I'm looking at Paragraph 69 on Page 40
22 and 41. I state, "It is important to note, however,

1 that the recognition of the tag by the wireless
2 reader in Step 708 is not the same thing as the
3 authentication of the sensor unique ID.

4 "Additionally, the ID match functionality
5 in Step 370 is also not the same thing as the
6 authentication of the sensor unique ID by the remote
7 server. Such an authentication may involve
8 additional steps/information."

9 And then, further in Paragraph 70 -- and
10 this is a quote out of my declaration -- "Further,
11 Dr. Sarrafzadeh incorrectly states that based on
12 Figure 22, 'If authentication does not take place,
13 or if authentication is attempted and fails, no
14 software related to said sensor ID is communicated
15 to the wireless device.'"

16 And my follow-up sentence is, "No such
17 scenario is indicated in Figure 22, and it's
18 accompanying text, because Step 730, which is ID
19 match, is not followed by a yes/no set of decision
20 boxes, as are Steps 708 and 716."

21 MR. PATHMANABAN:

22 Q. Dr. Warren, I don't know if your strategy

1 is to try to filibuster this deposition. I promise
2 you, I have no intention of going seven hours today.
3 So there's zero use to you or to me for you to
4 simply repeat what's already in your declaration;
5 all right?

6 MR. PEKAREK KROHN: I don't know if that's
7 a question, but I'm going to object as
8 argumentative.

9 MR. PATHMANABAN:

10 Q. My question was, first of all, simply that
11 part of the authentication of the sensor ID involves
12 matching the sensor ID to a given class of sensors?
13 Answer, yes or no.

14 MR. PEKAREK KROHN: Objection, form.

15 THE WITNESS: Well, I answered your
16 question with some of the text that I read from the
17 patent. I can read Column 18, Line 20 --

18 MR. PATHMANABAN:

19 Q. Dr. Warren, I know that you can read.
20 Tell me, yes or no -- well, let me ask it this way.
21 Is there --

22 MR. PEKAREK KROHN: Let him finish his

1 answer before you ask another question, please.

2 THE WITNESS: The patent explicitly
3 states, "Subsequently, the idea of the RFID sensor
4 is matched to a given class of sensor, e.g., a
5 glucose sensor, and the software and/or instructions
6 for the analyses are downloaded into the reader 2,
7 as shown in function 738."

8 So the answer to your question is that the
9 idea of the RFID sensor is matched to a given class
10 of sensor, and that's stated in the specification as
11 I read to you.

12 MR. PATHMANABAN:

13 Q. And that's part of the identification
14 process; right?

15 MR. PEKAREK KROHN: Objection, form.

16 THE WITNESS: The matching of an ID is
17 part of the authentication process, but it is not
18 all of the authentication process. Authentication
19 involves more than just an ID match. That's not the
20 same idea or the same thing, as I state in my
21 declaration.

22 MR. PATHMANABAN:

1 Q. Is there anywhere in the specification
2 that describes the remote server receiving a
3 wireless device ID and authenticating that wireless
4 device ID?

5 MR. PEKAREK KROHN: Objection, form.
6 Objection, foundation. Objection, relevance.

7 THE WITNESS: I believe I already
8 addressed this, but I will state again if you look
9 at Column 17 in the '307 specs, starting at Line 30,
10 the specification states the answer to your
11 question. It states, "Remote Computer 400 allows
12 the functions 550, including the storage of RFID
13 tables and associated software to analyze on the
14 spot any given diagnostic RFID sensor tag 10."

15 That specifically states the answer to
16 your question.

17 MR. PATHMANABAN:

18 Q. Well, okay. So I'm looking at Column 17,
19 Line 30 to 33. It doesn't say anything about a
20 wireless device ID there; right?

21 MR. PEKAREK KROHN: Objection, form.
22 Objection, relevance.

1 THE WITNESS: It certainly does, because
2 the person that would read the spec -- which again
3 would be a person of ordinary skill in the art, like
4 myself at the relevant time period. This person
5 would understand that the association between the
6 RFID, the software, and those RFID tables must be
7 accomplished via the authentication of a unique ID
8 of the sensor, and the unique ID of the wireless
9 reader in order for the chain of trust to be
10 maintained with that system.

