

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD
4

5
6 INDUCTEV, INC.,

7 Petitioner,

8 v.

9 WITRICITY CORPORATION,

10 Patent Owner.

11
12 Case IPR2023-01208

13 Patent 8,912,687
14

15 DEPOSITION OF

16 MARK N. HORENSTEIN, Ph.D.

17 THURSDAY, AUGUST 8, 2024

18 Remote Video Teleconference

19 11:13 a.m. PDT

20 to

21 2:06 p.m. PDT
22

23 Stenographically Reported by:

24 Burgundy B. Ryan, RPR,

25 CSR No. 11373

Job No. 545569

Pages 1-84

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DEPOSITION SUPPORT INDEX

QUESTIONS INSTRUCTED NOT TO ANSWER:

PAGE LINE

(None)

REQUEST FOR PRODUCTION OF DOCUMENTS

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(None)

STIPULATIONS

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(None)

QUESTIONS MARKED

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(None)

REPORTER'S NOTE:

QUOTATION MARKS ARE USED FOR CLARITY AND DO NOT
NECESSARILY REFLECT A DIRECT QUOTE.

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I N D E X

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E X H I B I T S

EXHIBIT	DESCRIPTION	PAGE
1001	U.S. Patent No. 8,912,687	8
1005	U.S. 2010/0036773	8
1006	Inventors Specification Background	8
1007	U.S. 2009/0299918	8
1021	U.S. Patent No. 9,774,086	8
2001	Declaration of Mark N. Horenstein, Ph.D.	8

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1 BE IT REMEMBERED that, pursuant to Notice
2 of Taking Deposition, and on Thursday, August 8,
3 2024, commencing at 11:13 a.m. PDT thereof, via
4 remote video teleconference, before me, Burgundy B.
5 Ryan, a Certified Shorthand Reporter in and for the
6 State of California, personally appeared

7 MARK N. HORENSTEIN, Ph.D.,
8 a witness called on behalf of PETITIONER, who,
9 having been first duly sworn by me to testify to the
10 truth, was examined and testified as follows:

11 IT TECHNICIAN: Thank you to everyone for
12 attending this proceeding remotely, which we
13 anticipate will run smoothly.

14 Please remember to speak slowly, and do
15 your best not to talk over one another.

16 Please be aware that we are recording this
17 proceeding for backup purposes. Any off-the-record
18 discussions should be had away from the computer and
19 please remember to mute your microphone for those
20 conversations.

21 Please have your video enabled to help the
22 reporter identify who is speaking. However, if you
23 are unable to connect with video or are connecting
24 via phone, please identify yourself before speaking.

25 We will provide a complimentary unedited

1 recording of this deposition with the purchase of a
2 transcript.

3 I apologize in advance for any
4 technical-related interruptions. Thank you.

5 And the court reporter may proceed.

6 COURT REPORTER: Counsel, please identify
7 yourself and your client for the record.

8 MR. DAVIS: This is Blake Davis from Latham
9 & Watkins LLP, representing Petitioner, InductEV.

10 Also with me is Steven Peters, who is also
11 from Latham & Watkins, and I also have a summer
12 associate who is observing.

13 MR. LAWSON: Lance Lawson. I'm a partner
14 with the law firm Burr & Forman in the Sherwood
15 office, and I represent the patent owner WiTricity
16 Corporation. I'm also representing Dr. Horenstein,
17 the witness here today.

18 (Whereupon, the witness was sworn.)

19 COURT REPORTER: Thank you very much.

20 Counsel, you may proceed.

21 MARK N. HORENSTEIN, Ph.D,
22 having been first duly sworn to tell the whole
23 truth, testified as follows:

24 EXAMINATION

25 By MR. DAVIS:

1 Q. Good afternoon, Dr. Horenstein.

2 A. Good afternoon to you.

3 Q. Can you state your name for the record.

4 A. Mark Horenstein.

5 Q. And earlier today you had another
6 deposition, so I'll not go through any of the, sort
7 of, basics, understanding that all of the same rules
8 apply here.

9 Just to ask, is there anything that
10 would -- that you think would prevent you from
11 giving honest and truthful testimony today?

12 A. No.

13 Q. And we're doing this over Zoom. Do you
14 have any applications open on your computer, other
15 than the Zoom window?

16 A. Just the settings. Let me close that.

17 Okay. No, I don't have any.

18 Q. And what did you do to prepare for your
19 deposition today?

20 A. I reread the relevant documents, and I
21 worked with Mr. Lawson.

22 Q. And do you understand that for the
23 deposition this afternoon, this is going to be
24 related to your declaration and opinions related to
25 the '687 patent?

1 A. Yes.

2 Q. Other than the exhibits that are cited in
3 your declaration, did you review any other materials
4 in order to prepare for your deposition?

5 A. No.

6 Q. So just as, sort of, a -- to try and save a
7 little bit of time, I'm just going to have a handful
8 of exhibits introduced so that you can download them
9 and have them available if you want to look at them.

10 A. Okay.

11 Q. If the court reporter could add Exhibits
12 1001, which is the '687 patent, 1005, which is
13 Bennett; 1006, the Bennett provisional; 1007, Cook;
14 1021, Cook-086, and then Exhibit 2001, Dr.
15 Horenstein's declaration.

16 (Whereupon, Horenstein Exhibit 1001, 1005, 1006,
17 1007, 1021 and 2001 were marked for identification.)

18 IT TECHNICIAN: Stand by, please.

19 MR. DAVIS: Thank you.

20 IT TECHNICIAN: The exhibits are uploading
21 now.

22 I apologize, Counsel. I think I sent them
23 privately to the court reporter. I will upload them
24 again for everyone. Stand by, please.

25 MR. DAVIS: Just while we're doing that,

1 I'll just note that the real-time is currently
2 saying that it's Mr. Peters, and I think it should
3 be Mr. Davis.

4 COURT REPORTER: It will be corrected.

5 MR. DAVIS: Okay. Thank you.

6 MR. LAWSON: And with respect to that, I'm
7 not getting the real-time feed for -- for this one.
8 The last thing that I had is the end of the -- the
9 end of the first deposition.

10 MR. DAVIS: Do you want to go on a minute
11 break to download these and figure that out?

12 MR. LAWSON: We can go off the record if
13 you want to on our end. That is fine.

14 COURT REPORTER: We're off the record.

15 (Break in proceedings.)

16 COURT REPORTER: All right. We're back on
17 the record.

18 By MR. DAVIS:

19 Q. So before the break, Dr. Horenstein, I
20 believe that there were a number of exhibits that
21 were added to the chat.

22 Do you have Exhibit 1001, which is the '687
23 patent?

24 A. I do.

25 Q. And do you have Exhibit 1005, which is

1 Bennett?

2 A. No. Let me find it.

3 Okay. I have that one, too.

4 Q. And you have Exhibit 1006, the Bennett
5 provisional?

6 A. Yes.

7 Q. And you have Exhibit 1007, which is Cook?

8 A. Yep.

9 Q. And you have Exhibit 1021, Cook-086?

10 A. Yes.

11 Q. And then you have Exhibit 2001, your
12 declaration.

13 A. Right.

14 Q. And are you familiar and consider each of
15 Exhibits 1001, 2001, 1005, 1006, 1007, and 1021?

16 A. Was your question am I familiar with them,
17 or did I --

18 Q. Did you consider them in forming your
19 opinions?

20 A. Yes.

21 Q. You read all of them carefully?

22 A. Yes.

23 Q. If you could pull up Exhibit 2001.

24 A. Yes.

25 Q. So this is the declaration of -- of Mark H.

1 Horenstein regarding the validity of challenge
2 claims found in U.S. Patent Number 8912687?

3 A. I have it open. Middle initial is N as
4 in --

5 Q. Oh.

6 A. That's okay.

7 Q. Sorry about that.

8 A. That is okay.

9 Q. And like your declaration this morning, did
10 you prepare this declaration?

11 A. I did.

12 Q. And this includes your opinions that you
13 formed regarding the '687 patent?

14 A. Yes.

15 Q. And you are responding to the Petition that
16 InductEV filed and the declaration of Dr. Mark Allen
17 that was submitted in support of that?

18 A. Yes.

19 Q. And you understand that InductEV is
20 contending that the challenge claims of the '687
21 patent are invalid in view of Cook and Bennett?

22 A. Yes.

23 Q. If you can turn to paragraph 21 of your
24 declaration.

25 A. Okay.

1 Q. The only element that you are -- that
2 you've opined the combination of Cook and Bennett
3 doesn't render obvious is the authorization facility
4 element in each of the independent claims; is that
5 right?

6 A. Can you restate the question to make sure I
7 understand it?

8 Q. Yeah. The only element that you are
9 opining the combination of Cook and Bennett does not
10 render obvious is the authorization facility element
11 that's in each independent claim; is that right?

12 MR. LAWSON: Object to the form.

13 THE WITNESS: I have said in particular the
14 Petition has failed to show authorization of the
15 facility. I didn't make any other claims of lack of
16 obviousness that they are in the declaration.

17 By MR. DAVIS:

18 Q. So the authorization facility, that's the
19 one that you focused on for purposes of your
20 declaration and your opinions in this case?

21 A. I spent a lot of time talking about the
22 authorization facility in this declaration.

23 Q. And if you go to pages -- just 8 through
24 10, you have the text of the three independent
25 claims of the '687 patent listed; is that right?

1 A. Claim 1, Claim 7 and Claim 13.

2 Q. And I think you have it bolded in each of
3 the -- each of the claims. The final limitation is
4 the authorization facility to confirm compatibility
5 of the resonators and provide authorization for
6 initiation of transfer of power?

7 A. Yes. And just for a point of information,
8 the -- some other parts of the claims are bolded.
9 That's in error. For example, resonant frequency
10 Omega 1, that clause in Claim 1, it shouldn't be
11 bolded. It just came out that way after track
12 changes. But the authorization facility clauses
13 should all be bolded.

