

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

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ANKER INNOVATIONS LTD.,

Petitioner,

-against-

Case No.:
IPR2024-00994

POWERMAT TECHNOLOGIES LTD.,

Patent Owner.

-----X

DATE: May 16, 2025

TIME: 10:00 a.m.

CROSS EXAMINATION of GARY L.
WOODS, Ph.D., by the Counsel for the Patent
Owner, held remotely via Zoom
Videoconference, before Suzanne Pastor, a
Notary Public of the State of New York.

A P P E A R A N C E S:
(All appearances via Zoom)

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* * *

1 THE REPORTER: Good morning.
2 The attorneys participating in this
3 deposition acknowledge that I am not
4 physically present in the deposition
5 room and that I will be reporting
6 this deposition remotely.

7 They further acknowledge that
8 in lieu of an oath administered in
9 person, I will place the witness
10 under penalty of perjury.

11 The parties and their counsel
12 consent to this arrangement and waive
13 any objections to this manner of
14 reporting. Counsel, please indicate
15 your agreement by stating your name
16 and your agreement on the record.

17 MR. NASH: Yes, I agree. My
18 name is Brady Nash with Mayer Brown
19 representing the patent owner in this
20 matter.

21 MR. STEPHENS: And I agree.
22 This is Nicholas Stephens from Fish &
23 Richardson on behalf of the
24 petitioner, Anker.

25 THE REPORTER: Doctor, please

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1 raise your right hand.

2 Do you swear or affirm that the
3 testimony you are about to give will
4 be the truth, the whole truth, and
5 nothing but the truth?

6 THE WITNESS: I do.

7 EXAMINATION

8 BY MR. NASH:

9 Q. Good morning, Dr. Woods.

10 A. Good morning.

11 Q. My name is Brady Nash and I'm
12 an attorney with Mayer Brown, and I'll be
13 asking questions today on behalf of the
14 patent owner.

15 Can you please state and spell
16 your name for the record.

17 A. My name is Gary Woods, G-A-R-Y,
18 W-O-O-D-S.

19 Q. Dr. Woods, do you understand
20 that we're here to discuss the declaration
21 you submitted in IPR 2024-00995?

22 A. Yes.

23 Q. This deposition is being
24 transcribed today to ensure a clean record.

25 I ask that we try not to speak over each

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1 other and I'll do my best not to not
2 interrupt you when you're responding to my
3 questions, and I ask that you do the same
4 while I'm asking questions, is that fair?

5 A. Yes.

6 Q. In general, I'll try to take
7 breaks during today's deposition every hour
8 or so. However, if you need a break
9 sooner, please let me know. Do you
10 understand?

11 A. Yes.

12 Q. And all I ask is if a question
13 is pending, that you answer the question
14 before we take any break. Is that fair?

15 A. Yes.

16 Q. Is there any reason that you
17 cannot testify truthfully or accurately
18 today?

19 A. No.

20 Q. Besides our video connection,
21 do you have any other forms of
22 communication with counsel today?

23 A. I mean, I have my phone right
24 here but it's not in communication with
25 counsel. I can put it out of arms' reach

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1 if that matters.

2 Q. I think it's okay. If you get
3 any text or messages or receive any
4 messages, just let me know. I realize
5 we're taking this remotely; you might have
6 family or people who might need to get a
7 hold of you. But if you do receive any
8 external communications besides us, just
9 let me know.

10 A. Okay.

11 Q. Are you in communication with
12 anyone else currently?

13 A. No.

14 Q. Besides the video program for
15 this call, do you have any open on your
16 computer?

17 A. Just the Zoom application.

18 Q. And do you have any notes or
19 other materials with you today?

20 A. I have clean copies of my
21 declaration and some of the exhibits.

22 Q. Okay, which exhibits?

23 A. I don't remember the numbers,
24 but the Onishi patent and Baarman '392
25 patent. Patent applications I should say.

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1 Q. Okay.

2 A. And I should say I have clean
3 copies of all of the documents available on
4 my computer.

5 Q. Okay, understood.

6 Have you been deposed before?

7 A. Yes.

8 Q. About how many times?

9 A. Three.

10 Q. And I believe the last time you
11 were deposed was on Wednesday, correct?

12 A. Yes.

13 Q. During this deposition counsel
14 may object to some of my questions.
15 Regardless of the objections made, you're
16 required to answer each of my questions
17 unless counsel instructs you not to answer.
18 Do you understand?

19 A. Yes.

20 Q. I may refer to Powermat
21 Technologies, Ltd. as either the patent
22 owner or Powermat. Do you understand?

23 A. Yes.

24 Q. And I'll be referring to Anker
25 Innovations Ltd. as either the petitioner

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1 or Anker. Do you understand?

2 A. Yes.

3 Q. This matter involves U.S.

4 Patent No. 9,083,204, correct?

5 A. Yes.

6 Q. And when referring to U.S.

7 Patent No. 9,083,204 I'm going to use the

8 phrase "the '204 patent." Do you

9 understand?

10 A. Yes.

11 Q. I'm going to share through the

12 chat -- I just shared in the chat a

13 document that's been marked by petitioner

14 in this matter as EX 1001. And I'd like to

15 have it marked as Exhibit 1 for this

16 deposition.

17 (Whereupon, U.S. Patent

18 9,083.204 was marked as Exhibit 1 for

19 identification as of this date by the

20 Reporter.)

21 Q. Dr. Woods, when you have the

22 document opened, let me know.

23 A. Okay, it's open.

24 Q. Do you recognize this document?

25 A. Yes. It's the '204 patent.

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1 Q. Have you read this document in
2 its entirety?

3 A. Yes.

4 Q. When was the last time you read
5 this document in its entirety?

6 A. Last night.

7 Q. In referring to a person of
8 ordinary skill in the art I may use the
9 acronym "POSITA" or the term "person of
10 skill." Do you understand?

11 A. Yes.

12 Q. What is a POSITA?

13 A. It's defined as person of
14 ordinary skill in the art. Are you asking
15 how -- what the level of expertise is in
16 this case?

17 Q. I guess I'm just trying to
18 understand -- yes, we can start with that.
19 In your opinion, what is the level of
20 expertise for a person of skill in the art?

21 A. I'm not sure that the parties
22 have agreed on exactly what counts as a
23 person of ordinary skill. In general, in
24 probably every patent case I've been
25 involved in, which are all related to

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1 electrical engineering, a person of
2 ordinary skill is often someone with a
3 bachelor's degree in the field or a related
4 field, plus a few years of industry
5 experience or a master's degree, plus
6 perhaps less experience. Is that what you
7 mean?

8 Q. Yes. I guess in this case for
9 the '204 patent, what is your understanding
10 of the definition of a person of skill?

11 A. Kind of just what I said.
12 Someone with an undergraduate degree in
13 electrical engineering or a related field,
14 plus some amount of experience related to
15 the products involved in this case.

16 Q. And Dr. Woods, in preparation
17 for this deposition today, what did you do
18 to prepare?

19 A. Starting with writing my
20 declaration last summer. Do you want me to
21 go back that far? What do you mean?

22 Q. Yes, I mean, that works okay.
23 So you prepared the declaration. What else
24 have you done to prepare for today's
25 deposition?

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1 A. I've read all of the exhibits
2 that are attached to my declaration. I
3 read other sources in the literature, I've
4 performed various calculations.

5 Q. What other sources have you
6 consulted?

7 A. That are beyond those mentioned
8 in my declaration you mean?

9 Q. Yes.

10 A. Let's see. Several -- a couple
11 of textbooks on wireless power transfer and
12 some example calculations on the web for
13 instance. I've referred -- I've reviewed
14 other patents in related cases. What else.
15 That's a reasonable -- that's a reasonable
16 summary of what I've reviewed relevant to
17 this case.

18 Q. And then I guess more recently
19 within the last month or so, have you done
20 anything specific to prepare for today's
21 deposition?