11 MR. PATHMANABAN:

12 Q. Just to be clear, the sentence that you
13 just pointed to me reads, "Remote computer 400
14 allows the functions 550, including the storage of
15 RFID tables and associated software to analyze on
16 the spot any given diagnostic RFID sensor tag 10."

17 That's the sentence you just read; right?

18 A. That is one of them, yes.

19 Q. The "RFID sensor tag 10" -- that's the
20 sensor ID; correct?

21 MR. PEKAREK KROHN: Objection, form.

22 THE WITNESS: No. RFID sensor tag 10

1 would be the RFID diagnostic sensor unit.

2 MR. PATHMANABAN:

3 Q. So that's not a unique sensor ID?

4 MR. PEKAREK KROHN: Objection, form.

5 THE WITNESS: The RFID sensor tag 10 would
6 have a unique sensor ID. The wireless reader that
7 is communicating with that sensor tag would also
8 have a unique ID. And those two unique IDs must be
9 associated with one another in order for the
10 associated software to be utilized to analyze on the
11 spot any given diagnostic RFID sensor tag.

12 Which is a different way to state the
13 claim language at the end of Claim 1, which states,
14 "Thereby allowing said wireless device to interpret
15 said sensor anywhere worldwide."

16 MR. PATHMANABAN:

17 Q. So the wireless device ID would inherently
18 be associated with the sensor ID?

19 MR. PEKAREK KROHN: Objection, calls for a
20 legal conclusion.

21 THE WITNESS: I'm going to need more
22 context on that question, Counsel. Within which

1 context are you speaking?

2 MR. PATHMANABAN:

3 Q. I'm just trying to understand your
4 testimony, because this paragraph that you just
5 pointed me to doesn't say anything about a wireless
6 device ID. Wireless device ID does not appear in
7 that paragraph; correct?

8 MR. PEKAREK KROHN: Objection, form.

9 THE WITNESS: Again, you are focusing on
10 the words that are explicitly typed in the
11 paragraph. Reading the specification as a whole, a
12 person of ordinary skill would realize that if
13 standards for RFID tags and RFID wireless readers
14 were incorporated in this schema, that both the RFID
15 diagnostic sensor unit, and the wireless reader
16 would each have a unique ID in compliance with those
17 international standards.

18 MR. PATHMANABAN:

19 Q. So let's focus on the words of the patent,
20 first. The words in that paragraph -- or, in fact,
21 anywhere other than in the claims, says nothing
22 about a wireless device ID; correct?

1 MR. PEKAREK KROHN: Objection, relevance.

2 THE WITNESS: The words "wireless device
3 ID" are not used in this paragraph. But the
4 paragraph itself is like the specification,
5 permeated with the notion that the unique IDs must
6 be present or the identification system would not
7 function properly.

8 For example, Line 24 of that same Column
9 in that same paragraph states, "Wireless device 2
10 can communicate to a proximal cell phone tower or
11 receiver 380 via wireless link 510, or indirectly by
12 other existing or emergency -- "or emerging wireless
13 communication means, such as Bluetooth [AS READ]."

14 So a Bluetooth-enabled device, a cell
15 device -- that wireless reader would inherently
16 incorporate a unique ID that must then be associated
17 with the unique sensor ID in order for this -- for
18 these teachings to be implemented properly.

19 MR. PATHMANABAN: Let's go off the
20 record.

21 THE COURT REPORTER: We're going off the
22 record at 11:14 a.m.

1 (Off the record.)

2 THE COURT REPORTER: We're going back on
3 the record at 11:25 a.m.

4 MR. PATHMANABAN:

5 Q. Welcome back, Dr. Warren.

6 A. Thank you.

7 Q. Did you talk to your attorneys during the
8 break?

9 A. No.

10 Q. I want to go back to Claim 1 of the '307
11 Patent. And since you have the declaration with you
12 now, I'm going to ask you again is the preamble
13 which reads -- excuse me, withdrawn.

