

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

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TESLA, INC., :
:
Petitioner, :
:
v. : Case No.
: IPR2025-00221
INTELLECTUAL VENTURES II, :
LLC, :
:
Patent Owner. :
:
- - - - - X

January 12, 2026
10:08 a.m. EST

Deposition of GARY R. LOMP, Ph.D., held via
remote videoconference and taken stenographically
by Misty Klapper, Registered Merit Reporter,
Certified Shorthand Reporter, Registered
Professional Reporter, Realtime Systems
Administrator and Notary Public.

1 APPEARANCES:

2 ALL APPEARANCES BY REMOTE VIDEOCONFERENCE

3 ON BEHALF OF PETITIONER:

4 DAN SMITH, ESQUIRE

SCOTT T. JARRATT, ESQUIRE

5 HAYNES AND BOONE, LLP

2801 North Harwood Street, Suite 2300

6 Dallas, Texas 75201

(214) 651-5000

7 E-mail: dan.smith@haynesboone.com

scott.jarratt@haynesboone.com

8
9 BRETT BOSTROM, ESQUIRE

HAYNES AND BOONE, LLP

10 675 15th Street, Suite 2200

Denver, Colorado 80202

11 (303) 382-6200

E-mail: brett.bostrom@haynesboone.com

12
13 ON BEHALF OF PATENT OWNER:

14 BRANDON R. THEISS, ESQUIRE

VOLPE KOENIG

15 30 South 17th Street, Suite 1800

Philadelphia, Pennsylvania 19103

16 (215) 568-6400

E-mail: btheiss@vklaw.com

P R O C E E D I N G S

GARY R. LOMP, PH.D.,

The witness herein, called for
examination by the Petitioner, having been
duly sworn, was examined and testified as
follows:

EXAMINATION BY COUNSEL FOR PETITIONER

BY MR. SMITH:

Q. Well, good morning, Dr. Lomp. How
are you today?

A. I'm fine. Good morning.

Q. Could you please state your full name
for the record.

A. Gary Raymond Lomp.

Q. Okay. And approximately how many
times have you been deposed?

A. A hundred.

Q. That's quite a few.

So you generally know how depositions
work; is that fair?

A. Yes.

Q. Do you understand that you must

1 provide verbal answers to my questions so the
2 court reporter can make an accurate transcript?

3 A. Yes.

4 Q. And because we're forming a record
5 here, it's important that we don't talk over each
6 other. So if you can let me finish my question,
7 I'll let you finish your answers.

8 Does that sound fair?

9 A. Yes.

10 Q. Okay. And you understand that your
11 counsel might object to a question, but you still
12 must provide an answer to that question unless
13 instructed otherwise, correct?

14 A. Yes.

15 Q. Okay. And if you're confused as to a
16 question I ask, I'd appreciate it if you'd let me
17 know so that I can, perhaps, ask it in a
18 different way.

19 Can we agree on that?

20 A. Sure.

21 Q. Is there any reason you can't provide
22 full and accurate testimony today?

1 A. No, there isn't.

2 Q. Do you have any other programs open
3 on your computer besides the videoconferencing
4 application we're using?

5 A. No.

6 Q. Okay.

7 A. Well, the internet link to the Box.

8 Q. Right. So the internet link to the
9 Box share that -- that I provided or that we
10 provided to you?

11 A. Yes.

12 Q. Is that what you're referring to?
13 Okay.

14 Can we agree that you won't open any
15 other programs on your computer, other than --
16 you know, other than Adobe Acrobat to view the
17 files?

18 A. Yes, we can.

19 Q. Okay. If I use the term "IPR," will
20 you understand that to refer to an inter partes
21 review proceeding before the Patent Trial and
22 Appeal Board?

1 A. Yes, I do.

2 Q. Okay. And you understand that the
3 testimony you provide today will be used in an
4 IPR proceeding numbered IPR2025-00221, related to
5 U.S. Patent Number 11,664,889; is that correct?