22 A. Yes.

23 Q. What have you done?

24 A. Well, let's see, so I reviewed
25 the documents in this case, I reviewed the

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1 declaration of Powermat's expert in a
2 related case, and I have reviewed my
3 deposition testimony from a deposition in a
4 related case.

5 Q. Which related case was that?

6 A. The '696 patent.

7 Q. And did you do anything else to
8 prepare for today's deposition in the last
9 month or so?

10 A. I'm sure I must have. I
11 already said performed calculations and
12 reviewed literature online.

13 Q. What types of calculations did
14 you perform?

15 A. Efficiency of coupled inductor
16 power transfer, in general.

17 Q. Did you meet with anyone in
18 preparation for today's deposition?

19 A. Counsel for Anker.

20 Q. Did you have any conversations
21 related to this deposition with anyone else
22 besides counsel?

23 A. No.

24 Q. In preparing for this
25 deposition, have you come across anything

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1 that's changed any of your opinions?

2 A. Compared to when I wrote the
3 deposition?

4 Q. Correct. Or the declaration.

5 A. No. I stand by what I said in
6 my declaration.

7 Q. And I guess besides the
8 documents we've previously discussed, did
9 you review any other types of documents in
10 preparation for this deposition?

11 A. I think I listed most of the
12 types of documents that I reviewed.

13 Q. You prepared an expert report
14 for this matter, correct?

15 A. A declaration, yes.

16 Q. Sorry, a declaration. How much
17 time did you spend preparing your
18 declaration?

19 A. Do you want me to check my time
20 sheet?

21 Q. You don't need to do it. Was
22 it less than 20 hours?

23 A. No, more than 20. Probably
24 more than 20, less than 80 I would say.

25 Q. Did you write every word of

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1 your declaration?

2 A. As in physically type them in?

3 Q. Yes.

4 A. No.

5 Q. What was the process you went
6 through in preparing your declaration?

7 A. I reviewed the patent and the
8 prior art and relevant documents. I met
9 with counsel, we discussed -- we discussed
10 the patent and the applicability of prior
11 art to the patent. We agreed on arguments
12 that seemed appropriate, and then I asked
13 the counsel to draft the arguments in a way
14 that would be appropriate for an IPR.

15 And then I reviewed and checked
16 carefully the declaration, and I stand by
17 every word that's in it.

18 Q. I'm sharing with you a document
19 which has been marked by petitioner as EX
20 1003. And I may refer to this as Exhibit 2
21 during this deposition, or as EX 1003.

22 (Whereupon, Declaration of Dr.
23 Woods was marked as Exhibit 2 for
24 identification as of this date by the
25 Reporter.)

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1 A. Okay, it's open.

2 Q. Do you recognize this document?

3 A. Yes.

4 Q. What is this document?

5 A. It appears to be my declaration
6 in this case.

7 Q. And do you have any reason to
8 dispute that this is not a complete copy of
9 your declaration?

10 A. No.

11 Q. And you mentioned that you
12 worked with counsel in preparing this
13 declaration. Were there any portions of
14 this report that you actually wrote
15 yourself as opposed to directing counsel to
16 draft?

17 A. I'm sure there were. I don't
18 remember. I would say probably the nuanced
19 technical language was probably written by
20 me.

21 Q. Dr. Woods, how much time did
22 you spend preparing for today's deposition?
23 I'm not asking about the time spent
24 drafting your declaration. I'm talking
25 specifically for the deposition today.

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1 A. Ballpark, ten hours or so
2 perhaps.

3 Q. What did your preparation
4 entail?

5 A. I thought I already said.
6 Reviewing my declaration and the art cited
7 in my declaration. Reviewing my testimony
8 in a related case, reviewing my declaration
9 in a related case, reviewing the
10 declaration of Powermat's expert in a
11 related case -- sorry, not the deposition,
12 the declaration of Powermat's expert in a
13 related case, and reviewing my testimony --
14 my deposition testimony in a related case.

15 Q. And the related case you're
16 referring to is for the '696 patent,
17 correct?

18 A. Yes.

19 Q. As you mentioned, you provided
20 a declaration for IPR 2024-00994 regarding
21 U.S. Patent No. 9,048,696, is that correct?

22 A. Yes.

23 Q. I'm sharing with you now a
24 document that's been marked by petitioner
25 as EX 1016. And I may refer to this either

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1 as Exhibit 1016 or as Exhibit 3 for this
2 deposition.

3 (Whereupon, U.S. Patent
4 9,048,696 was marked as Exhibit 3 for
5 identification as of this date by the
6 Reporter.)

7 A. Okay, here we go, Exhibit 1016.

8 Q. And do you agree that this is a
9 copy of U.S. Patent No. 9,048,696 that was
10 produced in IPR 2024-00994?

11 A. Appears to be, yes.

12 Q. I apologize, this is the
13 exhibit that was produced in this
14 deposition -- or in the IPR that's the
15 subject of today's deposition, but this is
16 the patent that was the subject of the
17 previous IPR, correct?

18 A. Appears to be, yes.

19 Q. I may refer to this document
20 just as the '696 patent. Do you
21 understand?

22 A. Yes.

23 Q. And I may refer to I guess the
24 related case as the '696 patent IPR. Do
25 you understand?

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1 A. Yes.

2 Q. You were deposed regarding the
3 declaration that you submitted in the '696
4 patent IPR, correct?

5 A. Yes.

6 Q. And if you compare EX 1001 and
7 EX 1016, do you agree that they share the
8 same specification?

9 A. I don't remember if they're
10 identical. They're similar.

11 Q. If we look at claim 1 of the
12 '204 patent, this is Exhibit 1001 --

13 A. Claim 1 you said?

14 Q. Claim 1. This is column 28.
15 There's a portion where it recites "wherein
16 said driving circuit is configured" --
17 sorry, claim 1 of the '204 patent recites,
18 "said driving voltage oscillating at a
19 nonresonant transmission frequency
20 substantially different from said
21 characteristic resonant frequency of said
22 inductive couple." And I believe that's on
23 line 33 of column 28. Do you see that?

24 A. Yes.

25 Q. And then if we look at Exhibit

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1 1016, this is the '696 patent, and look at
2 claim 1 of the '696 patent, it also states
3 starting on line 43 of column 28, "Wherein
4 said driving circuit is configured and
5 operable to produce said oscillating
6 driving voltage at a transmission frequency
7 substantially different from said
8 characteristic frequency of said inductive
9 couple." Do you see that?

10 MR. STEPHENS: Hold on, Dr.
11 Woods. I'd just like to object to
12 the scope and relevance of these
13 questions.

14 Counsel, this is a deposition
15 on the '204 patent. Is there a
16 certain portion that you're referring
17 to?

18 MR. NASH: I understand.

19 Q. Dr. Woods, do you see the
20 excerpt that I'm referring to for the '696
21 patent?

22 MR. STEPHENS: We need to go
23 off the record if you're going to
24 continue questioning about the '696
25 patent.

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1 MR. NASH: Counsel, the '696
2 patent was produced in this matter by
3 petitioner as EX 1016 and was
4 referenced in Dr. Wood's report, so
5 it is within the scope of his
6 opinions.

7 MR. STEPHENS: Counselor,
8 there's one citation in his entire
9 declaration with respect to claim 2,
10 not with respect to this limitation.

11 MR. NASH: Again, this document
12 has been produced by petitioner in
13 this IPR.

14 Q. So Dr. Woods, my question is,
15 do you see the excerpt where it says
16 "wherein said driving circuit is configured
17 and operable to produce said oscillating
18 driving voltage at a transmission frequency
19 substantially different from said
20 characteristic resonant frequency of said
21 inductive couple."

22 MR. STEPHENS: Objection;
23 scope, form, relevance.

24 THE WITNESS: Are you directing
25 me not to answer?

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1 Q. You haven't received
2 instructions. You need to answer that
3 question.