14 The preamble in Claim 1 reads, "A radio
15 frequency addressable diagnostic sensor unit
16 comprising..."

17 Is that limiting or not?

18 MR. PEKAREK KROHN: Objection, foundation.

19 THE WITNESS: I would answer, again,
20 that's a legal question. I did not address that
21 particular item in my declaration, and have not
22 offered an opinion on whether the preamble is

1 limiting.

2 MR. PATHMANABAN:

3 Q. So you have not offered an opinion on
4 whether the preamble is limiting?

5 A. I have not offered whether or not the
6 preamble to 307 is limiting.

7 MR. PATHMANABAN:

8 Q. Sitting here today, are you able to tell
9 me whether or not it's limiting or not?

10 A. I would need to revisit the definition of
11 in the context of a preamble. So I'm not prepared
12 to answer your question.

13 Q. Do you agree that the word "Sensor unit,"
14 appears only in the preamble of Claim 1?

15 MR. PEKAREK KROHN: Objection, form.
16 Objection, foundation.

17 THE WITNESS: I disagree.

18 MR. PATHMANABAN:

19 Q. You disagree? Where else does "sensor
20 unit" appear in Claim 1, other than the preamble?

21 MR. PEKAREK KROHN: Objection, form.

22 THE WITNESS: Column 6, Line 48. Column

1 --

2 MR. PATHMANABAN:

3 Q. I'm sorry, Doctor, to interrupt you.
4 Dr. Warren, my question was with respect to Claim 1,
5 not the patent. Within Claim 1, does the word
6 "Sensor unit" appear anywhere, other than the
7 preamble?

8 MR. PEKAREK KROHN: Objection, relevance.

9 THE WITNESS: The words "Sensor unit," as
10 a pair of words, appear in the preamble. The word
11 "Sensor" appears throughout the claim limitation
12 language for Claim 1.

13 So I would say that the Claim 1 references
14 the sensor unit multiple times. Although, those
15 words are only expressed explicitly in the preamble.

16 MR. PATHMANABAN:

17 Q. Is a sensor element the same thing as a
18 sensor unit?

19 A. Clearly not, because the sensor unit
20 comprises at least one sensor element.

21 Q. And is a reference -- excuse me.
22 Withdrawn. There's at least one referenced sensor

1 element unit; do you see that?

2 A. Yes.

3 Q. Is that different from the at least one
4 sensor element?

5 A. Yes, for several reasons. They're stated
6 in different phrases, and they have different
7 functional roles in the device.

8 Q. And below that there's a unique
9 identification ID number; do you see that?

10 A. Yes.

11 Q. So the unique identification ID number
12 identifies what?

13 MR. PEKAREK KROHN: Objection, form.

14 THE WITNESS: The claim language specifies
15 that -- the claim states, "A radio frequency
16 addressable diagnostic sensor unit comprising a
17 unique identification ID number."

18 MR. PATHMANABAN:

19 Q. So the unique identification ID number
20 identifies the sensor unit as a whole?

21 MR. PEKAREK KROHN: Objection, form.

22 THE WITNESS: The claim states that the

1 diagnostic center unit comprises a unique
2 identification number, which means it incorporates
3 that number in some way.

4 MR. PATHMANABAN:

5 Q. I understand it incorporates the unique
6 identification ID number. The unique identification
7 ID number identifies the sensor as a whole; is that
8 correct?

9 MR. PEKAREK KROHN: Objection, form.

10 THE WITNESS: That is inconsistent in
11 terms of an interpretation with the claim language.
12 The claim language just states, "A diagnostic center
13 unit comprises a unique identification ID number,"
14 which means it incorporates such a number.

15 MR. PATHMANABAN:

16 Q. So what is the unique identification ID
17 number identifying?

18 MR. PEKAREK KROHN: Objection, form.

19 THE WITNESS: The unique identification
20 number identifies the sensor, as noted in the very
21 last claim limitation. "Wherein, the remote server
22 authenticates said unique sensor ID."

1 MR. PATHMANABAN:

2 Q. Said unique sensor ID -- the -- the sensor
3 ID in the last limitation does not have an
4 antecedent basis above; right?