6 A. Yes.

7 Q. Okay. And if I say the '889 patent,
8 will you understand that to be referring to U.S.
9 Patent Number 11,664,889?

10 A. Yes.

11 Q. Okay. Do you understand that your
12 testimony will be publicly available if filed in
13 this proceeding?

14 A. Yes.

15 Q. Okay. And if the transcript is
16 filed, any member of the public would be able to
17 download and read the transcript.

18 Do you understand that?

19 A. Yes.

20 Q. Okay. About how many IPRs have you
21 worked on?

22 A. About the same number as depositions,

1 I would say. Almost about the same.

2 Q. Okay.

3 A. 50 to 75, I guess. Some of my
4 depositions have been in connection with
5 litigations.

6 Q. Gotcha.

7 Of those IPRs, how many were you
8 working for patent owner Intellectual Ventures
9 II?

10 A. Five to ten. I don't remember the
11 exact number.

12 Q. Okay. I'm going to have you look at
13 the Box share.

14 A. Okay.

15 Q. And could you open the file marked
16 Exhibit 2017.

17 A. Yeah.

18 Q. Let me know when you're -- when
19 you've got it.

20 A. Okay.

21 The preview didn't load. Maybe I
22 have to download it.

1 Q. Yeah, probably better to download it.

2 A. Okay. So maybe I should just
3 download all of these to a folder.

4 Q. That's fine.

5 A. I guess I can't do them all in one
6 shot here. Thought I could. I don't see a
7 download.

8 Q. Can you just drag them to the
9 desktop? Oh, you're going through the --

10 MR. SMITH: Let's go off the record
11 real quick.

12 (Thereupon, a discussion was had off
13 the record.)

14 (Thereupon, a brief recess was
15 taken.)

16 BY MR. SMITH:

17 Q. Okay. Dr. Lomp, did you speak to
18 anybody during the break?

19 A. Only you guys.

20 Q. Yes, I understand.

21 I just wanted to make sure, there's
22 nobody else in the room with you?

1 A. There's no one else in the room.

2 Q. Okay. And you were able to open the
3 documents in the Box shared folder that we sent;
4 is that correct?

5 A. Yes.

6

7 (Thereupon, Exhibit 2017,
8 previously marked, was referred to.)

9 BY MR. SMITH:

10 Q. Okay. So looking at Exhibit -- the
11 file marked Exhibit 2017, can you confirm that
12 this is your declaration filed in IPR2025-0221?

13 A. I'll scan it very quickly, but --
14 yeah.

15 Yes, it is. Yes.

16 Q. Okay. And could you go to page --
17 it's page 75 of the PDF, page 71 marked in the
18 document. It would be the last page.

19 A. Yes.

20 Q. Okay. Can you confirm that that is
21 your signature?

22 A. Yes, it is.

1 Q. Okay. Is it okay if we refer to this
2 as your declaration?

3 A. Yes.

4 Q. Okay. And just for one definition
5 for today, if I use the acronym POSITA,
6 P-O-S-I-T-A, will you understand that to mean a
7 person of ordinary skill in the art?

8 A. Yes.

9 Q. Referring back to your declaration,
10 Exhibit 2017, who wrote your declaration?

11 A. I did.

12 Q. Okay. Was that a collaborative
13 process with you and the attorneys?

14 A. Yes, it was.

15 Q. Okay. Were you provided with a first
16 draft by counsel for Intellectual Ventures II?

17 A. There was an exchange of drafts in
18 partial sections. I don't remember the exact
19 order of them, but there were some drafts
20 exchanged, yes.

21 Q. Who came up with the positions in
22 your declaration?

1 A. We discussed those in various
2 meetings and constructed those or formulated
3 those jointly.

4 Q. In drafting your declaration, did you
5 choose your words carefully?

6 A. Yes.

7 Q. Do you still stand by all of the
8 opinions that you've provided in your
9 declaration?

10 A. Yes, I do.

11 Q. Okay. And after you signed the
12 declaration, were any changes made to
13 Exhibit 2017 by you or anyone else?

14 A. Not that I'm aware of, no.

15 Q. Okay. Are there any typographical
16 errors in your declaration that you'd like to
17 correct?

18 A. Yeah, I -- there was one thing that I
19 noticed. There was a lot of effort put into
20 annotations of certain figures, especially
21 Dateki's Figure 6, and I believe in one -- and a
22 lot of color coding was used. I think one of

1 those color coding labelings was incorrect. I
2 will tell you when I -- if -- if and when we come
3 to it. I don't remember exactly where it is at
4 the moment.