4 A. I'm just giving -- okay, I'm
5 sorry, which line are you talking about
6 now?

7 Q. I'm still looking at line 43 of
8 the '696 patent.

9 A. Yes, I see it.

10 Q. And do you agree that a person
11 of skill would understand the phrase
12 "transmission frequency substantially
13 different from said characteristic --"
14 strike that.

15 Yes, so do you agree that a
16 person of skill would understand the phrase
17 "transmission frequency substantially
18 different from said characteristic resonant
19 frequency of said inductive couple" as used
20 in the '204 patent and the '696 patent as
21 having the same meaning?

22 MR. STEPHENS: Objection.

23 Scope, form, relevance.

24 A. I understand that the meaning
25 of -- the meaning of words and claims needs

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1 to be considered within the context of the
2 entire disclosure. So I don't know that I
3 would agree that a POSITA would view them
4 identically.

5 Q. I guess in what way would a
6 POSITA give the term, I guess the phrase I
7 identified, a different meaning between the
8 '696 patent and the '204 patent?

9 MR. STEPHENS: Objection;
10 scope, form, relevance.

11 Counselor, I'd like to go off
12 the record.

13 MR. NASH: I do have a question
14 pending, so I'd like to have my
15 question answered first.

16 A. Please repeat the question.

17 MR. STEPHENS: Dr. Wood, I'll
18 instruct you not to answer. We need
19 to get this resolved.

20 MR. NASH: Okay, we can go off
21 the record.

22 (Whereupon, an off-the-record
23 discussion was held.)

24 Q. So Dr. Woods, before we went
25 off the record I asked you a question, and

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1 the question is do you agree that a person
2 of skill would understand the phrase
3 "transmission frequency substantially
4 different from said characteristic resonant
5 frequency of said inductive couple" as used
6 in the '204 patent '696 patent as having
7 the same meaning?

8 A. I would say they are
9 probably -- the patents share a lot of
10 subject matter and general feel of
11 application. I'm not prepared to review my
12 declaration on the '696 patent right now.
13 But I think the meanings that a POSITA
14 would take in the two patents, my general
15 sense is that they're probably about the
16 same.

17 Q. Now I'm turning to a document
18 that's been marked as EX 1004. And I may
19 refer to this as Exhibit 4 in this
20 deposition.

21 (Whereupon, Onishi Reference
22 was marked as Exhibit 4 for
23 identification as of this date by the
24 Reporter.)

25 Q. Let me know when you have it

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1 pulled up.

2 A. Okay, I have it.

3 Q. Do you recognize this document?

4 A. It appears to be the Onishi
5 reference that I cited in my declaration.

6 Q. Okay, and if I refer to this
7 document just as "Onishi," you understand
8 what I'm talking about, correct?

9 A. Yes.

10 Q. And during your deposition for
11 the '696 patent and your declaration for
12 the '696 patent you provided testimony
13 regarding the Onishi reference, correct?

14 A. Yes.

15 Q. And in your declaration for the
16 period that we're discussing today, you
17 provided testimony regarding the Onishi
18 reference.

19 A. Yes.

20 Q. Has the '204 patent IPR changed
21 your understanding of the Onishi reference?
22 And I'm talking about the declaration and
23 testimony provided in the '696 patent IPR.

24 A. You're asking if my
25 understanding of Onishi has changed between

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1 the writing of the '696 patent and --
2 sorry, the writing of my '696 declaration
3 and the writing of my '204 declaration?

4 Q. Correct.

5 A. I believe not. Not in major
6 ways. I think the reference is pretty
7 clear what it means.

8 Q. And do you agree that your
9 understand of Onishi that was explored
10 during your deposition for the '696 patent
11 IPR remains the same today?

12 A. I mean, my understanding of
13 Onishi patent is laid out in my
14 declaration. Do you have a specific
15 question about my understanding of Onishi?

16 Q. No, I'm trying to I guess
17 understand if over the course of your
18 involvement in the '696 patent IPR and now
19 your involvement with the '204 patent IPR,
20 if your opinions have changed at all, or if
21 your opinions of Onishi are consistent
22 across the board for both IPRs.

23 MR. STEPHENS: Object to form.

24 A. I think in every substantial
25 technical way my opinions are -- of Onishi

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1 has not changed over the course of any
2 documents I've produced.

3 Q. And do you agree the teachings
4 or disclosures in Onishi are the same
5 regardless if they're being applied to the
6 '696 patent or the '204 patent?

7 MR. STEPHENS: Object to form.

8 A. Well, I would say -- I mean,
9 Onishi says what it says. Different
10 aspects of Onishi might have been applied
11 to my '696 declaration compared to those in
12 my '204 declaration.

13 Q. Okay, and again, I'm not asking
14 about the portions of Onishi that may be
15 applied to the '696 patent or the portions
16 that were applied to the '204 patent. I'm
17 just asking about the teachings of Onishi.
18 And it sounds like you agree that the
19 teachings of Onishi are the same and Onishi
20 states what it states, correct?

21 A. I mean, the meaning of Onishi
22 is laid out in Onishi. That can't change.
23 I agree to that part of your statement,
24 yes.

25 Q. And I'm now sharing with you a

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1 document that has been marked in this
2 matter as EX 1006. And I may refer to this
3 as Exhibit 5.

4 (Whereupon, Baarman Reference
5 was marked as Exhibit 5 for
6 identification as of this date by the
7 Reporter.)

8 Q. Let me know when you have it
9 opened.

10 A. Okay, I have it.

11 Q. Do you recognize this document?

12 A. Yes. This is Baarman '392.

13 Q. And if I refer to this as
14 Baarman '392, you understand what I'm
15 referring to, correct?

16 A. Yes.

17 Q. You may recall during the '696
18 patent IPR you provided deposition
19 testimony and a declaration regarding the
20 Baarman '392 reference, correct?

21 A. Yes.

22 Q. And has the '204 patent IPR
23 changed your understanding of the Baarman
24 '392 reference?

25 A. I think -- so the Baarman '392

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1 reference says what it says. I may have
2 applied different aspects of Baarman '392
3 to my '696 declaration compared to my '204
4 declaration. But I believe that everything
5 I've said about Baarman is internally
6 consistent.

7 Q. Okay. So you agree that the
8 teachings or disclosures in Baarman '392
9 are the same regardless of whether they're
10 being applied to the '696 patent or the
11 '204 patent.

12 A. As I said with respect to
13 Onishi, Baarman contains a set of
14 teachings. Some of those I applied to the
15 '696 patent and possibly different of the
16 teaching I applied to the '392 patent --
17 sorry, to the '204 patent.

18 Q. I'd like to now turn back to
19 the '204 patent. So this is EX 1001. And
20 I'm looking at claim 1. And I'm looking at
21 the excerpt -- I'm looking on line 39 of
22 column 28. It says, "said driver is
23 configured to provide less power by
24 increasing said nonresonant transmission
25 frequency by an incremental value when said

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1 first signal is detected by the detector;
2 and provide more power by decreasing said
3 nonresonant transmission frequency by an
4 incremental value when said second signal
5 is detected by the detector." Do you see
6 that?

7 A. You said line 39. I think
8 maybe you meant starting at line 40
9 starting with "provide less power." Is
10 that what you mean?

11 Q. I started with "said drivers
12 configured to." But yes, 39/40.

13 A. Yes, I see that.

14 Q. Does the '204 patent provide a
15 definition for the term "incremental"?

16 A. No. Not to my knowledge.

17 Q. I'm sharing with you a document
18 that has been marked in this matter as
19 Exhibit EX 2006, and I may refer to this as
20 Exhibit 6 in this deposition.

21 (Whereupon, American Heritage
22 Dictionary Excerpt was marked as
23 Exhibit 6 for identification as of
24 this date by the Reporter.)

25 Q. Let me know when you have that

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1 document up and open.