14 Q. Okay. So the only -- the only clause that
15 you're meaning to have emphasized on pages 8 through
16 10 is that final limitation and authorization
17 facility?

18 A. I believe that's true.

19 Q. In the context of the '687 patent, what
20 does it mean for two resonators to be compatible?

21 A. Well, I discussed this issue at great
22 length in this declaration, and I can refer you to
23 the sections of the declaration that discuss
24 compatibility in detail, and I prefer to do that
25 rather than rattle them off from the top of my head.

1 I'm happy to give you examples of element
2 of compatibility with the understanding that that
3 list may not be exhausted.

4 Q. So I -- I guess what I'm asking is, what
5 does it mean if I have determined that two
6 resonators are -- I mean, that they'll permit power
7 transfer?

8 MR. LAWSON: Object to the form.

9 (Court Reporter clarification.)

10 By MR. DAVIS:

11 Q. Yeah. If -- in the context of the '687
12 patent, what I'm asking is, what does it mean for
13 two resonators to be compatible? Does that mean
14 that they will permit power transfer between them?

15 A. Well, "permit" is not the right word. A
16 better word is that their physical attributes are
17 consistent with the transfer of power from the
18 transmitting resonator to the receiving resonator.

19 Q. So does -- does that mean that if the --
20 you are able to transfer power between the
21 resonators, then implicitly they are compatible with
22 one another?

23 A. Not at all. We're -- we're -- we're, kind
24 of, leaning into the area of checking for user ID
25 and account part of the authorization facility, but

1 in my view, compatibility of the resonators means
2 that various parameters of the two resonators are
3 consistent with the desired type of power transfer.

4 Q. What do you mean by "desired type of power
5 transfer"?

6 A. Well, an example might be do you want to
7 transfer power at the maximum power transfer rates
8 or do you want to transfer power at the most
9 efficient rate or something in between? That would
10 be a typical example of a choice that affects the
11 decision as to whether resonators are compatible.

12 Q. And so in -- so in the context of the
13 claims of the '687 patent, what is the desired power
14 transfer?

15 A. Well, the patent doesn't say. It just has
16 information from -- that is related to desired types
17 of power transfer. There is no one answer to that
18 question, what is the desired power transfer. It
19 really depends on the needs of the user.

20 Q. So for -- for purposes of practicing the
21 claim, it would be whoever is designing a system and
22 whatever they are designing the system for, that
23 would be the desired level of power?

24 A. No. The claim says that there is an
25 authorization facility that checks for the

1 compatibility of the resonators. So that would mean
2 that the user or the entity that has set up the
3 power transfer station would have to decide what
4 kind of power transfer was desired or it could be a
5 choice made by the user and then the system would
6 have to confirm that the two resonators in the
7 system were compatible with the type of power
8 transfer desired, but it would all depend on
9 checking that the physical attributes of the two --
10 the two resonators are consistent with the
11 parameters of the power transfer desired.

12 Q. And so if, using that definition of -- of
13 desired power, if the resonators are able to
14 transfer energy between them, whatever the desired
15 power level is, that would mean that the resonators
16 are compatible?

17 A. That's not what I said. You put -- you
18 extracted desired power as the measure of
19 compatibility. I did not say that. I said are the
20 physical parameters consistent with the transfer of
21 power, and I used the amount of power as one
22 example. Other physical attributes could be the
23 physical sizes of the resonators or the gaps that
24 they require for engaging in power transfer or is it
25 the correct manufacturer or is it a mix of

1 manufacturers? These are all physical attributes of
2 the resonator that could be taken into account in
3 defining compatibility.

4 Q. So in a system, I could have resonators
5 that provide power at a desired level of power, with
6 the resonators being incompatible with one another?

7 A. I don't think that's what I said. I think
8 the claim term simply says that the authorization
9 facility makes the decision about compatibility, and
10 if the resonators are not compatible, then it will
11 not authorize the transfer of power.

12 So your statement that you could have
13 power -- power transfer when the resonators are
14 incompatible, that's inconsistent with what the
15 claim says.

16 Q. Okay. So the -- the claim requires that
17 the authorization facility make a decision about
18 compatibility and then initiate power transfer, is
19 that your understanding?

20 A. Well, sure, pending passing the other test,
21 which is authorization of the account. Does the
22 user have a way to pay for the power they're about
23 to get or, you know, what other -- I mean, are they
24 a paying member of the club or whatever the
25 authorization criteria might be, which is

1 independent of the physical parameters of the two
2 resonators.

3 Q. And where in the authorization facility
4 limitation does it refer to the physical parameters?

5 A. Oh, they're all over the patent. The
6 patent's 295 pages long. I did extract some of the
7 physical parameters in my declaration. I'm happy to
8 point you to them if you want me to.

9 Q. Yeah. And I -- I am -- let me -- let me
10 try asking my question again.

11 What I'm asking is, in the claim language
12 where it discusses an authorization facility, is
13 there any part of that claim language that refers to
14 the physical parameters in the --

15 A. I lost -- part of your question got
16 garbled. There was a glitch in the matrix. I
17 didn't quite get the words.

18 Q. No problem. So I'll just ask the question
19 again.

20 So what I'm asking is the claim language
21 where it discusses an authorization facility, in
22 that element, where -- what part of that claim
23 limitation refers to the physical parameters?

24 A. Well, compatibility is related to physical
25 parameters that are described at length in the

1 patent. And, you know, the inventors have chosen
2 the word "compatibility" to refer to the matching of
3 different physical parameters of the resonator.
4 And, again, I would be happy to point you to places
5 where compatibility is explained in the
6 specification, but it's clear from the specification
7 what the -- what the inventors meant by
8 "compatibility."

9 Q. What does it mean for reson- -- physical
10 parameters of a resonator to be compatible?

11 A. Well, there are several criteria, as I
12 said, and it would be up to the user to decide -- or
13 the system designer to decide which of the physical
14 attributes would be important to authorize a power
15 transfer.

16 I found the section in my report that
17 enumerates on some of the physical attributes. I'm
18 referring you to paragraph 30 on page 12, at the
19 bottom. Examples of check for physical -- physical
20 compatibility of resonators. And I cite a paragraph
21 from column 143, lines 12 to 23, that starts with,
22 "Authentication may be used to ensure that only
23 compatible sources and devices are able to transmit
24 and receive power."

25 And later on in the paragraph, I bold, "One

1 or more different and possibly incompatible
2 parameters", and it maybe needs to translate or
3 convert the parameters or characteristics of wire
4 power transfer.

5 Then I continue on in the next section,
6 "Electrical Parameters." One parameter is the same
7 effective impedance. Another would be a specified
8 impedance. And another one under "physical
9 dimensions" is the characteristic sizes of the
10 resonators. Another would be orientation of the
11 resonators.

12 Down about the middle of page 14, the
13 source device resonator separation. That's a --
14 what I cite from column 112, 5 to 8. Position and
15 orientation information, are the resonators designed
16 for maximum power transmission, maximum efficiency,
17 minimize losses? And these are just some examples
18 of what it means for resonators to be physically
19 compatible.

20 Q. Going to -- I think that you were referring
21 to a paragraph at the beginning of your declaration
22 at -- on page 13, at the top of page 13, that you
23 said was a paragraph that started at column 143.

24 This paragraph that you have actually has
25 two separate quotes. The first sentence is from

1 column 102; is that right?

2 A. You are correct. There should be carriage
3 return after the word "added" in parenthesis in the
4 third line of that paragraph. So the first -- the
5 first citation is to 102, lines 15 to 17.

6 Q. Right. And -- and that is the -- and --
7 and all of the sections that you cite on pages 13
8 through 15, the only quote that actually uses the
9 word "compatible" is that first citation at column
10 102, lines 15 through 17; right?

11 A. No.

12 Q. Okay. Where else does it use the word
13 "compatible"?

14 A. Well, I would think anyone familiar with
15 the English language would consider incompatible a
16 form of being compatible, except the opposite. And
17 I think any person of skill would -- would get that.
18 And the ones I have cited in the various paragraphs
19 through page 15, you don't see the word
20 "compatible", but, again, I believe a person of
21 skill would understand that the listing of all of
22 the physical parameters that could decide whether
23 power transfer could be initiated or not are
24 examples of physical compatibility.

25 Q. For -- other than where it says compatible

1 or incompatible, your -- it's your interpretation of
2 the rest of the clauses where you understand it to
3 be referring to compatibility?

4 A. Well, it's been my interpretation -- I
5 think anyone familiar with basic English knows what
6 "compatible" means. It's used in all different
7 walks of life, including relationships and shoe
8 sizes, but in this case we are applying
9 compatibility to resonators. And if I look at, for
10 example, the citation at the top of page 15 of my
11 declaration, citing 112, 41 to 47, the second
12 sentence says, "Depending on the charging protocols
13 and device power requirements and hierarchies, the
14 source may alter its size to preferentially charged
15 or power one of the devices." That is a measure of
16 compatibility.

17 And I think any -- any person of ordinary
18 skill in the art, reading that paragraph, would
19 understand it to be describing compatibility --
20 physical compatibility.

21 Q. So using the example that you just used at
22 the top of page 15 of your declaration, how do I
23 confirm compatibility using the size of the
24 resonators?

25 A. Well, again, it's going to be a system

1 dependent issue, and it would be up to the designer
2 of the system to decide what is compatible and what
3 is not.

4 The claim simply says that the
5 authorization facility checks for compatibility,
6 where compatibility is a system dependent
7 determination, the same way that the second part of
8 the authorization facility check for valid user.
9 Well, how do you know if a user is valid or not?
10 There could be many different criteria. The person
11 could have the right fingerprint. The person could
12 put in the password. The system could recognize a
13 token sent from the car. There are many different
14 ways, but the authorization facility checks for a
15 valid user in one of many different ways.