5 Q. Okay. And that's referring to the --
6 the figure, for example -- where is it -- like
7 the figure above paragraph 89 of your
8 declaration?

9 A. Yeah, let's just -- I'm sure that's
10 the one I'm talking about, but I'll look to make
11 sure.

12 Q. Okay.

13 A. And I remember that I -- the word --
14 you know, there was a lot of effort put into
15 that. And the word in the text was font colored
16 the same as the annotation in the figure. And
17 that was all very nice, except I believe it
18 was -- the word was purple, but it wasn't
19 supposed to be purple. I think that was it.

20 If we come to it, I will note it
21 again. It was de minimis. It's not very
22 important. That was the only thing I -- I saw.

1 Q. Okay.

2 A. I was looking for the figure to make
3 sure we were talking about the same figure.

4 What paragraph did you say?

5 Q. It's the one above paragraph 89.

6 A. 89, because it appears several times.

7 Q. Yeah, okay.

8 A. So I'll just look at 89 and confirm.

9 Yes, that is the figure that we're talking about.

10 Q. Are there any errors in your analysis
11 that you'd like to correct?

12 A. No.

13 Q. And these declarations contain your
14 opinions only, correct?

15 A. These are my opinions, yes.

16 Q. They do not contain the opinions of
17 other people, correct?

18 A. That is correct.

19 Q. Okay. Did you review your
20 declaration thoroughly before signing?

21 A. Multiple times, yes.

22 Q. Okay. Did you review every paragraph

1 in your declaration prior to signing it?

2 A. Yes, I did.

3 Q. Did you review for inaccuracies in
4 content?

5 A. Yes.

6 Q. Did you review for inaccuracies in
7 formatting?

8 A. Yes, I did. To the extent that I
9 detected a format that appeared wrong, I would
10 certainly flag it. I can't guarantee it's
11 perfect.

12 Q. Understood.
13 Did you review for typographical
14 errors?

15 A. Yes.

16 Q. And did you review whether quotes
17 were from the correct sources?

18 A. Yes.

19 Q. All right. Let's take -- I'm going
20 to be asking you some questions about
21 paragraphs 87 through 89 of your declaration.

22 A. Okay.

1 Q. And we are probably going to want to
2 have Dateki open as well. That is the file
3 marked Exhibit 1005 in the exhibit share.

4 (Thereupon, Exhibit 1005,
5 previously marked, was referred to.)

6 BY MR. SMITH:

7 Q. Just let me know when you have that
8 open.

9 A. I do.

10 I do have it open. I don't know if
11 you're waiting for me.

12 Q. I was. Sorry. Okay.

13 So we've got those materials up,
14 correct?

15 A. Yes.

16 Q. Okay. All right. Let's talk about
17 transmission power control, which I believe --
18 can we agree that that's abbreviated TPC?

19 A. That's fine, yes.

20 Q. Okay. What is TPC, in your
21 understanding?

22 A. It literally means controlling the

1 power that the UE in this case is transmitting to
2 the base station at any given period of time when
3 it is, in fact, sending a signal, radio signal.

4 Q. And does -- does TPC enable the base
5 station to adjust the transmit power level that a
6 particular UE is utilizing?

7 A. It allows the base station to send
8 a -- in certain implementations, for example, it
9 enables the base station to send a signal to the
10 UE, indicative of the level that the base station
11 is receiving the signal of interest and allowing
12 the base station to then perceive that fact and
13 also may send a signal to the UE to request that
14 it increase or decrease the transmitted power
15 based on the measurement that the base station
16 made.