2 A. It's open.

3 Q. And this document is an excerpt
4 from the American Heritage Dictionary of
5 the English Language. Do you see that?

6 A. Yes.

7 Q. If we scroll down and look at
8 the term "incremental" -- or the term
9 "increment."

10 A. Yes, I see that.

11 Q. It is -- there are several
12 definitions of the term "increment"
13 provided. But two of them are "one of a
14 series of regular additions or
15 contributions." And that's number 4.

16 A. Yes.

17 Q. And number 5 is, "A small
18 positive or negative change in the value of
19 a variable." Do you see that?

20 A. Yes.

21 Q. And I'm also sharing with you
22 now a document that has been identified in
23 this matter as EX 2007, and I may refer to
24 this as Exhibit 7 for this deposition.

25 (Whereupon, Collins English

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1 Dictionary Excerpt was marked as
2 Exhibit 7 for identification as of
3 this date by the Reporter.)

4 Q. Let me know when you have this
5 open.

6 A. Okay, open.

7 Q. You agree that this is an
8 excerpt from the Collins English
9 Dictionary, correct?

10 A. It looks to be, yes.

11 Q. If we look at the term
12 "increment" it is defined as -- it's
13 defined as "an increase or addition,
14 especially one of a series." Do you see
15 that?

16 MR. STEPHENS: Objection.
17 Scope, form, relevance.

18 A. I'm sorry, let me repeat. I
19 was talking over my counsel. I agree with
20 what it says there, yes.

21 Q. I'd also like to share with you
22 a document that's been marked in this
23 matter as EX 2008. And I may refer to this
24 as Exhibit 8 in this deposition.

25 (Whereupon, Wiley Dictionary

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1 Excerpt was marked as Exhibit 8 for
2 identification as of this date by the
3 Reporter.)

4 Q. Let me know when you have it
5 open.

6 A. Okay, open.

7 Q. And you'll agree that this is
8 an excerpt from the Wiley Electrical and
9 Electronics Engineering Dictionary?

10 A. It appears to be, yes.

11 Q. And in this dictionary the term
12 "increment" is defined as "the process of
13 gradually increasing a quantity or
14 variable" and as "a small variation in a
15 quantity or variable," correct?

16 A. Yes. You skipped a sentence in
17 the first definition, but yes.

18 Q. And based on the definitions
19 that we've looked at, do you agree that a
20 person of skill would understand the term
21 "incremental" as meaning a series of small
22 adjustments for gradually reaching a
23 particular value?

24 MR. STEPHENS: Objection;
25 scope, form, relevance.

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1 A. I'm not sure a POSITA would
2 view the term "increment" in view of the
3 context of the '204 patent as meaning a
4 series of small steps. I don't think the
5 patent supports a reading of "increment" as
6 being a series.

7 Q. Okay, so how would a person of
8 skill define -- strike that.

9 My question, Dr. Woods, is not
10 within the scope of the '204 patent right
11 now. My question is with regards to the
12 definitions that I've provided to you in EX
13 2006, EX 2007 and EX 2008. And based on
14 these definitions, do you agree that a
15 person of skill would understand the term
16 "incremental" as meaning a series of small
17 adjustments for gradually reaching a
18 particular value?

19 MR. STEPHENS: Objection;
20 scope, form, relevance.

21 A. You're asking me -- a person of
22 skill in what art? You're saying not
23 related to '204 specifically but --

24 Q. I guess it would be a person of
25 skill as you defined it for the '204 patent

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1 and reading Exhibit 2006, EX 2007 and EX
2 2008, how would they define the term
3 "increment" based on these disclosures?

4 A. Okay, so -- wait. I just want
5 to make sure I understand. So you're
6 asking me how would a person of skill in
7 the art view -- a person of skill in the
8 art related to '204, how would they define
9 "increment" in view of these definitions
10 but not in view of the content of the
11 patent itself?

12 Q. Correct, we'll start there.
13 Correct.

14 MR. STEPHENS: Objection;
15 scope, form, relevance.

16 A. I haven't been asked to provide
17 an opinion -- I mean -- you're asking me --
18 it seems like a strange thing to ask. I
19 don't know how I can answer what a person
20 of skill in the art would read these
21 definitions unless we include the patent
22 itself.

23 Q. Do you consider yourself a
24 person to be a person of skill in the art
25 in this matter?

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1 A. Yes.

2 Q. So I'm asking you as a person
3 of skill in the art, and the definitions in
4 EX 2006, EX 2007 and EX 2008, to formulate
5 what the meaning of the term "increment" is
6 based on these disclosures.

7 MR. STEPHENS: Objection;
8 scope, form, relevance.

9 A. How I view them or how a person
10 of skill in the art at the time of the
11 invention would view them?

12 Q. We can take both. We can
13 take -- the first question is how would you
14 define it, and the second question would be
15 how would a person of skill in the art
16 define it. So what is the definition
17 according to Dr. Woods?

18 MR. STEPHENS: Objection;
19 scope, form and relevance.

20 A. Sorry, I'm not trying to be
21 pedantic here. I'm really just trying to
22 understand your question. So you're asking
23 how would I define the term "increment"
24 based on reading these three dictionary
25 definitions you've given me but nothing

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1 else.

2 Q. Correct.

3 MR. STEPHENS: Objection;
4 scope, form, relevance.

5 A. I mean, it looks like adding or
6 subtracting a small -- a small to finite
7 amount to a variable.

8 Q. And how would a person of skill
9 in light of the '204 patent read and
10 understand these definitions?

11 MR. STEPHENS: Objection;
12 scope, form, relevance.

13 A. I guess how would a person of
14 skill in the art at the time of the
15 submission of this patent application
16 understand these definitions without
17 referring to the context provided by the
18 patent application itself? That's your
19 question?

20 Q. No. We can do it in light of
21 the patent application. So taking the '204
22 patent, how would a person of skill in the
23 art understand the term "increment" in view
24 of EX 2006, EX 2007 and EX 2008 when taken
25 in connection with the '204 patent?

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1 MR. STEPHENS: Objection;
2 scope, form, relevance.

3 A. I believe a POSITA at the time
4 would view "increment" as referring to -- I
5 think -- I believe every instance certainly
6 in Onishi -- sorry, in '204, I believe
7 "increment" is used only in the context of
8 changing frequencies. So I would think a
9 POSITA would view an increment and
10 frequency as a change in the value of a
11 transmission frequency.

12 Q. Okay, so if we look at the '204
13 patent, and I'm looking on column 28, line
14 40, it says "provide less power by
15 increasing said nonresonant transmission
16 frequency by an incremental value when said
17 first signal is detected by the detector."
18 Do you see that?

19 A. I'm sorry, what line number
20 again?

21 Q. Line 40.

22 A. Yes, I see that.

23 Q. So what would be a person of
24 skill's understanding of this term if it
25 omitted "by incremental value" so rather

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1 than reading "nonresonant transmission
2 frequency by an incremental value when said
3 first signal is detected by the detector"
4 it stated "provide less power by increasing
5 said nonresonant transmission frequency
6 when said first signal is detected by the
7 detector"? What difference would those --
8 would that claim reading have to a person
9 of skill?

10 A. I'm sorry, so you were
11 repeating that claim element -- sorry, go
12 ahead.

13 MR. STEPHENS: Just give me a
14 moment to make any objections,
15 please. Objection, form.

16 You may answer.

17 Q. Okay, so I'll rephrase my
18 question. And I'll just kind of maybe give
19 you a little background before I ask the
20 question.

21 I'm trying to understand how a
22 person of skill, or the meaning a person of
23 skill would give to the term "increment" in
24 this claim limitation. So my question is,
25 if a person of skill removed "by an

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1 incremental value" and the limitation
2 recited "provides more power by decreasing
3 said nonresonant transmission frequency
4 when said second signal is detected by a
5 detector," what would that mean to a person
6 of skill?