5 MR. PEKAREK KROHN: Objection, relevance.
6 Objection, calls for a legal conclusion. Objection,
7 foundation.

8 MR. PATHMANABAN:

9 Q. Mr. Krohn, I let you get away with it for
10 a number of times. Calls for legal conclusion is an
11 improper objection. Limit your objection to form.

12 MR. PEKAREK KROHN: That's not what the
13 rules say.

14 MR. PATHMANABAN: Well, show me where the
15 rules say you can make a calls for legal conclusion,
16 especially when I'm here to -- examining an expert
17 witness who has opined about the meaning of the
18 claim.

19 MR. PEKAREK KROHN: I don't think he's
20 opined on what you are asking for. And you are
21 asking -- you are using legal terminology that he
22 may not -- that he's not a legal expert.

1 MR. PATHMANABAN: Yeah, well --

2 Q. Dr. Warren, please answer my question.

3 The sensor ID in the last limitation -- does the
4 word "sensor ID" appear in any of the limitations
5 above the last limitation in Claim 1?

6 MR. PEKAREK KROHN: Same objections.

7 THE WITNESS: Now I'm confused, because
8 your question is a different question than the
9 original question. Could you please ask it again?

10 MR. PATHMANABAN:

11 Q. Well, let's -- let's -- let's be -- let's
12 -- withdrawn. The unique identification ID number
13 in the third limitation of the claim, is that the
14 same unique identification ID number referenced as
15 the unique sensor ID in the last limitation?

16 A. The words -- well, the specific word,
17 "said," uh, in front of unique sensor ID ties back
18 to earlier in the claim. It must, or the wording
19 wouldn't make sense.

20 So it does tie back to the words, "A
21 unique identification ID number."

22 Whether or not that is only one number is,

1 as I recall, a legal matter. Because plurality in
2 patent language can exist even if something is
3 stated as a singular element.

4 MR. PATHMANABAN:

5 Q. So does the unique sensor ID identify the
6 sensor unit, or the sensor element?

7 MR. PEKAREK KROHN: Objection, foundation.

8 THE WITNESS: I think either definition
9 would fit with the claim language.

10 MR. PATHMANABAN:

11 Q. The sensor unit in Claim 1, would -- would
12 an MRI machine be a sensor unit?

13 MR. PEKAREK KROHN: Objection, foundation.

14 THE WITNESS: In the context of this
15 specific language, meaning, "diagnostic sensor unit
16 comprising..." I would not call an MRI machine a
17 sensor unit.

18 I would call an MRI machine a medical
19 device.

20 MR. PATHMANABAN:

21 Q. Why is that? Doesn't an MRI unit diagnose
22 multiple things?

1 MR. PEKAREK KROHN: Objection, form.

2 THE WITNESS: I don't -- I don't think you
3 can conflate the words "Diagnostic sensor unit" with
4 "Medical device," especially in the context of the
5 '307 specification, and the Beck specification,
6 which we have not yet addressed today.

7 MR. PATHMANABAN:

8 Q. You worked with medical devices before;
9 right?

10 A. Of course.

11 Q. Does an MRI machine have sensors
12 associated with it?

13 MR. PEKAREK KROHN: Objection, foundation.

14 THE WITNESS: An MRI unit incorporates
15 sensors.

16 MR. PATHMANABAN:

17 Q. So explain to me why that would not be a
18 sensor unit?

19 MR. PEKAREK KROHN: Objection, foundation.

20 THE WITNESS: In the context of this claim
21 language, a diagnostic sensor unit is a unit of
22 small scope that would fit within a wireless skin

1 patch that has limited functionality and does not
2 incorporate the kinds of elements that a full-scale
3 MRI medical device would incorporate.

4 Including, for example, input/output
5 mechanisms, or mechanisms for a user to interact
6 with the device, standards that allow it to
7 communicate locally with a network.

8 The MRI medical device might incorporate
9 such elements. A diagnostic sensor unit in the
10 context of this claim language would not.

11 MR. PATHMANABAN:

12 Q. What is the definition of a sensor?

13 MR. PEKAREK KROHN: Objection, foundation.

14 THE WITNESS: The formal definition of a
15 sensor that we utilize in just a generic, biomedical
16 instrumentation class is that a sensor is a specific
17 type of transducer that converts one form of energy
18 into either electrical current or electrical
19 voltage. That would be the formal definition of a
20 sensor that we utilize in an academic setting.