16 The same would be true for compatibility.
17 There are many different ways where compatibility
18 could be checked; but, again, the claim just says
19 that the system confirms compatibility.

20 Q. And -- so the -- the claims and the patent
21 don't tell you how you need to confirm
22 compatibility, just that there needs to be some sort
23 of a compatibility confirmation?

24 A. Well --

25 MR. LAWSON: Object to the form.

1 You can answer

2 THE WITNESS: It says that the
3 authorization facility confirms compa- --
4 compatibility. It's the authorization facility that
5 is claimed, and the role of the authorization
6 facility is to confirm compatibility. All right?

7 So it's a apparatus claim, and the elements
8 of the apparatus are a load resonator, a wireless
9 coupling, and then authorization facility. That's
10 what you have to have. What does the authorization
11 facility do? It confirms compatibility.

12 Q. What is -- is an authorization facility, is
13 that a specific type of device or circuit?

14 A. It's a protocol.

15 Q. An authorization facility is a protocol?
16 Of what sort?

17 A. That says yes or no; provides permission or
18 doesn't provide permission.

19 Q. Okay. So the authorization facility needs
20 to provide permission or not provide permission
21 based on whichever parameters the system has
22 determined to check to permit power transfer; is
23 that right?

24 A. I'll point out one could -- could consider
25 an open facility that didn't check for valid user.

1 You know, some sort of, say, a high -- high end
2 hotel that provided free wireless charging to all
3 visitors, and so you just go into the garage and it
4 doesn't even check for an ID, but it would check to
5 make sure that the resonators were compatible.

6 So, again, there are two pieces to the
7 authorization that the authorization facility does.

8 Q. So it's the authorization facility, in your
9 opinion, has -- there is two functions that it has
10 to perform; is that right?

11 A. Yes. One, again, confirm compatibility and
12 the other is to confirm an authorized user.

13 Q. Well, that's not what the claim says. The
14 claim says provide authorization; is that right?

15 A. Let me look at the claim again.

16 Authorization facility to confirm
17 compatibility of the resonators and to provide
18 authorization for initiation for the transfer of
19 power. So -- and I'm sorry. I lost track of what
20 your question is, if you could repeat it?

21 Q. So the claim language doesn't refer to a
22 user; is that right?

23 A. I'm not sure what you mean.

24 Q. The word "user" isn't anywhere in the
25 claim?

1 A. The word "user" is not in the claim.

2 Q. Are you agreeing?

3 A. I agree. No. It's -- it's very clear that
4 authorization requires a user to be trying to charge
5 a vehicle. So I think it's implicit, but you are
6 correct. The word "user" is not in the claim.

7 Q. So is it your opinion that the applicants
8 acted as their own lexicographer to redefine,
9 confirm compatibility and separately provide
10 authorization?

11 MR. LAWSON: Object to the form.

12 THE WITNESS: I don't think any
13 lexicography is required for this particular claim
14 element. I think plain and ordinary meaning
15 suffices and makes the claim element abundantly
16 clear.

17 By MR. DAVIS:

18 Q. Which of the words in the claim have a
19 plain meaning of checking for valid user?

20 MR. LAWSON: Object to the form.

21 THE WITNESS: The second clause provide
22 authorization and -- all right. Give me one second.

23 Looking at the patent -- can you repeat
24 your question?

25 By MR. DAVIS:

1 Q. Let me -- let me actually ask -- let me ask
2 a different question.

3 So it's your understanding, for example,
4 looking at the last file of Claim 13, that the
5 clause to confirm compatibility of the resonators is
6 a separate function from provide authorization for
7 initiation of transfer of power?

8 A. That's right.

9 Q. And you have proposed that the clause --
10 that clause should be construed to mean verify that
11 parameters of the resonators will power transfer and
12 provide authorization prior to initiating the
13 transfer of power?

14 MR. LAWSON: Object to the form.

15 Michael, I'll note that in paragraph 24, we
16 submitted the errata that -- on that. You're
17 missing a word there on the definition. You're
18 missing the word "permit." So it should read --
19 this is a matter for the record -- that definition
20 should be -- the claim construction should read --
21 and I'll do it for the court reporter's benefit.
22 The entire sentence should read, "The reason
23 explained below, it is my opinion that a person
24 skilled in the art would understand this term to
25 mean, quote, 'verified at parameters', the

1 resonators will permit power transfer and provide
2 authorization prior to initiating the transfer of
3 power."

4 MR. DAVIS: And --

5 MR. LAWSON: And that's the claim
6 construction that Dr. Horenstein did for the claimed
7 authorization facility in -- in the independent
8 claims. That's all in -- in paragraph 24.

9 MR. DAVIS: And, Mr. Lawson, I would
10 appreciate it if you would not testify on behalf of
11 Dr. Horenstein. I was -- I was asking his -- his
12 opinion. And it appears that you just answered for
13 him.

14 MR. LAWSON: No, Counsel, that's not what I
15 did. You read the -- you read the -- from his
16 declaration in paragraph 24 in what his opinion was
17 of the interpretation of the claimed authorization
18 facility, and you -- and you left out an important
19 word "permit", and so I made -- I reread that
20 definition, with the -- with the proper term -- with
21 that word "permit" in his interpretation.

22 MR. DAVIS: Oh.

23 MR. LAWSON: That's all I did, and I did it
24 just for the record.

25 MR. DAVIS: Mr. Lawson, I didn't ask him

1 anything about paragraph 24 in my question, and I
2 would appreciate it if you would just would not
3 answer on behalf of the witness. Of course, you can
4 ask him questions on your redirect if you feel like
5 there has been some sort of miscommunication or
6 something that you need to correct, but you should
7 not testify for Dr. Horenstein.

8 MR. LAWSON: For the record, I corrected
9 your reading of Dr. Horenstein's claim
10 interpretation written in his declaration. I didn't
11 testify for the witness.

12 MR. DAVIS: Please keep your objections to
13 objection; form, consistent with what is required
14 under the PTAB practice rules.

15 MR. LAWSON: Okay. I did it, and I'll
16 continue to be do so. Thank you.

17 THE WITNESS: Is there a pending question?
18 By MR. DAVIS:

19 Q. Yeah. Let me -- you had proposed to
20 construe the clause to confirm compatibility of the
21 resonators and provide authorization for initiation
22 of transfer of power to mean verify that parameters
23 of the resonators will -- and I'll use the phrase
24 that your counsel just interjected -- will permit
25 power transfer and provide authorization prior to

1 initiating the transfer of power; is that right?

2 A. Just to be clear, counsel did not insert
3 the word "permit." I did. In reading those over my
4 declaration in preparation for this deposition, I
5 noticed the typo, and I sent Mr. Lawson a list of
6 typos yesterday. So the insertion of the word
7 "permit" is mine and not his words on my behalf,
8 just to be clear.

9 And that is clearly a typographical error
10 which, until corrected, is not indicative of my
11 opinion as to how the claim term should be
12 construed.

13 Q. And with that correction, that is what
14 you -- in your opinion what the claim term should be
15 construed as?

16 A. Yes.

17 Q. The -- the words "prior to" in your
18 proposed construction, do you intend that to mean
19 that the confirmed compatibility of the resonators
20 has to happen before "the provide authorization for
21 initiation of transfer of power"?

22 A. Yes.

23 Q. One of the claim language requires that the
24 confirmed compatibility of the resonators has to be
25 before, or prior to the initiation of transfer of

1 power?

2 A. Well, there are -- the last clause of the
3 claim is for initiation of transfer of power, and
4 the two criteria precede it to confirm compatibility
5 and provide authorization for initiation of a
6 transfer of power. And I think the meaning is
7 abundantly clear in that -- in that claim element.

8 Q. So it's your opinion that before initiation
9 transfer of power applies to -- is not just for "the
10 provide authorization." It also applies to confirm
11 compatibility of the resonators?

12 MR. LAWSON: Object to the form.

13 THE WITNESS: I think it's more than just
14 my opinion.

15 If a person of ordinary skill were trying
16 to interpret this claim, that person would say
17 what's the point of confirming compatibility if
18 you're not going to do anything with the
19 information? If you determine that the resonators
20 are incompatible and then you do nothing about it,
21 why would you have done it in the first place?

22 So it's abundantly clear that confirming
23 compatibility, in this case physical compatibility,
24 is one requirement for initiation of power, and the
25 other is providing authorization, meaning checking

1 to see if the user is a valid user and has proper
2 credentials. I see no ambiguity in that claim
3 element at all.

4 By MR. DAVIS:

5 Q. So if we actually -- you mentioned that it
6 wouldn't make sense to not do anything about the
7 resonators being, I guess, incompatible.

8 If we can go to the top of your page 13,
9 where you have the quote from 143, 12 through 23?

10 A. Okay. Just one moment.

11 Q. Let me know when you're there.

12 A. Okay.

13 MR. LAWSON: Which -- which paragraph is
14 it? I'm sorry. Counsel, which paragraph?

15 MR. DAVIS: It's the quote that starts at
16 the top of page 13 of Dr. Horenstein's declaration,
17 column 143, 12 through 23.

18 MR. LAWSON: All right. Thank you.

19 By MR. DAVIS:

20 Q. Here in this quote, it refers to -- it
21 refers to the sources and devices can be -- that are
22 capable are configured to operate and transfer
23 energy with one or more different and possibly
24 incompatible parameters.

25 Do you see that?

1 A. Just one moment. Let me reread it.

2 Okay. And I see that. Yep.

3 Q. And so what the '687 patent is saying is
4 that it's possible for sources and devices in
5 embodiments of the invention to have incompatible
6 parameters and then the system can configure those
7 parameters to then allow energy transfer between the
8 resonators?

9 MR. LAWSON: Object to the form.

10 THE WITNESS: It can configure those
11 parameters so that they become compatible, and once
12 that reconfiguration is done, then the resonators
13 are compatible.