7 MR. STEPHENS: Objection; form.

8 A. So -- okay, so now you're
9 talking about the next element of the
10 claim --

11 Q. Sorry, I'll strike that. I'll
12 rephrase my question.

13 Dr. Woods, if the phrase "by an
14 incremental value" were omitted from
15 "provide less power by increasing said
16 nonresonant transmission frequency by an
17 incremental value" and said "first signal
18 is detected by the detector," what meaning
19 would that have to a person of skill?

20 MR. STEPHENS: Objection; form.

21 Q. You may answer.

22 A. Okay, so you're asking -- I
23 would say the word "incremental" in this
24 claim element would tell a POSITA that the
25 change in -- that the increase in the

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1 frequency, it's not infinitesimal. It's a
2 finite jump.

3 Q. What is a -- what do you mean
4 by a "finite jump"?

5 A. It's a -- as opposed to an
6 infinitesimal jump, which would be a very
7 small -- vanishingly small change.

8 Q. So what is the difference
9 between an incremental increase in value
10 versus an increase in value?

11 A. Okay, if the term "incremental"
12 was not there, a POSITA might think that
13 the change was very, very small, the word I
14 used was "infinitesimal." So yeah, that
15 would certainly be one difference that the
16 word "incremental" adds to that claim
17 element.

18 Q. I'd like to now look at column
19 22 and line 45, starting on line 45 of the
20 '204 patent.

21 A. I'm sorry, you said column 22?

22 Q. Column 22.

23 A. Line 45?

24 Q. Correct.

25 A. Okay. I'm there.

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1 Q. I guess starting on line 45 and
2 going to column 23, line 7, it states, "One
3 example of a power regulation method using
4 simple feedback signals is shown in the
5 flow chart of fig 6D. The method involves
6 the following steps." A, the driver 6230
7 provides an oscillating voltage at a
8 transmission frequency F_t , which is higher
9 than the resonant frequency F_r of the
10 system. B, a secondary voltage is induced
11 in the secondary coil 6320. C, a power
12 monitor in the secondary unit 6300 monitors
13 the power received by electric load 6340.
14 D, if the power received by the electric
15 load 6340 lies within a predetermined
16 range, then no action is taken. If the
17 power received by the electric load E340 is
18 below the predetermined range, then a
19 feedback signal of a first type S_a is sent
20 to the driver. If the power received by
21 the electric load 6340 is above the
22 predetermined range, then a feedback signal
23 of the second type S_b is sent to the
24 driver. E, a feedback signal is received
25 by the driver 6230. F, if the receive

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1 feedback signal is of the first type S_a ,
2 then the transmission frequency is
3 increased by an incremental value plus
4 ΔF_1 . If the receive feedback signal
5 is of the second type F_b , then the
6 transmission frequency is decreased by an
7 incremental value negative ΔF_2 . It is
8 noted that by using the power regulation
9 method described above, when the power
10 received by the load is too high, a series
11 of feedback signals of the first type S_a
12 will be transmitted until a power -- until
13 the power is reduced into the acceptable
14 range. Likewise, when the power received
15 by the load is too low, a series of
16 feedback signals of the second type S_b will
17 be transmitted until the power is increased
18 in the acceptable range. It is noted that
19 the positive incremental value ΔF_1 may
20 be greater than, less than or equal to the
21 negative incremental value ΔF_2 ." Do
22 you see that?

23 A. Yes.

24 Q. Do you agree that this provides
25 context for how the term "incremental" is

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1 used in the '204 patent?

2 A. Yes. A POSITA would -- yes, a
3 POSITA would get an idea of what
4 "increment" means based on this paragraph.
5 Taken in the context of the entire patent.

6 Q. So let's take a closer look at
7 lines 60 to 64 where it states, "If the
8 received feedback signal is of the first
9 type Sa, then the transmission frequency is
10 increased by an incremental value plus
11 delta F1. If the received feedback signal
12 is of the second type Sb, then the
13 transmission frequency is decreased by an
14 incremental value negative delta F2." Do
15 you see that?

16 A. Yes.

17 Q. What does it mean when it
18 states that the transmission frequency is
19 increased or decreased by an incremental
20 value in response to a feedback signal?

21 A. You're asking what a POSITA
22 would think.

23 Q. Correct.

24 A. A POSITA would think that some
25 finite change in frequency, delta F1 or

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1 delta F2, would be applied to the
2 transmission frequency.

3 Q. And what would it mean in the
4 '204 patent merely to say that the
5 transmission frequency is increased or
6 decreased in response to a feedback signal?

7 A. Without the use of the term
8 "delta F"?

9 Q. Correct. Sorry, not without --
10 without the term "incremental value."

11 A. Okay, so they kept delta F but
12 lost the word "incremental"?

13 Q. Correct.

14 A. Let's see. So if the feedback
15 signal is of the first type -- sorry, let
16 me slow down. I'm reading this -- let me
17 just read it to myself rather than read it
18 out loud.

19 Q. Take your time.

20 A. (The witness reviews the
21 document.)

22 Okay, so I've read that. And
23 your question was?

24 Q. My question was what would it
25 be mean in the '204 patent merely to state

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1 that the transmission frequency is
2 increased or decreased in response to a
3 feedback signal without using the term
4 "incremental value."

5 A. The delta F is still there but
6 the word "incremental" is gone.

7 Q. Correct.

8 A. Then I guess a POSITA would
9 have some -- would be less certain about
10 what magnitude is expected for delta F1.

11 I will point out that whichever
12 figure it is also includes delta F. So
13 without using the word "delta F" -- sorry,
14 without using the word "incremental," a
15 POSITA from figure 6.B, a POSITA would
16 still have some indication of the magnitude
17 of change that the inventors intended.

18 Q. So when you're referring to
19 "magnitude of change," does the term
20 "incremental value" connote a small
21 magnitude of change or a large magnitude of
22 change?

23 A. Well, in engineering it --
24 right, there's no such thing as small or
25 large by itself. It has to be with respect

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1 to something else. You always ask is
2 something large or small compared to
3 something else.

4 Q. I guess I'm trying to
5 understand when you refer to -- when you
6 use the term "magnitude" in your response,
7 what do you mean by "magnitude"?

8 A. Sorry, the absolute value of
9 delta F.

10 Q. Let's take a look back down at
11 claim 1, and I'm looking in column 28,
12 lines 40 to 45 again.

13 A. Okay. Column 28, claim 1.
14 Which line?

15 Q. Lines 40 to 45.

16 A. Okay, I'm there.

17 Q. Again, it states "provide less
18 power by increasing said nonresonant
19 transmission frequency by an incremental
20 value when said first signal is detected by
21 the detector, and provide more power by
22 decreasing said nonresonant transmission
23 frequency by an incremental value when said
24 second signal is detected by the detector."
25 Do you see that?

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1 A. Yes.

2 Q. Does the term "incremental" as
3 used in claim 1 narrow the scope of the
4 claimed invention?

5 A. I suppose a POSITA would think
6 it narrows it somewhat, although frankly,
7 there's so little guidance provided by the
8 text in the patent, it's not enough -- I
9 mean there's some guidance but it's not
10 quantitative.

11 Q. How would a person of skill
12 understand the term "incremental" -- strike
13 that. How does the term "incremental"
14 narrow the scope of the claimed invention?

15 A. As I already said, the term
16 "incremental" lets a POSITA know that it's
17 not an infinitesimal change.

18 Q. Let's take a look back up again
19 on column 22, and I'm looking starting on
20 line 65, and we're going to go to line 5 of
21 column 23.

22 A. Okay, I'm there.

23 Q. It states, It is noted that by
24 using the power regulation method described
25 above, when the power received by the load

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1 is too high, a series of feedback signals
2 of the first type Sa will be transmitted
3 until the power is reduced into the
4 acceptable range. Likewise when the power
5 received by the load is too low, a series
6 of feedback signals of the second type Sb
7 will be transmitted until the power is
8 increased into the acceptable range."