21 MR. PATHMANABAN:

22 Q. You agree that lots of medical devices

1 incorporate sensors?

2 A. Yes, of course.

3 Q. I'm going to drop the Beck reference in
4 the chat.

5 (Petitioner's Exhibit 1007 marked for
6 identification.)

7 So, Dr. Warren, hopefully you have the
8 Beck reference. Can you turn to Paragraph 34 of the
9 Beck reference?

10 A. Okay. I'm with you.

11 Q. Where in this paragraph does it say that
12 Beck is limited to medical devices in a hospital
13 setting or a controlled, clinical setting?

14 MR. PEKAREK KROHN: Objection, form.

15 THE WITNESS: The hospital or clinical
16 context is apparent with the language in the claim,
17 or apparent as a result of the language in the
18 claim.

19 MR. PATHMANABAN:

20 Q. Which claim are you talking about?

21 A. Excuse me, I'm -- I'm at the paragraph,
22 excuse me. The hospital or controlled clinical

1 setting is apparent in the language of the
2 paragraph.

3 Q. Just to be clear, the Paragraph 34 does
4 not mention either a hospital or a controlled,
5 clinical setting; correct?

6 MR. PEKAREK KROHN: Objection, form.

7 THE WITNESS: I don't think you would be
8 making measurements of electrocardio signals, brain
9 waves, blood pressure waves, body stimuli, blood
10 pressure, blood gasses, blood coagulation,
11 electrolytes, cardiovascular activity, drug levels
12 --

13 (Whereupon, the reporter asks for
14 clarification.)

15 THE WITNESS: My apologies. I don't
16 believe you would be making measurements of body
17 fluids, body functions, bodily signals,
18 electrocardio signals, brain waves, blood pressure
19 waves, respiration, blood pressure, blood gasses,
20 blood coagulation, electrolytes, cardiovascular
21 activity, drug levels, respiration rate, and stress
22 in a non-controlled, clinical environment or a

1 non-hospital environment.

2 The context is clearly a clinical setting
3 in this instance.

4 MR. PATHMANABAN:

5 Q. Turn back to the '307 Patent for me,
6 please. And tell me where in Claim 1 it excludes a
7 hospital setting or a clinical setting?

8 MR. PEKAREK KROHN: Objection --
9 objection, relevance. Foundation.

10 THE WITNESS: Claim 1 does not
11 specifically preclude a hospital or clinical
12 setting. But Claim 1 and its dependent claims
13 clearly direct the reader toward a device that is
14 mobile and wearable. The devices that are in the
15 Beck specification are not mobile, wearable devices.
16 They are static, off-the-shelf, commercial devices
17 that incorporate all of their functionality,
18 including their functionality for user interaction
19 and data display, inherently in their own design.

20 And the intent of Beck is simply to allow
21 a network to gain remote access to such static,
22 off-the-shelf commercial devices, such that their

1 data can be utilized elsewhere. These are
2 completely different architectural topologies in
3 terms of sensor device systems and networks.

4 MR. PATHMANABAN:

5 Q. Is a cellular phone a mobile device?

6 MR. PEKAREK KROHN: Objection, relevance.

7 THE WITNESS: The cellular phone is a
8 mobile device, but that does not in any way imply a
9 mobile or ambulatory measurement context.

10 MR. PATHMANABAN:

11 Q. You would agree with me that Beck
12 discloses a client computing device that can be a
13 cellular phone; correct?

14 MR. PEKAREK KROHN: Objection, form.

15 THE WITNESS: I agree with you that Beck
16 states that an internet enabled cellular phone can
17 be used to implement the client computing device,
18 for example in Paragraph 27. However, that does not
19 in any way imply that the medical devices discussed
20 in Beck are in any way mobile.

21 Rather, this implies that the care
22 provider that needs access to the data generated by

1 the static medical devices might themselves be
2 mobile.

3 MR. PATHMANABAN:

4 Q. Um, okay. So Beck discloses that the
5 client-computing device can be cellular phones, and
6 the cellular phones are mobile devices; right?