14 By MR. DAVIS:

15 Q. And where does it say in this quote that
16 that -- that configuring those parameters has to
17 occur prior to initiation of power transfer?

18 A. The first sentence, "Authentication may be
19 used to ensure only compatible sources and devices
20 are able to transmit and receive power." That is
21 paragraph 102, 15 to 17.

22 Q. So, Dr. Horenstein, you understand that
23 those -- those -- that quote that you just referred
24 to is 40 columns away from the paragraph that we
25 were just discussing?

1 A. Okay.

2 Q. So it's not the -- the first sentence of
3 this discussion of the incompatible record. It's
4 somewhere completely different in the '687 patent?

5 A. We already established that. It's in a
6 different section of the specification, but it still
7 explains what the -- what the authentication does in
8 the -- in the area of compatible sources.

9 Q. So if -- is checking resonator parameters
10 and then tuning a resonator so that it has
11 compatible parameters an example of the claimed
12 confirming compatibility of resonators?

13 A. No. It should be the second paragraph in
14 column 143. That's an explanation of remedial
15 action that can be taken should the resonators fail
16 the compatibility test. And the fact that they
17 occur much later, I don't find that particularly
18 relevant. Let's see. One moment, please. I'm
19 still looking.

20 So a portion of the specification that's
21 between column 102 and column 140, there's a lot of
22 information about how to build a resonator and then
23 once the spec gets to column 140, there is a
24 discussion about, you know, what do you do if you
25 built the resonators and they're not compatible?

1 And it does refer back to -- you know,
2 there are numerous and somewhat tedious equations
3 that precede the whole discussion about how the
4 resonator parameters are calculated. So the fact
5 that the citation in column 102 and that from 140
6 are separated by much text, I don't find that
7 relevant or in any way surprised that they're just
8 in different places.

9 Q. In the -- in the portion of column 102 that
10 you cite at the top of page 13 of your declaration,
11 do you understand authentication to have the same
12 meaning as authorization?

13 MR. LAWSON: October to the form.

14 THE WITNESS: I would say in this context
15 of the patent, they would mean the same thing. I
16 mean, "authentication" is a word used to describe
17 confirmed compatibility of the resonators.

18 So you asked me if authentication is the
19 same thing as authorization. To look at the claim,
20 there is an authorization facility. That's a thing.
21 And it confirms compatibility or authenticates the
22 resonators, according to their physical parameters,
23 and then it provides authorization, which is yet
24 another term.

25 By MR. DAVIS:

1 Q. So if I can turn you back to actually
2 paragraph 25 of your declaration. You state, "As
3 part of the compatibility check" --

4 A. Hold on a sec. I'm not there. 25? Okay.

5 Q. "As part of the compatibility check, the
6 authorization facility may confirm such parameters
7 as resonant frequency, quality factor Q, coupling
8 efficiency, physical dimension, safety metrics and
9 manufacturer of the resonators."

10 Do you see that?

11 A. Yes.

12 Q. In your opinion, to confirm compatibility
13 of resonators, do you have to check every single one
14 of these parameters?

15 A. No. That's what "such as" means, that you
16 have to confirm the ones that are relevant to being
17 able to transfer power. And so the resonant
18 frequency and the quality factor and the physical
19 dimensions, those are typical essential ones.
20 Coupling efficiency less so, unless efficiency is a
21 major criteria that the user has established for
22 compatibility. The safety metrics is, you know,
23 another one that's not essential but might be
24 included, and a manufacturer of the resonators is
25 pretty much an essential factor.

1 Q. So would it be enough to just check one of
2 these parameters under your interpretation of the
3 claims?

4 A. I don't believe so.

5 Q. But it -- and it would just be up to the
6 user to determine how many of the factors need to be
7 checked?

8 A. Well, it's going to be context dependent
9 and system dependent.

10 Q. And does the -- do the claims of the '687
11 patent or the specification describe what that
12 context will be?

13 A. It says the resonators have to be
14 compatible, and the specification provides numer- --
15 numerous metrics that are consistent with
16 compatibility. I believe that resonant frequency is
17 essential, but it's not enough. Just having the
18 same resonant frequency doesn't even guarantee power
19 transfer unless you have appropriate quality factors
20 on both sides of the resonator, the transmitter and
21 the receiver.

22 The same is true about physical dimensions.
23 You can have the same resonant frequency, but if the
24 physical dimensions don't match, you're not going to
25 get any power transfer.

1 Q. And how -- how does the authorization
2 facility have to confirm these -- whichever physical
3 parameters are being checked? Does it have to do
4 some sort of physical measurement of the resonator,
5 active measurement?

6 MR. LAWSON: Object to the form.

7 THE WITNESS: The specification spends a
8 lot of time on the communication channel between the
9 resonator and the controller of the whole system, so
10 these physical parameters would be part of the
11 identifier for the resonator, where the resonator
12 says, hello, I'm a resonator from WiTricity or I'm a
13 resonator from InductEV. You know, here are -- here
14 is my size. I'm, you know, half a meter in
15 diameter, whatever. And those pieces of information
16 would be transmitted by secure link between the
17 resonator and the controller.

18 By MR. DAVIS:

19 Q. Okay. And then what -- what would be
20 the -- so that would be sent on a communication
21 channel, and then the actual -- what would make it
22 compatible? Would it be that the other parameters
23 of the other resonator are equal to those?

24 MR. LAWSON: Object to the form.

25 THE WITNESS: So too nar- -- too narrow a

1 question. What defines a compatible physical size?
 2 Well, it's not necessarily an equal size. It could
 3 be that the sizes are within a certain minimum range
 4 or they're both square instead of one round and the
 5 other square. You know, the -- the limitation --
 6 the possibilities are endless for each of these
 7 limitations.

8 And it could even be that the quality
 9 factor measurement is going to depend on the
 10 instantaneous price of electricity. I mean, there
 11 are just many, many different criteria, and all the
 12 claim says is that once the criteria for
 13 compatibility are known, the authorization facility
 14 has to check for them.

15 By MR. DAVIS:

16 Q. And then what -- what is the ultimate goal
 17 of the -- of confirming compatibility, so that there
 18 could be energy exchanged between the resonators?

19 MR. LAWSON: Object to the form.

20 THE WITNESS: You asked a question and then
 21 gave the answer, so how do you want me to handle
 22 that?

23 By MR. DAVIS:

24 Q. Well, is that right? Is the ultimate goal
 25 of confirming compatibility so that there can be

1 energy exchanged between the resonators?

2 A. Well, the ultimate goal is to transfer
3 energy. If it can be done and the compatibility is
4 present and the validity of the user is present,
5 then why would anyone want to use these devices if
6 not to transfer power? So, yeah, that would be the
7 ultimate goal.

8 Q. And so if I sent, like, a -- a -- some
9 amount of, like, a power exchange between the
10 resonators and they were able to transfer power, is
11 that -- that would confirm the compatibility of
12 resonators?

13 MR. LAWSON: Object to the form. I think
14 it's also asked and answered.

15 THE WITNESS: Compatibility has to
16 answer -- has to happen first. There would be no
17 point in checking compatibility if power transfer
18 was going to be initiated before compatibility
19 check.

20 MR. LAWSON: Counsel, just a quick note on
21 the time. We've been going close to an hour, so if
22 we can take a break here in the next couple of
23 minutes.

24 MR. DAVIS: Yeah. I've just got a couple
25 more questions, and then we can break.

1 MR. LAWSON: Sure. Uh-huh.

2 By MR. DAVIS:

3 Q. Could the resonator parameters, could those
4 be something that are, like, stored in the database
5 that are checked in order to confirm
6 compatibility?

7 A. It's possible. It's possible that a
8 manufacturer of a resonator provides to the greater
9 world the specifications of its resonator and all it
10 has to do is send an identifier. I mean, once the
11 identifier matches with the database, it could be
12 confirmed that the transmitting resonator -- I'm
13 sorry -- the receiving resonator is compatible with
14 the transmitting resonator.

15 Q. Okay. I guess the reason why they would do
16 that is so that you could ensure that only, sort of,
17 appropriate resonators are getting charged by the
18 transmitting resonator?

19 MR. LAWSON: Object to the form.

20 THE WITNESS: I think that was a question.
21 Yes. It was to make sure that only appropriate
22 resonators are engaged for power transfer.

23 MR. DAVIS: Okay. Let's go off the
24 record.

25 COURT REPORTER: We're off the record.

1 (Recess.)

2 COURT REPORTER: We're back on the
3 record.

4 By MR. DAVIS:

5 Q. Welcome back, Dr. Horenstein.

6 A. Thank you.

7 Q. If you can pull up the '687 patent and go
8 to column 180, line 56.

9 Let me know when you're there.

10 A. Okay.

11 Q. Actually just give me one second because my
12 phone decided to crash.

13 If you could zoom in on -- starting at line
14 56?

15 A. Yes.

16 Q. It -- I think that, Dr. Horenstein, you had
17 mentioned that the '687 patent talked about the
18 communication between resonators is part of the
19 confirming compatibility; is that right?

20 A. I think I said communication in general.
21 I'm not sure I said between resonators.

22 Q. So this section from 18056 through 63 on
23 the '687 patent is teaching that communication
24 between resonators may be used to identify and
25 authenticate available power sources in devices?

1 MR. LAWSON: Object to the form.

2 THE WITNESS: Okay. I've read that
3 sentence.

4 By MR. DAVIS:

5 Q. And -- and this sentence is teaching that
6 communication between resonators can be used to
7 identify and authenticate available power sources
8 and devices?

9 A. Yes.

10 Q. And then the next sentence states that,
11 "Verifying resonators for energy transfer can be
12 different when in-band and out-of-band communication
13 channels are used."