9 What is your understanding of
10 the meaning of the phrase "acceptable
11 range"?

12 A. The acceptable range -- a
13 POSITA would understand that the acceptable
14 range is defined by the amount of power
15 transfer between the primary and the
16 secondary coils. Or to be more precise,
17 power received by load is the word used on
18 line 65.

19 Q. How would a person of skill
20 determine the acceptable range?

21 A. In the context of this patent,
22 the acceptable range -- let me see if I can
23 point to a relevant figure. The acceptable
24 range of power received by the load would
25 be sufficient for the load to perform its

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1 function but not so high as to cause
2 unwanted effects. For instance,
3 overheating.

4 Q. I'd like to now turn back over
5 to EX 1004. This is the Onishi reference.
6 Does Onishi disclose adjustments to power
7 until it is reduced or increased into an
8 acceptable range?

9 MR. STEPHENS: Objection;
10 scope, relevance.

11 A. You're asking me does he use
12 the words "power received in acceptable
13 range"?

14 Q. My question is does Onishi
15 disclose adjustments to power until reduced
16 or increased into an acceptable range?

17 MR. STEPHENS: Objection; form.

18 A. Yes. I would say it does.

19 Q. Can you point that out to me in
20 Onishi?

21 A. Give me a second.

22 Okay, so I guess the simplest
23 place to look would be figure 4 of Onishi.
24 Onishi defines three frequencies, F1, F2
25 and F3 in that graph. F3 is the frequency

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1 that's used when the load is receiving
2 minimal power from the transmitter. And
3 frequencies F1 and F2 are when the power --
4 when the load is receiving sufficient power
5 to perform its functions.

6 So I would say F3 is -- F3 is a
7 frequency where less power is -- where
8 there's enough power to perform
9 power-saving mode functions but not enough
10 for nearly maximum amounts of power
11 transfer.

12 Q. So your position is that, if
13 we're looking at figure 4 in Onishi, that
14 F3 represents a range of frequencies as
15 opposed to a specific point? Or as opposed
16 to a specific frequency?

17 A. Let me look up the exact
18 definition that Onishi uses. Give me a
19 minute, please.

20 (The witness reviews the
21 document.)

22 Okay, the references you
23 provided to me don't have any -- are
24 apparently not searchable by text.

25 Q. Okay.

1 A. So this may take a while. If I
2 open up my own copy --

3 Q. If you got a searchable version
4 that's clean --

5 A. I have a searchable version,
6 but it's otherwise clean.

7 Q. That's fine.

8 A. Give me a moment, please.

9 (Pause.)

10 I think the best definition,
11 the cleanest context is provided in
12 paragraph 226 of Onishi. It's on page 23
13 of the PDF in my copy. Would you like me
14 to read that?

15 Q. Yes, please.

16 A. Okay. I'll skip some of the
17 parenthetical remarks, but I'll try to get
18 the gist.

19 So in 226 Onishi says,
20 "Therefore, a sufficient amount of power is
21 supplied to the power section device
22 immediately after recharging has started.
23 The secondary side instrument performs
24 normal power reception, frequency F1, and
25 supplies power to the load 90 to effect

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1 recharging. When the battery has again
2 been fully charged, the secondary site
3 instrument checks that the power
4 transmission frequency is not the
5 power-saving transmission frequency and
6 transmits the safe frame to the primary
7 site instrument. This causes power-saving
8 power transmission to again start."

9 So from this paragraph a POSITA
10 would know that when the battery is to be
11 recharged, the frequency is under normal
12 conditions set to frequency F1, and once
13 the battery is charged, then the frequency
14 is set to F3.

15 Q. And again, I think my question
16 is still where in Onishi does it disclose
17 adjustments to the power until it's reduced
18 or increased into an acceptable range, not
19 just merely setting the frequency to
20 frequency F1 or frequency F3?

21 A. Okay, I'm sorry --

22 MR. STEPHENS: Objection; form.

23 A. Right, so the implication of
24 paragraph 226, and I mean the entire
25 context of Onishi, is that F1, frequency F1

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1 is in the acceptable range for charging the
2 battery. Frequency F3 is not in an
3 acceptable range for charging the battery.
4 There is power still being consumed by the
5 load, but it's not where you would put the
6 frequency when the battery needs to be
7 charged.

8 So F1 is in -- power transfer
9 that happens, frequency F1 is in acceptable
10 range for battery charging.

11 Q. Is frequency F1, is that a
12 range of frequencies or is that a specific
13 frequency?

14 A. Onishi doesn't say how to
15 calculate frequency F1. It doesn't say how
16 it's determined. So a POSITA would
17 understand that F1 lies somewhere in the
18 range where acceptable charging can occur.

19 Q. Does Onishi provide any
20 instructions on how to calculate frequency
21 F2?

22 A. Give me a moment.

23 (Pause.)

24 No, Onishi -- to my knowledge,
25 Onishi doesn't have a formula for

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1 calculating F2.

2 Q. Does Onishi provide any
3 instructions on how to calculate frequency
4 F3?

5 A. I would say for context, F2 and
6 F3 -- F2, a POSITA would know it has to be
7 different enough from F1 that the receiver
8 could distinguish the two frequencies
9 because the change in those frequencies --
10 the difference between F1 and F2 is how the
11 transmitter sends data to the receiver and
12 to the load in Onishi.

13 F3, a POSITA would know the
14 implicit guidance of Onishi is that F3 is a
15 frequency where less power transfer occurs,
16 enough less that there's -- that there is
17 some power savings.

18 Q. We've been going for a little
19 over an hour. I would suggest maybe we go
20 off the record and take a ten-minute break.

21 A. Works for me.

22 MR. STEPHENS: Sounds good.

23 (Whereupon, a short recess was
24 taken.)

25 BY MR. NASH:

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1 Q. Dr. Woods, during the break did
2 you talk with anyone?

3 A. No.

4 Q. Did you review any materials
5 during the break?

6 A. No.

7 Q. Okay, so before the break we
8 were looking at EX 1004, the Onishi
9 reference. I'd like to go back to that
10 reference if we can. Let me know when you
11 have it pulled up.

12 A. Okay.

13 Q. And I'd like to look at
14 paragraph 181 of Onishi.

15 A. Okay.

16 Q. In paragraph 181 states, "In
17 fig 4, the frequency F1 is a frequency used
18 when transmitting 1 during normal power
19 transmission. The frequency F1 is a basic
20 frequency during power transmission. The
21 frequency F2 is a frequency used when
22 transmitting zero (see figs 3A and 3B). A
23 frequency F3 is a frequency used in the
24 power-saving mode. As it clear from figure
25 4, the relationship F1 is greater than F2

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1 is greater than F3 is satisfied." Do you
2 see that?

3 A. Yes.

4 Q. Why is the relationship F1 is
5 greater than F2 is greater than F3
6 important in the context of Onishi?

7 A. Well, I think a POSITA would
8 understand that F1 and F2 could probably be
9 swapped, or the meanings between them could
10 be changed. For instance, F1 could be
11 assigned to binary zero and F2 assigned to
12 binary 1. That's not relevant for the
13 purposes of power transmission.

14 F3 needs to be higher than F1
15 and F2 because less power should be
16 transferred at frequency F3.

17 Q. That's not what Onishi is
18 stating here. It's states, as is clear
19 from figure 4, the relationship F1 is
20 greater than F2 is greater than F3 is
21 satisfied.

22 A. Yes.

23 Q. F3 is the higher frequency in
24 this relationship, correct?

25 A. Yes, F3 is the higher

1 frequency.

2 Q. So why --

3 A. Oh, wait, I'm sorry. I see.

4 Yes, let me go back.

5 So -- right, so Onishi -- he
6 seems to be kind of saying the opposite
7 here. I think that's what you were getting
8 at, right?

9 Q. My question is, why is the
10 relationship F1 greater than F2 greater
11 than F3 important in the context of Onishi?