7 MR. PEKAREK KROHN: Objection, form.

8 THE WITNESS: Beck discloses that the
9 client-computing device can be implemented with a
10 cellular phone, which describes the idea that the
11 care provider in this case might be mobile, but the
12 devices themselves are still static, in-place,
13 bedside units.

14 MR. PATHMANABAN:

15 Q. Turning back to the '307 Patent, Claim 1,
16 and tell me where it requires the sensor unit,
17 itself, to be mobile?

18 MR. PEKAREK KROHN: Objection, form.
19 Foundation.

20 THE WITNESS: The claim does not require
21 the sensor unit to be mobile, but that's not what I
22 say in my declaration. In my declaration I say that

1 a person of ordinary skill would not be motivated to
2 combine Heller with Beck, for example, because Beck
3 does not address wearable, ambulatory sensor
4 systems.

5 MR. PATHMANABAN:

6 Q. Sorry, can you turn back -- sorry for
7 jumping around, but let's go back to Beck
8 Paragraph 52. In Paragraph 52, Beck discusses,
9 quote, "The user interface 210 of the client
10 computing device 120 is generally operable to
11 provide a user, e.g., a patient, nurse, physician,
12 etc., with the mechanism for controlling operation
13 of the system 100."

14 Do you -- end quote -- do you agree that
15 one of the potential users that Beck discloses is a
16 patient?

17 A. So my answer is a two-part answer. I
18 agree that a user is a patient. And in this
19 instance, your excerpt clearly supports my opinion
20 that the Beck system is intended for use in a
21 hospital environment, which would employ nurses, and
22 physicians, and patients.

1 Um, the patient could use a client
2 computing device, because that device connects to
3 the medical device that is stated in Beck.

4 Q. Does -- does the mobile, wearable device
5 in Heller -- does that -- is that something that
6 patients in hospitals could wear?

7 MR. PEKAREK KROHN: Objection, form.

8 THE WITNESS: The mobile device that is
9 described in Heller could be worn by patients in a
10 hospital, but that device is not a one-to-one analog
11 with the medical devices that are mentioned in Beck.
12 Those are two very different topologies or
13 architectures.

14 In addition, Dr. Sarrafzadeh equated the
15 sensor control unit in Heller with the medical
16 device in Beck, which is improper. They're both
17 very different, and have very different roles. The
18 sensor control unit does not have the same type of
19 high-level mechanisms that are employed in the
20 medical devices that are noted in Beck.

21 MR. PATHMANABAN:

22 Q. So, yes or no, are Beck's medical devices

1 limited to a hospital setting?

2 MR. PEKAREK KROHN: Objection, form.

3 THE WITNESS: No, but that's what the spec
4 teaches.

5 MR. PATHMANABAN:

6 Q. Does the word, "Hospital," even appear in
7 Beck?

8 MR. PEKAREK KROHN: Objection, relevance.

9 THE WITNESS: I see the words, "Nurse" and
10 "Physician."

11 Hospitals employ nurses and physicians, as
12 do controlled clinical environments.

13 MR. PATHMANABAN:

14 Q. Well, you just told me Beck teaches using
15 this in a hospital setting, but "hospital" doesn't
16 even appear in Beck; right?

17 MR. PEKAREK KROHN: Objection, form.

18 THE WITNESS: I would state that even if
19 the word "hospital" does not specifically appear in
20 Beck, the wording in the specification makes it
21 clear to a person of ordinary skill that the
22 intended context is a hospital or clinical

1 environment.

2 MR. PATHMANABAN:

3 Q. Have you ever bought an off-the-shelf
4 medical device, and modified it for your research or
5 tests?

6 A. I don't recall we have bought an
7 off-the-shelf medical device and actually modified
8 it. We have, however, incorporated off-the-shelf
9 medical devices in our higher-level systems that
10 utilize the data produced by those off-the-shelf
11 devices.

12 Q. Is it your opinion that a POSITA would
13 never modify an off-the-shelf product?

14 MR. PEKAREK KROHN: Objection, relevance.

15 THE WITNESS: It's not my opinion they
16 would never modify an off-the-shelf product.
17 However, there is a huge downside to modifying an
18 off-the-shelf product. Specifically, you lose the
19 manufacturer warranty, and you risk the device not
20 functioning properly according to manufacturer
21 specifications.