14 Do you see that?

15 A. No. What line did you start at?

16 Q. 63.

17 MR. LAWSON: Object to the form.

18 THE WITNESS: Methods for designating and
19 verifying resonators, that sentence?

20 MR. DAVIS: Yeah.

21 THE WITNESS: Okay.

22 By MR. DAVIS:

23 Q. Is verifying resonators for energy transfer
24 the same as confirming compatibility?

25 A. "Verifying resonators for energy transfer",

1 I would say that is -- that is what is meant by
2 checking for compatibility.

3 Q. So would you agree, then, that the --
4 whether to use in-band and out-of-band communication
5 channels, that's related to confirming resonator
6 compatibility?

7 MR. LAWSON: Object to the form.

8 THE WITNESS: No. I would not say that.

9 By MR. DAVIS:

10 Q. And why is that?

11 A. Well, this whole discussion of in-band and
12 out-of-band, that's talking about the limitations of
13 the communication channel.

14 If you think of the radio spectrum as being
15 divided into bands, kind of like the CB channels, if
16 you're far enough away, you can only communicate
17 over a designated channel frequency, but if you're
18 close, you can cross over and have -- and transmit
19 and receive from different or adjacent frequency --
20 adjacent frequency channels.

21 So that's what this paragraph is talking
22 about. It's simply saying that if you're
23 out-of-band, your distance is limited because the
24 signal crossover is very weak.

25 Q. But the -- depending on what -- or using

1 either in-band or out-of-band communication channels
2 is a way that you can verify resonators for energy
3 transfer; is that right?

4 A. It's -- it's just discussing a way the
5 resonators can communicate, irrespective of the
6 information that is exchanged.

7 Q. And if -- if resonators are using in-band
8 communication channels, that means that the
9 communications are going to be on the same frequency
10 band as the power that is being transferred?

11 MR. LAWSON: Object to form.

12 THE WITNESS: No. We -- we are mixing up
13 concepts. The resonator provides power at a given
14 resonant frequency. That's the transmitting
15 resonator. And the receiving resonator receives
16 power at that same frequency and is ideally at the
17 same resonant frequency.

18 The communication channel is something
19 different, you know, something like Wifi or the
20 like, which carries the information from the
21 resonator -- one resonator to the other.

22 When we're talking about the situation, you
23 know, think about the resonator as a whole entity
24 that has bells and whistles in addition to just
25 being a resonant conductor/capacitor combination.

1 By MR. DAVIS:

2 Q. So what is your understanding of what it
3 means for it to be -- for communication to be
4 in-band?

5 A. Well, if you look in the previous paragraph
6 or two, the last sentence of the preceding
7 paragraph, starting at line 54, it describes what
8 out-of-band communication can be based on, and here
9 are different communication protocols. Bluetooth
10 and Wifi we're all pretty familiar with. Zigbee,
11 not really that familiar with it, but it is a
12 communication protocol. NFC Technology is Near
13 Field Communication and the like. So --

14 Q. And then if we go back to -- excuse me.

15 A. I just noticed the preceding sentence, that
16 answers your question, starting at line 50. "An
17 out-of-band communication channel may use an antenna
18 and the Zigbee protocol that is separated from the
19 energy transfer resonator and magnetic fields."

20 So it's really a separate entity.

21 Q. And then for -- if we go up just to line
22 44, the '687 patent is saying that when it's in-band
23 communication, the frequency of the information
24 exchange is close to the resonant frequency used in
25 the power exchange?

1 A. Yes.

2 Q. And in those circumstances where you use
3 in-band communications, it means at least some of --
4 some part of a magnetic resonator used to exchange
5 power is also used to exchange information?

6 A. That's right. This is a common technique
7 in power transfer systems we're familiar with, like
8 charging your cell phone on the charging pad or
9 charging your electric toothbrush. Those wireless
10 charger systems use the Qi standard, which was
11 developed by a wireless power transfer committee, I
12 think, in the 1980s.

13 And what happens is communication is -- is
14 put into effect by amplitude modulating the
15 oscillating signal, where the amplitude modulation
16 is just a small bit of amplitude modulation, but
17 it's used to encode a signal on top of the main
18 resonator signal -- resonator power carrying field.

19 Q. A resonant is using in-band communication
20 because it's in the same frequency and it's using
21 the same or it's using part of the resonator. Does
22 that mean that the resonator, if they're
23 communicating in-band, that they're compatible?

24 A. Nothing to do with compatibility. Here --
25 here are the specifications talking about how the

1 resonators communicate, and they're explaining that
2 there are two ways to do it: One is you tag a
3 signal on to the carrier frequency -- that's the
4 resonant frequency of the resonator -- and it would
5 typically, then, by amplitude modulating at the
6 resonant frequency carrier.

7 The other way to do it is just to go to a
8 different band entirely, the Bluetooth band or the
9 Wifi band, Zigbee band, et cetera.

10 So it really has nothing to do with
11 compatibility here. What's being talking about here
12 is ways to communicate.

13 Q. Can you pull up Exhibit 1007, which is the
14 Cook patent?

15 A. Okay.

16 Q. And if you can go paragraph 1 of Cook.

17 A. Okay.

18 Q. And paragraph 1, it has -- I think it's the
19 second sentence. For example, U.S. Patent
20 Application Serial Number 12/018069, filed January
21 22, 20008?

22 A. Yes.

23 Q. You understand that's the Cook-086
24 reference?

25 A. I -- I forgot that detail. I'll take your

1 word for it.

2 Q. Okay. And then it says in Cook paragraph
3 1, that: "The disclosure, which is herein
4 incorporated by reference, describe wireless
5 transfer of power to a load"?

6 A. Yes.

7 Q. So a person reading Cook would have also
8 read Cook-086 for its teachings as applicable to
9 this system?

10 A. Okay.

11 Q. Do you agree with that?

12 A. Yes.

13 Q. And if we look at -- at Cook, you agree
14 that Cook discloses an authorization module?

15 MR. LAWSON: Object to form.

16 THE WITNESS: Are we talking about Exhibit
17 1007?

18 By MR. DAVIS:

19 Q. Yes.

20 And can I direct you to your declaration at
21 paragraph 54, where you say "Cook is concerned with
22 making sure the authorization module ensures the
23 user has a subscription."

24 A. Okay.

25 Q. Do you agree that Cook discloses an

1 authorization module?

2 A. Okay. Yeah.

3 Q. And the authorization module in Cook will
4 detect the ID of the vehicle side resonator;
5 correct?

6 A. Let's see. It says detect ID at 200. I'm
7 not sure where it's coming from, but if you give me
8 a moment, I'll look.

9 Yes, that's correct.

10 Q. And if the -- the IDs match, if the
11 transmitter determines that the IDs match, then it
12 will permit a wireless power transfer between the
13 resonators?

14 A. It's more than do the IDs match. The ID
15 has to have an account. You have to have a credit
16 card on file.

17 Q. Okay. And so if the -- if the -- if the
18 vehicle resonator is associated with an account,
19 then it will enable charging and initiate power
20 transfer?

21 A. In Cook?

22 Q. In Cook.

23 A. Yes.

24 Q. Okay. And then what happens is that power
25 will be delivered from the -- the charger that's in

1 the ground and delivered to the resonator that's on
2 the car which then charges the battery. Is that --

3 A. Let's -- let's -- I would agree with
4 that.

5 Q. If the -- if the vehicle resonator and the
6 transmitting resonator were not compatible, you
7 wouldn't get power transfer that could charge the
8 vehicle battery; is that right?

9 MR. LAWSON: Object to the form.

10 THE WITNESS: I think that statement is not
11 accurate.

12 By MR. DAVIS:

13 Q. And why is it that it's not accurate?

14 A. You could get highly lossy power transfer
15 or power transfer at a very slow rate, just very
16 suboptimal power transfer.

17 Q. Is there anywhere in Cook that indicates
18 that the power transfer is very lossy or
19 inefficient?

20 A. Well, you asked me a question if the
21 resonators were not compatible, could there be power
22 transfer? So I answered you based on what a person
23 of skill would have known, but compatibility isn't
24 discussed in -- compatibility of physical parameters
25 is not discussed in Cook. So that information is

1 not going to be in Cook.

2 Q. In paragraph 12 of Cook, it -- it states
3 that "the battery is automatically charged whenever
4 the antenna 112 comes into range of a wireless
5 charging circuit of appropriate type, e.g., the
6 right frequency."

7 Do you see that?

8 A. I do.

9 Q. This indicates that in order to
10 automatically charge the battery with an appropriate
11 type, that means than the resonators would be
12 compatible with one another; correct?

13 A. No. Cook is just saying they have to have
14 the same resonant frequency, which is kind of basic
15 knowledge, but it doesn't talk about all of the
16 other aspects of compatibility that are important to
17 more -- more sophisticated systems.

18 Q. And what would some of those be?

19 A. Well, we talked about them before. You
20 know, things like Qi factors, size, adopts basing.
21 We didn't mention the capability for power transfer,
22 the voltage that would be induced in the resonator.
23 These are all things, besides resonant frequency,
24 that would be considered in the compatibility test
25 of a more sophisticated system.

1 Q. And if a -- if a user determined that all
2 it required for compatibility is that any amount of
3 charge can be transmitted back to the resonator,
4 then would that satisfy confirming compatibility?

5 A. Compatibility, as it's defined in the '687
6 patent, I do not believe it would be an indicator of
7 compatibility.

8 Q. And I thought we talked about earlier that
9 the compatibility in the '687 patent is up to the
10 user and context specific?

11 A. Right. But, see, here's the thing: We're
12 talking in both Cook and in the '687 about a pair of
13 resonant -- a pair of resonators, and if the
14 transmitter is resonating at a particular frequency,
15 if the receiver is not designed to resonate at that
16 same frequency, then it won't be a resonator, plain
17 and simple.

18 So being at the same resonant frequency,
19 that's basic wireless charging 101. It's -- the
20 measures of compatibility that are discussed in the
21 '687 go far and beyond having the same resonant
22 frequency.