12 A. I think -- well, F -- you're
13 asking why it's important. Well, F3 is a
14 frequency at which less power is
15 transferred than at frequency F1. Is that
16 the answer -- is that what you're asking?

17 Q. Again, my question is, why is
18 Onishi highlighting this relationship? Why
19 is that relationship something noteworthy
20 that Onishi highlighted? What weight --
21 strike that.

22 How would a person of skill
23 understand the importance of the
24 relationship disclosed in Onishi in
25 paragraph 181?

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1 A. I see. I think Onishi -- a
2 person of skill would look at figure 4 and
3 go, well, if you take that relationship
4 quite literally, it looks backwards
5 compared to what's shown in figure 4. In
6 figure 4, F3 is greater than F2 which is
7 greater than F1. If you're talking about
8 just the values of the frequencies.

9 So I think a POSITA would
10 understand that what Onishi meant in this
11 case is that the power transferred at
12 frequency F1 is greater than the power
13 transferred at frequency F2 which is
14 greater than the power transferred at
15 frequency F3.

16 Q. And how would a person of skill
17 reach that conclusion looking at Onishi?

18 A. Because if you look at figure
19 4, those three frequencies are all to the
20 right of the resonance peak, which I
21 believe Onishi called F0. Let me scroll to
22 that figure. Right.

23 Q. And does figure -- does figure
24 4 identify power transfer?

25 A. The vertical axis is -- we

1 don't exactly know what the vertical axis
2 is. A POSITA would take that to mean
3 either power transferred or possibly
4 current delivered to the load, or possibly
5 voltage across the primary coil.

6 Q. Again, we're basing this on the
7 disclosure in Onishi. Based on the
8 disclosure in paragraph 181 in Onishi, do
9 you believe that the relationship F1 being
10 greater than F2 being greater than F3
11 cannot be satisfied along the F axis of
12 figure 4?

13 A. To be precise, I would say,
14 yes, a POSITA would understand that the way
15 Onishi has drawn F1 and F2 and F3, the
16 actual values of those frequencies do not
17 satisfy the inequality in paragraph 181.
18 Is that your question? I would say the
19 frequencies do not obey -- sorry, go ahead.

20 Q. And my next question is, based
21 on the disclosure in paragraph 181 of
22 Onishi, do you agree that it's possible for
23 the Y axis of figure 4 to represent
24 frequency based on the relationship F1
25 being greater than F2 being greater than

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1 F3?

2 MR. STEPHENS: Objection; form.
3 Relevance.

4 A. I think -- if I understand your
5 question, what I would say is yes, the Y
6 values along this curve at frequencies F1
7 and F2 and F3 do satisfy the relationship
8 specified by Onishi in paragraph 185.
9 Sorry, 181.

10 Q. Does figure 4 in Onishi provide
11 a label for the Y axis?

12 A. Not really.

13 Q. Does figure 4 in Onishi provide
14 a label for the X axis?

15 A. No.

16 Q. F0, F1, F2 and F3 are points
17 but nothing indicates that the F axis
18 corresponds to frequency, correct?

19 A. No, I disagree with that. The
20 labels F0, F1, F2 and F3, just looking at
21 the legend right below the curve, every
22 single one of those is labeled with the
23 word "frequency." So I think any POSITA or
24 any high school algebra student would
25 understand that the horizontal axis is

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1 frequency.

2 Q. Right, but the horizontal axis
3 hasn't been labeled as frequency; rather,
4 figure 4 provides points along the curve
5 that it identifies as F0, F1, F2, F3,
6 correct?

7 A. I agree that the label
8 frequency does not appear next to the right
9 pointing arrow on the X axis of figure 4.
10 But I disagree that anyone could possibly
11 be confused about what F1 -- about what the
12 horizontal axis represents.

13 Q. Well, if we look at figure 4 in
14 light of the relationship disclosed in
15 paragraph 181, you would agree that the X
16 axis cannot represent frequency if the
17 relationship F1 being greater than F2 being
18 greater than F3 needs to be satisfied,
19 correct?

20 MR. STEPHENS: Objection; form,
21 scope, relevance.

22 A. I would put that a little
23 differently. I would say because of the
24 way that paragraph 183 is worded, a POSITA
25 would understand -- the way I think they

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1 would read it, they would say F0 -- sorry,
2 the horizontal axis is frequency, but what
3 Onishi meant was that the power transfer at
4 those frequencies follow the inequality
5 listed in paragraph 181.

6 Q. But that's not actually
7 disclosed in Onishi, correct?

8 A. No, but -- well, I don't --
9 you're asking me if there's any other
10 paragraph in Onishi that might make clear
11 what the X axis means?

12 Q. Correct.

13 A. Okay, give me a minute to look
14 through that then.

15 (Pause.)

16 Okay, I would say for instance,
17 if you look -- there's -- well, apart from
18 the context of figure 4 itself, in other
19 figures, if you look at figure 9 for
20 instance -- are you at figure 9?

21 Q. Yes.

22 A. So in the sort of bottom left
23 corner of figure 9, there's a decision --
24 this figure 9 refers to an algorithm the
25 system follows. There's a -- the decision

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1 diagram S-121 asks whether the primary side
2 has detected a high load. If there is a
3 high load, then the following step is to
4 stop power-saving transmission, power
5 transmission F3 to F1. That's box S-122.
6 And box S-123 says normal power
7 transmission is resumed.

8 So from that we know that the
9 power transmission at F3 is less than the
10 power transmission at F1. You can infer
11 essentially the same information from
12 figure 7. I won't bother reading it unless
13 you want me to.

14 And then at numerous points in
15 the declaration -- in the disclosure
16 itself, it says that -- the disclosure says
17 that frequency F1 is used in normal power
18 transmission, and frequency F3 is used
19 during power save mode. I think I pointed
20 out one or two of those paragraphs already,
21 but would you like me to point that again?

22 Q. My question is still Onishi
23 doesn't disclose that the X axis actually
24 relates to frequency -- strike that.

25 Based on the relationship

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1 described in paragraph 181 that's
2 specifically directed to figure 4, the X
3 axis doesn't correspond to frequency, or
4 cannot correspond to frequency based on
5 that disclosure, correct?

6 A. Well, what I would say is that
7 POSITA would look at paragraph 181 and
8 realize that Onishi couldn't -- had
9 essentially made a mistake; either the
10 arrows -- or the greater than signs should
11 be replaced with less than signs such that
12 the figure matched the text. Or what
13 Onishi must have meant is that -- what he
14 means is that the power transmission at
15 frequencies F1, F2 and F3 are in a
16 monotonic relationship as described by that
17 inequality in paragraph 181.

18 Q. Looking at figure 4, it uses
19 the words "resonance peak." Do you see
20 that?

21 A. Yes.

22 Q. Is the resonance peak of a
23 system a single frequency achieved at peak
24 impedance, voltage, current or some other
25 electrical characteristic, or is it a

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1 variable that can vary with frequency?

2 A. I would say in a precise sense,
3 a resonance frequency is what he said, it
4 corresponds to a single point on a graph.
5 But clearly, I mean, Onishi is kind of
6 playing fast and loose here. He labeled
7 the peak "resonance peak," but -- he
8 labeled -- the term "resonance peak"
9 appears right above the Y axis. Which I
10 think a POSITA would take to mean that that
11 represents a title for the entire graph,
12 which is the solid line as shown in the
13 figure which exhibits a resonance peak at
14 F_0 .

15 Q. But that interpretation and
16 understanding isn't expressly disclosed in
17 Onishi, correct?

18 A. I think it would be obvious to
19 a POSITA that that's the way to read it.

20 Q. Again, that's not my question.
21 My question is, that interpretation and
22 understanding isn't expressly disclosed in
23 Onishi, correct?

24 A. Expressly as in -- define
25 "expressly." What do you mean?

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1 Q. Adopting the interpretation
2 that you've provided for figure 4 and the
3 resonance peak, that hasn't been disclosed
4 in Onishi.