22 MR. PATHMANABAN:

1 Q. In 2003, were there cellular phones with
2 geolocation capabilities?

3 A. There were cellular phones in 2003. Not
4 all had geolocation capability.

5 Q. But they existed; right?

6 A. I did not offer an opinion on which phones
7 incorporated geolocation capability in 2003, other
8 than to state that the Nokia 1100, which launched in
9 2003 -- it was the world's best selling phone
10 headset, and did not support GPS or any other
11 geolocation functionality, which is a strong example
12 stating that that capability was not pervasive in
13 the industry at the time.

14 Q. Do you think Mr. John Peeters invented
15 geolocation in phones -- cellular phones -- in 2003?

16 MR. PEKAREK KROHN: Objection, relevance.

17 THE WITNESS: I never made such an
18 assertion in my declaration, but I did state that
19 the '307 invention was prescient, as cell phone
20 technology in 2003 was still in its -- excuse me, as
21 cell phone technology in 2003 was still in its
22 infancy. So, no, he did not invent geolocation in

1 cellular phones, but the use of such geolocation
2 functionality -- specifically in the context of the
3 '307 spec -- was forward looking.

4 MR. PATHMANABAN:

5 Q. So the '307 Patent was not the first to
6 disclose geolocation in cellular phones; correct?

7 MR. PEKAREK KROHN: Objection, form.
8 Foundation.

9 THE WITNESS: I don't have a memory for
10 what came when, and in what order at that point in
11 time in terms of dates. So I don't know that I can
12 answer your question.

13 MR. PATHMANABAN:

14 Q. Well, sitting here today, you don't have
15 an opinion about whether the '307 Patent was the
16 first to come up with geolocation in cellular
17 phones; correct?

18 MR. PEKAREK KROHN: Objection, foundation.

19 THE WITNESS: Clearly the idea was stated
20 in the industry prior to that date, but I don't have
21 a specific cell phone in mind that incorporated
22 geolocation functionality.

1 MR. PATHMANABAN: Let's go off the record
2 for five minutes.

3 THE COURT REPORTER: We are going off the
4 record at 12:00 p.m. Central Time.

5 (Off the record.)

6 THE COURT REPORTER: Back on the record at
7 12:06 p.m.

8 MR. PATHMANABAN: I don't have any
9 further questions.

10 MR. PEKAREK KROHN: None from us.

11 THE WITNESS: Okay. Thank you.

12 THE COURT REPORTER: We are going off the
13 record at 12:06 p.m.

14 (WHEREUPON, THE PROCEEDINGS WERE CONCLUDED AT 12:06
15 P.M. CST.)

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WITNESS SIGNATURE

I, STEVEN WARREN, PH.D., do hereby declare
under penalty of perjury that I have read the
foregoing transcript; that I have made any
corrections as appear noted, in ink, initialed by
me, or attached hereto; that my testimony as
contained herein, as corrected, is true and correct.

EXECUTED this ____ day of _____, 2024
in _____, _____.
(City) (State)

STEVEN WARREN, PH.D.

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CERTIFICATE OF STENOGRAPHIC REPORTER

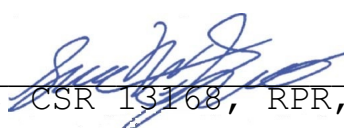
I, Sean W. Gumm, a Certified Shorthand Reporter, Registered Merit Reporter, and Certified Realtime Reporter with the NCRA, hereby certify:

That STEVEN WARREN, PH.D., 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 and is a true record of the testimony given by such witness.

I further certify that the adverse party, ALTIVERA, LLC, was represented by counsel at the deposition.

I further certify that the deposition of STEVEN WARREN, PH.D., occurred via Zoom media platform on THURSDAY, DECEMBER 19, 2024, commencing at 10:00 A.M. CST to 12:06 P.M. CST

IN WITNESS WHEREOF, I have hereunto set my hand December 20, 2024.


Sean Gumm, CSR 13168, RPR, CRR, RMR

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