23 Q. So is it -- is it your opinion that in
24 order to invalidate the claims of the '687 patent,
25 there would need to be a, sort of, adequate

1 description similar to what's in the specification
2 of the '687 patent in Cook for the prior
3 references?

4 MR. LAWSON: Object to -- object to the
5 form.

6 THE WITNESS: I didn't get the first few
7 words on your sentence. There was a glitch in the
8 matrix.

9 Did you say in order to invalidate? Is
10 that what you said?

11 By MR. DAVIS:

12 Q. Right.

13 MR. LAWSON: Same objection.

14 THE WITNESS: It would need to be something
15 more than just being at the same frequency for
16 resonators to be compatible, as compatibility is
17 defined in the '687 patent.

18 By MR. DAVIS:

19 Q. And when you say "defined in the '687
20 patent", there's not, like, one particular section
21 where it does, like, actually define the term, but
22 rather, sort of, contextually, if you read the
23 entire patent, is that what you're saying?

24 MR. LAWSON: Objection to form. It's asked
25 and answered.

1 THE WITNESS: You are correct. There is no
2 sentence in the '687 that says the definition of
3 compatibility is: But there is ample context for a
4 person of skill to ascertain what the patent means
5 by compatibility, as -- as I said previously.

6 By MR. DAVIS:

7 Q. So in the context of Cook, is there
8 anything that -- that would indicate that you
9 shouldn't confirm compatibility before initiating
10 power transfer?

11 MR. LAWSON: Object to the form.

12 THE WITNESS: I'm a little bit at a loss to
13 answer your question. The word "compatibility"
14 doesn't be show up anywhere in Cook. Neither does
15 the specification or the claims.

16 And the only thing that refers to checking
17 for a match is the resonant frequency, and as I
18 said, that's -- that's kind of a given. With a pair
19 of couple resonators, you're not going to
20 self-resonate if they're not at the same resonant
21 frequency.

22 So I think the answer to your question is,
23 no, there isn't.

24 By MR. DAVIS:

25 Q. Do you think that Cook would be improved if

1 it had used some sort of a compatibility check?

2 MR. LAWSON: Object to the form.

3 THE WITNESS: As I said before, I think
4 Cook is a very fundamental -- it describes a very
5 fundamental type of wireless charging system, and
6 the '687 has a lot more sophistication that's built
7 into the specification.

8 By MR. DAVIS:

9 Q. As a person of skill reading Cook, why
10 would a vehicle resonator have an account associated
11 with a charging service if the -- if the resonator
12 on the vehicle was incompatible?

13 MR. LAWSON: Object to the form.

14 THE WITNESS: I have no idea, but
15 presumably anyone could sign up for an account, and
16 at least in the time frame of the patents and
17 possibly even today, these vehicle resonating
18 systems are retrofit. They're not built into the
19 vehicle. So if I were driving a car, I could buy
20 whatever -- I'm just making this up -- my resonator
21 on Amazon, hypothetically, and put it on my car and
22 sign up for an account and then try to charge my car
23 from a particular charging station.

24 And so what you're saying is why would a
25 vehicle get an ID if its resonator wasn't incomp- --

1 was incompatible, and I'm saying, you know, based on
2 how these systems are described and what was known
3 in the state of the art at the time, no, there's no
4 guarantee that just getting an account makes your
5 resonator compatible.

6 By MR. DAVIS:

7 Q. Is -- just, I guess, logically, do you
8 think that it would make sense for the -- the
9 account that's associated with charging and
10 associated with the vehicle resonator, that it
11 would -- in order for there to be charging enabled,
12 the resonators would need to be compatible?

13 MR. LAWSON: Object to the form.

14 THE WITNESS: You're asking me what I think
15 would be reasonable?

16 By MR. DAVIS:

17 Q. Right.

18 A. I think that's irrelevant to evaluating the
19 claims for invalidity, what I think. I'm simply
20 saying -- I'm simply pointing out what Cook doesn't
21 say, which is checking for the multitude of
22 parameters that define compatibility. Independent
23 of whether the user has an account or not, the
24 system says we can't take your resonator.

25 The analogy in today's world would be all

1 of the EV chargers that are out on the highway and
2 the valid -- the compatibility check is performed
3 when the user tries to put the plug into the car.
4 If you've got a Tesla and it's a Tesla charger,
5 you're compatible. If you've got a -- a Chevy Volt
6 and you go to a Tesla station, you're out of luck
7 because they're not compatible.

8 I mean, that's a primitive measure of
9 compatibility, but that's independent of whether the
10 owner of the car has put the credit card into the
11 machine. These are different things.

12 Q. All right. If the -- if the signal that
13 comes out of that system is charging as enabled and
14 it's a person with skill in the art, would that
15 indicate to you that the resonators are compatible?

16 MR. LAWSON: Object to the form.

17 THE WITNESS: What signal are you talking
18 about?

19 By MR. DAVIS:

20 Q. That charging is enabled?

21 A. I'm a little bit lost. What's providing
22 the signal that charging is enabled?

23 Q. One of the resonators would signal to the
24 other that charging is enabled, would that be --
25 that would confirm that the resonators are

1 compatible?

2 MR. LAWSON: Object to the form.

3 THE WITNESS: Well, you're talking about in
4 the context of the '687 patent or Cook?

5 By MR. DAVIS:

6 Q. In the context of Cook or -- as you read
7 Cook?

8 MR. LAWSON: Object to the form.

9 THE WITNESS: Cook just relies on the
10 resonant frequencies being the same, and that's
11 something that can be measured by the receiving
12 resonator, seeing at what frequency the transmitter
13 is putting out energy.

14 By MR. DAVIS:

15 Q. And so it would -- it would confirm -- Cook
16 would confirm compatibility of at least the resonant
17 frequency, but that's not just as sophisticated of a
18 compatibility -- of confirming compatibility in the
19 '687 patent?

20 MR. LAWSON: Object to the form. Asked and
21 answered.

22 THE WITNESS: It's a basic prerequisite to
23 charging. Physically charging just can't take place
24 if the resonant frequencies aren't the same. I -- I
25 should say that the resonators won't act like

1 resonators if they have different resonate --
2 resonant frequencies.

3 By MR. DAVIS:

4 Q. So that's like the -- just checking the
5 resonant frequencies, that's, like, the most basic
6 compatibility check that you need to do?

7 MR. LAWSON: No. Object to the form. It's
8 asked and answered and also it misstates the
9 witness's prior testimony.

10 THE WITNESS: A -- a point. You added the
11 word "compatibility" to checking the resonant
12 frequency. Compatibility, as it's used and defined
13 by context in the '687 patent, means a lot more than
14 the resonant frequency.

15 By MR. DAVIS:

16 Q. But any -- any compatibility check would
17 need to include at least checking the resonant
18 frequency?

19 MR. LAWSON: Object to the form.

20 THE WITNESS: As I said before, resonant
21 frequency would be a given, and the compatibility
22 check would be a -- a collection of other parameters
23 in addition to resonant frequency.

24 By MR. DAVIS:

25 Q. And -- and that would be in order to ensure

1 that you could get some amount of transfer of energy
2 between the two resonators?

3 MR. LAWSON: Object to the form.

4 THE WITNESS: When you say "that", what do
5 you mean? You said that would --

6 By MR. DAVIS:

7 Q. That -- that compatibility check would be
8 in order to ensure that there would be an adequate
9 or some sort of transfer of energy between the
10 resonators?

11 MR. LAWSON: Object to the form.

12 THE WITNESS: Well, more than some sort of.
13 The desired transfer of energy.

14 By MR. DAVIS:

15 Q. And in Cook, the desired transfer of energy
16 would be to charge the battery; is that right?

17 A. Presumably. You know, if you had a car and
18 you went to a charging station and you had a half an
19 hour to charge your car, if the resonators weren't
20 compatible, it would take a lot longer, if it would
21 charge at all. So that's why you need to check for
22 compatibility, compatibility of different parameters
23 based on the criteria of the charging.

24 And also, as I said before, there are
25 different types of charging. There is charging for

1 maximum power transfer in minimal amount of time.
2 That's the least efficient way to charge. And then
3 there's charging slowly but much more efficiently so
4 you waste less energy.

5 And, you know, if you're at the grocery
6 store to charge, you might want the high-powered
7 charging. If you drove into your garage, you're
8 going to leave the car there all night. You'd be
9 happy with the more efficient type of charging.

10 So a compatibility check would be an
11 indicator of whether the couple resonators could
12 handle the desired form of power transfer.

13 Q. If you could pull up Bennett Exhibit 1005.

14 A. Okay.

15 Q. And if we go to the Figure 1. This is
16 illustrating Bennett's wireless power delivery
17 system; is that right?

18 A. Yes.

19 Q. And there's the power transmitting unit,
20 unit 103 on the left side; is that right?

21 A. Yes.

22 Q. And then the power transmitting unit 103
23 includes a source resonator?

24 A. Yes.

25 Q. And then on the right side is the target

1 electronic device 115?

2 A. Uh-huh.

3 Q. The target electronic device 115 is going
4 to include a receiving resonator; is that right?

5 A. Yes.

6 Q. And the receiving resonator is to receive
7 wireless power through a magnetic field 111 from the
8 source resonator; is that right?

9 A. Yes.

10 Q. And then inside of the target electronic
11 device is the rechargeable battery 129?

12 A. Okay.

13 Q. And so what happens in Bennett is that
14 power is going to be delivered wirelessly from the
15 source resonator to the device resonator and then
16 that charges the battery; is that right?

17 A. Yes.

18 Q. And in this system, the only mechanism that
19 Bennett is teaching for delivering power to the
20 rechargeable battery is from the source resonator to
21 the device resonator; is that right?

22 A. The only mechanism for trans --
23 transmitting power, is that what you said?

24 Q. Yeah. For charging the battery.

25 A. From the source resonator to the receiving

1 resonator?