5 A. Give me a minute to check.

6 Okay, what I would say is there
7 are numerous instances in Onishi where it
8 is clear that Onishi is using the term
9 "resonance" in the traditional definition
10 roughly consistent with what you provided,
11 that it refers to a single frequency at the
12 peak -- at which some function has a
13 maximum.

14 Would you like me to point out
15 some of those paragraphs?

16 Q. That's okay.

17 Does Onishi disclose any
18 intervening frequencies between F1 and F2?

19 A. Disclose any intervening
20 frequencies. I mean, there's no labeled
21 frequencies.

22 Q. Again, my question is, in
23 Onishi's disclosure, including figure 4 but
24 the disclosure as a whole, does Onishi
25 disclose any intervening frequencies that

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1 exist between frequency F1 and frequency
2 F2?

3 A. No. F1 and F2 are distinct.
4 There's no need in Onishi -- a POSITA would
5 understand that Onishi doesn't need for
6 there to be a frequency that the system
7 uses between F1 and F2.

8 Q. All right, does Onishi disclose
9 any intervening frequencies between F2 and
10 F3?

11 A. Roughly same answer. There's
12 no -- he doesn't -- Onishi doesn't mention
13 any other frequencies. Although he --
14 there's not a lot of guidance on how to
15 choose F1 and F2 and F3, except that they
16 all must be somewhere to the right of the
17 resonance.

18 Q. Besides frequencies F0, F1, F2
19 and F3, does Onishi disclose operation of a
20 system at any other frequencies?

21 A. No, except to the extent
22 that -- for instance, F0 can change, for
23 instance. So the system might need to
24 track if F0 changes.

25 Q. Does Onishi ever use the term

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1 "increment" or "incremental"?

2 A. Let me check. It doesn't
3 appear in my text search.

4 Q. Does Onishi disclose or explain
5 how the system transitions from F1 to F2 or
6 F2 to F3?

7 A. Yes, the system describes how
8 the system goes from F1 to F2 for instance.

9 Q. Where does Onishi disclose
10 that?

11 A. Let's look at figure 3-A for
12 instance. When the system is transmitting
13 data from the power source to the load, the
14 frequency starts out -- sorry, the source
15 starts out at frequency F1, which the load
16 interprets as sending a binary 1, and then
17 the frequency shifts to frequency F2 when
18 the source wants to send a binary zero.

19 Q. Let's turn now to the Baarman
20 '392 reference, EX 1006. And I'd like to
21 take a look at paragraph 38.

22 A. Okay, I'm at 38.

23 Q. I'm looking about halfway down
24 in the paragraph it states, "Generally, the
25 inverter 10 is operated between frequency A

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1 and frequency B. It is somewhat less than
2 the resonant frequency. Between frequency
3 A and frequency B the power transfer curve
4 can be piecewise linearized by a software
5 look-up table located in the controller
6 20." Do you see that?

7 A. Yes.

8 Q. What is piecewise
9 linearization?

10 A. Well, to a POSITA, piecewise
11 linearization would have meant taking a
12 curve and fitting it with a series of
13 straight lines -- approximating it with a
14 series of straight line segments.

15 Q. Okay, so you would agree
16 piecewise linearization is a way to
17 approximate a curve through a series of
18 points selected along a curve that were
19 collected by linear lines?

20 MR. STEPHENS: Objection; form.

21 A. I think that's consistent with
22 piecewise linearization, yes.

23 Q. Does Baarman '392 provide any
24 information on the difference between
25 points that are piecewise linearized?

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1 MR. STEPHENS: Objection; form.

2 A. I'm sorry, a distinction
3 between -- so we're imagining a system --
4 so we're looking at a curve between points
5 A and B which has been piecewise
6 linearized. So there's a series of points
7 in between those? Is that what you're
8 asking?

9 Q. Correct, in determining the
10 difference between the points, does Baarman
11 '392 provide information on how the
12 difference between the points are
13 determined and piecewise linearized?

14 A. So you're asking about the
15 frequency spacing between those points.

16 Q. Correct.

17 A. I think a POSITA would
18 understand it to mean that an engineer
19 would choose a number of points between
20 points A and B in order to make their power
21 representation curve sufficient -- in order
22 to sufficiently approximate the actual
23 power transfer curve.

24 Q. Would a person of skill use
25 piecewise linearization for a linear line?

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1 A. It depends on the application.
2 There are different reasons to linearize
3 something. So are you asking in general?

4 Q. Yes, in general, would you use
5 piecewise linearization for a line that is
6 linear?

7 A. I would say a POSITA would
8 understand -- how about this. For the
9 specific case involved -- for the specific
10 case of Baarman '392, Baarman says one
11 reason to piecewise linearize the power
12 transfer curve is so that you can have the
13 spacing between the piecewise linearized
14 points be uniform along the Y axis instead
15 of the X axis. So that's at least one
16 reason why a POSITA would piecewise
17 linearize this curve.

18 Q. And again, I'm not asking about
19 a curve, Dr. Woods. I'm asking about a
20 linear line. If we're looking at a graph
21 and there's a linear line on the graph,
22 would a person of skill use piecewise
23 linearization for a linear line represented
24 on a graph?

25 A. If the line is sufficiently --

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1 in general, for a POSITA in this case or
2 any similar case, if the line is already
3 sufficiently linear for your application,
4 then you don't have to -- then you don't
5 have to linear -- you don't need piecewise
6 linear unless you're concerned that perhaps
7 the curve is shifting around.

8 Q. Okay, so you'd agree that a
9 person of skill would use piecewise
10 linearization for a pair volt curve,
11 correct?

12 MR. STEPHENS: Objection; form,
13 scope.

14 A. That's at least one case in
15 which piecewise linear could be
16 appropriate.

17 Q. And you would agree that a
18 person of skill would use piecewise
19 linearization for a curve that is
20 non-linear, correct?

21 A. They would only use piecewise
22 linearization if it was important to the
23 application. It could be -- no curve in
24 the real world is ever perfectly linear.
25 The question is whether it's sufficiently

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1 linear for your application.

2 Q. I have no further questions,
3 Dr. Woods.

4 MR. STEPHENS: Can we take ten
5 minutes, please?

6 MR. NASH: Yes.

7 MR. STEPHENS: Off the record.

8 (Whereupon, a short recess was
9 taken.)

10 MR. STEPHENS: Petitioner has
11 no further questions.

12 Off the record.

13 (Whereupon, at 12:15 p.m. the
14 examination of this witness was
15 concluded.)

16
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25

D E C L A R A T I O N

I hereby certify that having been
first duly sworn to testify to the truth, I
gave the above testimony.

I FURTHER CERTIFY that the foregoing
transcript is a true and correct transcript
of the testimony given by me at the time
and place specified hereinbefore.

GARY L. WOODS, Ph.D.

Subscribed and sworn to before me

this ____ day of _____ 20__.

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E X H I B I T S

WOODS EXHIBITS

EXHIBIT NUMBER	EXHIBIT DESCRIPTION	PAGE
Exhibit 1	U.S. Patent 9,083.204	8
Exhibit 2	Declaration of Dr. Woods	14
Exhibit 3	U.S. Patent 9,048,696	17
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(Exhibits accompany the transcript.)

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EXAMINATION BY	PAGE
Mr. Nash	4

INFORMATION AND/OR DOCUMENTS REQUESTED
(None)

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C E R T I F I C A T E

STATE OF NEW YORK)
 : SS.:
COUNTY OF DELAWARE)

I, SUZANNE PASTOR, a Notary Public
for and within the State of New York, do
hereby certify:

That the witness whose examination is
hereinbefore set forth was duly sworn and
that such examination is a true record of
the testimony given by that witness.

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

IN WITNESS WHEREOF, I have hereunto
set my hand this day, May 16, 2025.



SUZANNE PASTOR

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