2 Q. Correct. And so the -- in Bennett the
3 desired transfer of power would be recharging the
4 battery of the target electronic device?

5 A. On this embodiment in Figure 1, there's a
6 rechargeable battery, so the ultimate goal is to
7 recharge the battery.

8 Q. And if the resonators are able to achieve
9 that amount of power transfer, the resonators have
10 to be compatible; right?

11 A. What amount --

12 MR. LAWSON: Object to the form.

13 THE WITNESS: What amount of power
14 transfer? You said "that amount of power transfer."
15 By MR. DAVIS:

16 Q. Recharge the battery that desired amount of
17 power.

18 MR. LAWSON: Object to the form.

19 THE WITNESS: You know, a battery holds
20 joules, which is energy. So your goal is to
21 recharge the battery with -- with charge or -- or
22 manifest as a separated charge manifest as stored
23 joules. That's different from power transfer.

24 By MR. DAVIS:

25 Q. To get the stored joules, it has to receive

1 power from the receiving resonator in the target
2 electronic device; right?

3 A. That's right.

4 Q. And so in order to get the power into the
5 rechargeable battery as intended, the -- the source
6 and receive resonators have to be compatible; right?

7 A. If this were the '687 patent and there was
8 a determination of how much charge needed to go in
9 the battery and how much time -- what the allotted
10 time was, then that would be -- so the resonators
11 would have to be compatible. But I don't think that
12 Bennett talks about any of that.

13 Q. Bennett also teaches authenticating a
14 target electronic device before initiating power
15 transfer. Do you agree?

16 A. Okay. Yes, I agree.

17 Q. If we go to paragraph 45 of Bennett, it
18 starts with the communication module 110. Let me
19 know when you see that.

20 A. Okay. I see it.

21 Q. Paragraph 45, this is talking about the
22 communication module 110 that's in Figure 1?

23 A. Yes.

24 Q. And -- and then the target device 115 is
25 also what's shown in Figure 1?

1 A. Right.

2 Q. The communication module 110, that's part
3 of the transmitting unit that's on the left side of
4 Figure 1?

5 A. Well, both sides participate in the
6 communication, so there's a communication module on
7 both sides and the power transmitting unit and the
8 target electronic device unit.

9 Q. And one of the things that can be
10 communicated using -- between the two resonators is
11 the target resonant frequency to the target device;
12 right?

13 A. Right.

14 Q. Another thing that can be transmitted, in
15 addition to the target resonant frequency, is the
16 target device identity?

17 A. Let's see. Where does it say that?

18 Q. It's about halfway down the paragraph.

19 A. Yes.

20 Q. And then another thing that can be
21 communicated between the resonators is the target
22 device billing information?

23 A. Yes.

24 Q. The target device power receive levels is
25 another thing that can be communicated between the

1 devices?

2 A. It says receipt level. Do you think that
3 means receive level?

4 Q. Oh, receipt. I'm sorry. I may have
5 misspoke. The target device power receipt levels?

6 A. Possibly it could be a typo as well. I'm
7 not sure "power receipt level" means. It would make
8 more sense if it did say "receive."

9 Q. And the target -- you understand that the
10 target resonant frequency, the target device
11 identity, the target device billing information, the
12 target device power receive levels, and the target
13 device battery charge state are authentication
14 information from the target device?

15 A. The target device identity is tied to user
16 information, as is the billing information. The
17 device power receive level is not a property of the
18 resonator. That's a property of the battery. It's
19 the -- I'm sorry. It's an indicator of how fast the
20 charging needs to take place if that receipt should
21 be received and the target device battery charge
22 state that's described in the battery, not in the
23 resonators.

24 Q. Maybe I can -- maybe I can clarify my
25 question a little bit more.

1 So about -- let's see. One, two, three,
2 four -- five lines from the bottom of paragraph 45,
3 it refers to receive authentication information from
4 the target device.

5 Do you see that?

6 A. Yes.

7 Q. Do you understand that to be referring to
8 the tar- -- sorry. Let me -- let me ask another --
9 can I ask that question again?

10 A. Fine by me. It's your deposition.

11 Q. So the -- the phrase "receive
12 authentication information," do you understand that
13 is referring to the target resonant frequency, the
14 target device, the target device at MD, the target
15 device billing information, target device power
16 receipt level, and power device battery power state?

17 MR. LAWSON: Object to form.

18 THE WITNESS: Yes.

19 By MR. DAVIS:

20 Q. And you agree that a target resonant
21 frequency is one of the physical parameters of a
22 resonator; right?

23 A. Right.

24 Q. If we can go to Figure 3 of Bennett.

25 Do you understand that this is a flow chart

1 illustrating power -- OR sorry. Let me -- let me
2 start over.

3 Figure 3 of Bennett is a flow chart
4 illustrating resonant power transfer operations
5 performed using the power system of Figure 1; right?

6 A. Yes.

7 Q. And so the -- the first step is a request
8 for resonant power from the target device?

9 A. Yes.

10 Q. And then the next step is the power
11 transmitting unit request billing information and
12 resonant frequency information from the target
13 device?

14 A. Yes.

15 Q. And then the target device sends the
16 billing information and the resonant frequency due
17 to the device resonator to the power transmitting
18 unit?

19 A. Yes.

20 Q. And then that -- that occurs prior to
21 resonant frequency power being delivered at step
22 311?

23 A. Yes.

24 Q. And so the target device sends its resonant
25 frequency information to the power transmitting unit

1 before initiating power transfer; right?

2 A. Ask that question again.

3 Q. Yeah. So the target device will send its
4 resonant frequency information to the power
5 transmitting unit before initiating power transfer?

6 A. Yes.

7 Q. And then after authorizing power transfer
8 in step 309, the power transmitting unit and target
9 device, they continue communicating during power
10 delivery; right?

11 A. I didn't understand what you said. You
12 said 309 was the authorization step? That just says
13 the target sends the information across the
14 communication channel. Somewhere in there is an
15 implied authorization step.

16 Q. Okay. Somewhere between 309 and 311, there
17 is an authorization step?

18 A. Presumably. It's not indicated on the
19 chart -- on the flow chart.

20 Q. And then so after 311, it says that the
21 power transmitting unit periodically inquires as to
22 how much power is delivered.

23 Do you see that?

24 A. Yes.

25 Q. And you understand that in Bennett, the --

1 after initiation of power, there is continued
2 communication, such as what's talked about in this
3 step 313?

4 A. How much power is delivered.

5 Q. And if you go to paragraph 53 of Bennett --

6 A. I just point out that the step 313 in
7 Figure 3 is -- doesn't match what the spec says
8 happens in 313, so I think 313 is incorrect. What
9 the transmitting unit would be checking is how much
10 charge is in the battery. That's different to how
11 much power is delivered.

12 And if you look at paragraph 58 of Bennett
13 at the bottom, three lines up from the bottom of
14 that paragraph, "periodically exchange information
15 on the current status of the battery charge during
16 the resonant battery charge operation." It's a more
17 accurate description of step 313.

18 Q. Understood. If you go to paragraph 53 of
19 Bennett, Bennett teaches that one of the reasons for
20 continued communication during power charging is to
21 provide continued verification of access and avoid
22 unauthorized power access; is that right?

23 A. Okay. I've read that paragraph.

24 Did you have a question about it?

25 Q. I just wanted to -- one of the reasons why

1 Bennett is describing there being continued
2 communication during power charging is to provide
3 continued verification of access and avoid
4 unauthorized power access.

5 Do you agree with that?

6 MR. LAWSON: Object to the form.

7 THE WITNESS: That's what it says at the
8 top of page -- at the top of -- top of the right
9 hand column just before paragraph 54.

10 By MR. DAVIS:

11 Q. And so Bennett is ensuring that there is no
12 unauthorized device that's receiving power?

13 A. That's what it says.

14 MR. LAWSON: We have been going about 50
15 minutes now, so if we can take a break in the next
16 couple of minutes. I don't know how much more there
17 is in this line of questioning, but if we can take a
18 break in the next couple of minutes.

19 MR. DAVIS: Not a problem. I've got
20 just -- I think I've got just a couple more
21 questions.

22 By MR. DAVIS:

23 Q. If we can turn to -- for this -- for this
24 line.

25 If we can turn to paragraph 66. Paragraph

1 66 is discussing the target device authenticator of
2 Figure 1; is that right?

3 A. Did you say paragraph 66?

4 Q. Yes.

5 A. Right. It also refers back to Figure 5.

6 Q. And the target device authenticator, what
7 it does is it identifies and authenticates each of
8 the target devices using their unique identity
9 during wireless resonant power charging operation?

10 A. Yes.

11 Q. The -- if you go down to paragraph 67,
12 inside of the target device authenticator is a
13 target device identification database 507; is that
14 right?

15 A. Okay.

16 Q. And the -- the date of the information
17 includes a pre-assigned identification number of the
18 target device; right?

19 A. Yes.

20 Q. And so the target device identification
21 isn't assigned to a user. It's actually assigned to
22 the device itself; right?

23 MR. LAWSON: Object to the form.

24 THE WITNESS: Right.

25 By MR. DAVIS:

1 Q. And then the -- another thing that's in the
2 database are personal details of the user; right?

3 A. Okay.

4 Q. And then you would also have the preferred
5 magnetic resonant frequency for the target device;
6 is that right?

7 A. Yes.

8 Q. So when Bennett is looking to authenticate
9 a target device, it is verifying the device's
10 identification number, the details of the user, and
11 the resonant frequency for the target device?

12 A. Okay.

13 Q. Do you agree with that?

14 A. Yes.

15 Q. We can --

16 MR. LAWSON: Are we taking a break -- take
17 a break in the next minute or two, I want to talk
18 about this.

19 MR. DAVIS: Yeah.

20 MR. LAWSON: It's an hour so.

21 MR. DAVIS: I'm sorry. I don't know if you
22 can hear me. I'm saying we can go off the record
23 and take a quick break.

24 MR. LAWSON: Okay. That will be great.

25 Okay.

1 COURT REPORTER: Off the record.

2 (recess.)

3 COURT REPORTER: Back on the record.

4 By MR. DAVIS:

5 Q. If you can go back to Bennett, which is
6 Exhibit 1005 --

7 A. Yes.

8 Q. -- go to paragraph 37.

9 A. Okay.

10 Q. At the end of paragraph 37, the second to
11 last sentence states, "The authentication is
12 followed by optional frequency selection and
13 directional adjustments of a non-radiated magnetic
14 field in the direction of the targeted electronic
15 device."

16 Do you see that?

17 A. You read it kind of fast. It starts with
18 the authorization -- authentication is followed by.

19 Q. Right.

20 A. Okay.

21 Q. So what Bennett discloses is that followed
22 by authentication, the system can detect and address
23 the orientation of the source and device resonators;
24 is that correct?

25 MR. LAWSON: Object to the form.

1 (Court Reporter clarification.)

2 THE WITNESS: My apologies. My paper.

3 I'll say it again. The authentication is followed
4 by frequency selection and directional adjustments
5 of a non-radiated magnetic field.

6 By MR. DAVIS:

7 Q. And when it says the adjustments --
8 "directional adjustments of the non-radiated
9 magnetic field", do you understand that to refer to
10 the orientation of the resonators?

11 A. I believe so.

12 Q. And so Bennett has -- can determine what
13 the orientation of the source and device resonators
14 are? Is that fair?

15 A. Yes. After authentication and optional
16 frequency selection and directional adjustments. So
17 because they're optional, they wouldn't be part of
18 authentication.

19 Q. If we can pull up Exhibit 1021, cook '086?

20 A. Okay.

21 Q. And if we go to column 17, lines 6 through
22 13.

23 Cook-086 describes that there can be
24 something referred to is a CSMA approach.

25 A. Yes.

1 Q. Do you understand CSMA approach refers to
2 Carrier Sense Multiple Access?

3 A. I wasn't aware of what those initials stood
4 for, no.

5 Q. At the end of this paragraph at column 17,
6 10 through 13, it says that, "The transmitter before
7 transmitting detects the state of the receiver, e.g.
8 whether a resonance-generating current, et cetera,
9 and uses this as a gating criterion for
10 transmission."

11 Do you see that?

12 A. I see that.

13 Q. And you understand in Cook-086, the
14 transmitter is referring to the transmitting
15 resonator and associated electronics and then the
16 receiver is the receiving resonator and associated
17 electronics? Is that right?

18 A. Just one moment. That's correct.

19 Q. And so what Cook-086 is -- is teaching is
20 that before initiating power transfer, it can use
21 the state of the receiving resonator and its
22 parameters like resonant frequency before -- as --
23 as a gating criterion for initiating power transfer?

24 MR. LAWSON: Object to the form.

25 THE WITNESS: Well, I mean, you pretty much

1 paraphrased what that sentence says.

2 By MR. DAVIS:

3 Q. Is that a -- a fair characterization?

4 A. Can you repeat the question?

5 Q. Is that a fair characterization of that --
6 what Cook-086 is teaching?

7 A. I guess I need you to repeat the
8 characterization that you're proposing.

9 Q. What Cook-086 is teaching is that before
10 initiating power transfer, it can use the state of
11 the receiving resonator and its parameters, like
12 resonant frequency, as a gating criterion for
13 initiating power transfer?

14 A. Well, you inserted the words "resonant
15 frequency." It's detecting the state of the
16 receiver, which is not the parameters for the
17 receiver. It detects whether the receiver is indeed
18 resonating and whether it's generating current, and
19 those are conditions of the receiver, not
20 parameters. And it uses that information as a
21 gating criteria for the transmission. It's
22 basically saying, is the power transfer working or
23 not? And if it's not working, stop the
24 transmission. If it is working, continue the
25 transmission.

1 Q. And if power transfer is working, then the
2 resonators are compatible?

3 A. You said that. That doesn't say that here
4 at all. It just says the transmitter looks to see
5 if there is resonance, whether current is flowing.

6 Q. And my -- my question to you is, as a
7 person of ordinary skill in the art, if the -- when
8 you read that the receiver is in resonance and
9 receiving power, that indicates that it's
10 compatible, that the resonators are compatible; is
11 that right?

12 MR. LAWSON: Object to the form. Object to
13 the form. Asked and answered. About the fifth time
14 we've asked that today.

15 You can answer.

16 THE WITNESS: What it means is that the
17 transmitter detects the state of the receiver. That
18 means is resonant current flowing? Is the receiver
19 generating current into the battery? Those are
20 states of being of the receiver, and depending on
21 whether that resonance is happening or not, it
22 decides whether to keep transmitting.

23 Resonance could stop for a variety of
24 circumstances. The vehicle could move so that
25 the res- -- the -- the resonators are no longer

1 aligned or just the car can no longer be on top of
2 the charging pad or a piece of aluminum foil could
3 have flown between resonators and stopped the
4 process of resonating and generating current, in
5 which case the transmitter should stop.

6 So I disagree that this sentence describes
7 a measure of compatibility.

8 By MR. DAVIS:

9 Q. So the -- the state of a receiver is not
10 a -- are not parameters?

11 MR. LAWSON: Object to the form.

12 THE WITNESS: The state of a receiver is
13 not a parameter, and -- and the examples of what's
14 included in determining the state of the receiver
15 are given in what's in the parenthesis. Is it in
16 resonance, meaning is there resonant current flowing
17 in the receiver, and is it generating current? Is
18 there current flowing into the batteries?

19 So those -- those states of the receiver
20 are independent of any parameters it may or may not
21 have.

22 By MR. DAVIS:

23 Q. If you go to column 17, line 14 through 19,
24 it refers to a resonant frequency hopping approach.

25 Do you see that?

1 A. Yep.

2 Q. You would agree that a resonant frequency
3 hopping approach is a parameter of a resonator;
4 correct?

5 A. Oh, heck no. No. Resonant frequency
6 hopping is a way of changing the frequency so it's
7 not always at the same value and, therefore, could
8 either not interfere with adjacent equipment or
9 it's -- it's mitigating certain properties of the
10 radiation, like valley interference, antenna
11 diversity fading. Those are not parameters. Those
12 are physical phenomena that happen.

13 Q. So if you go to paragraph 67 of your
14 declaration, you -- you include frequency hopping
15 capability in this list of parameters. You didn't
16 intend for frequency hopping capability to be a
17 parameter?

18 A. Well, frequency hopping capability is a
19 parameter of the resonator, but whether frequency
20 hopping is going on or not is not a parameter.

21 Q. So if you go back to -- starting on line 14
22 of column 17, it says, "Another embodiment uses a
23 resonant frequency hopping approach", and it's
24 describing a method of frequency hopping.

25 A. But it doesn't mention that frequency

1 hopping is a parameter. The capability to do that,
2 as I mentioned in the paragraph, could be a -- a
3 property of the resonator and the transmitter could
4 not initiate frequency hopping unless the receiver
5 had the ability to match the frequency hopping.

6 Q. Can you pull up the '678 patent?

7 A. Yes.

8 Q. Actually hold on one second. I think --
9 yeah. The '687 patent at column 102, lines 1
10 through 5. It refers to --

11 A. I'm not there yet. There are so many
12 columns in this patent, as you know.

13 I'm on 102.

14 Q. Yeah. It refers to a "large transmission
15 losses may be due to an unauthorized device
16 receiving power from the source -- from the source
17 and the source and other devices may initiate
18 frequency hopping of the resonance frequency or
19 other defensive measures to prevent or deter
20 unauthorized use."

21 Do you see that?

22 A. Just let me read it, please. Okay.

23 Q. And so the '687 patent never, at least in
24 discussing this, it does not say that there's a
25 detection of whether frequency hopping -- of

1 frequency hopping capability. It just discusses
2 initiating frequency hopping.

3 MR. LAWSON: Object to the form.

4 THE WITNESS: That's right. The top of
5 column 102, it talks about initiating frequency
6 hopping to prevent unauthorized use.

7 MR. DAVIS: Let's take just a couple minute
8 break. I think I'm close to being done. I just
9 want to take a look through my notes.

10 MR. LAWSON: Okay.

11 COURT REPORTER: We're off the record.

12 (Break in proceedings.)

13 COURT REPORTER: Back on the record.

14 MR. DAVIS: I don't have any further
15 questions at this time, so I will pass the witness,
16 if Mr. Lawson has any.

17 MR. LAWSON: At this time WiTricity doesn't
18 have any questions for the witness.

19 MR. DAVIS: Okay. Well, thank you so much,
20 Dr. Horenstein. I really appreciate you coming.

21 THE WITNESS: Thank you for your time.

22 COURT REPORTER: We're off the record.

23 (Proceedings concluded.)

24 ---o0o---

25

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2 I, BURGUNDY B. RYAN, Certified Reporter for the
3 State of California do hereby certify:

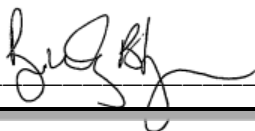
4 That MARK N. HORENSTEIN, Ph.D., the witness whose
5 deposition is hereinbefore set forth, was duly sworn
6 by me before the commencement of such deposition and
7 that such deposition was taken before me and is a true
8 record of the testimony given by such witness.

9 I further certify that the adverse party,
10 WITRICITY CORPORATION, was represented by counsel at
11 the deposition.

12 I further certify that the deposition of
13 MARK N. HORENSTEIN, Ph.D., was conducted virtually via
14 Zoom, commencing at 11:13 a.m. to 2:06 p.m.

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

21 IN WITNESS WHEREOF, I have hereunto set my
22 hand this 15th day of August, 2024.

23
24 
25

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