17 So the short answer is yes, but it's
18 an indirect process that has various possible
19 implementations.

20 Q. And you said that it allows it to
21 increase or decrease the transmit power level; is
22 that correct?

1 A. Yeah. Maybe I should be more general
2 and say adjust, because it can also leave it the
3 same.

4 Q. But there's not a mechanism in TPC
5 that allows it to set -- excuse me -- that allows
6 the base station to set an absolute power level
7 for the UE; is that correct?

8 A. I don't believe that occurs in the
9 technology that we're discussing, but it is
10 possible to do that.

11 (Reporter clarification.)

12 THE WITNESS: I don't believe such
13 a command or setting process occurs in the
14 technology that we're discussing. But it
15 is possible in principle for the base
16 station to indicate to the UE an absolute
17 level. But that's only in principle.

18 BY MR. SMITH:

19 Q. So in the technology that we're
20 discussing that's described, for example, in
21 Dateki, there's not a mechanism to set an
22 absolute power level; is that right?

1 A. To the best of my recollection,
2 without combing through Dateki again, I don't
3 believe that occurs in there, that's correct.

4 Q. Now, I understand there's a version
5 of TPC that performs increments and decrements of
6 the power level at fixed intervals.

7 Is that correct?

8 A. There is such an algorithm, yes.

9 Q. And that would -- just to clarify,
10 that version performs increments and decrements
11 of the power level at single fixed intervals per
12 command.

13 Is that your understanding, that
14 there's a version that does that?

15 A. There is a version that does that.

16 Q. Okay. Would it be fair to call that
17 version single stage TPC?

18 A. I guess we could agree on some
19 nomenclature. I don't want to be inadvertently
20 limiting, but the method that I have in mind,
21 just to be very clear, is called delta modulation
22 and it does exactly what you said. It sends a

1 sequence of what I call up and down commands that
2 inform the base -- the UE to either increase or
3 decrease by some fixed amount that's set in
4 advance every (indiscernible.)

5 (Reporter clarification.)

6 MR. SMITH: Let's go off the
7 record.

8 (Thereupon, a discussion was had off
9 the record.)

10 BY MR. SMITH:

11 Q. So let's continue talking about TPC.
12 So a TPC command that can -- includes
13 a single up or down adjustment, would we -- could
14 that be referred to as a single stage TPC
15 command?

16 A. As I said, if you would like to
17 designate that as a single stage, I will
18 understand that that's what we mean and -- and I
19 was starting to explain and elaborate before that
20 that method is sometimes known as delta
21 modulation, where you send a single up or down
22 command at a regularly spaced interval in time.

1 Q. Okay.

2 A. If you wanted to refer to it as that,
3 I would understand that, but we can also refer to
4 it as single stage.

5 Q. Okay. We'll use the -- we'll use the
6 shorthand.

7 A. Okay.

8 Q. Okay. And then I also understand
9 there's a version of TPC that can include a
10 sequence of up or down commands; is that correct?
11 In a single message though.

12 A. Okay. A single command that
13 prescribes a sequence of adjustments, is that
14 what you mean?

15 Q. Yes, that's what I mean.

16 A. Yes, that -- that is possible, yes.

17 Q. And would it be fair to call that
18 version multistage TPC?

19 A. That's fine, yes.

20 Q. Okay. Let's take a look at Dateki
21 and specifically column 11, line 4.

22 Let me know when you're there.

1 A. Yes, I will.

2 Q. Okay. I'm just going to go ahead and
3 read this portion.

4 So Dateki at line 4 -- this is line 4
5 through 11. Column 11 of Dateki reads, According
6 to an embodiment, the transmission power control
7 unit 38 is configured to increment the
8 transmission power Ptx by +1 decibel when the
9 transmission power control information TPCC
10 extracted by the TPCC extracting unit 37 is
11 greater than zero, parentheses, TPCCD0, and the
12 transmission power control unit 38 is configured
13 to decrement the transmission power Ptx by
14 -1 decibel when the transmission power control
15 information in the TPCC is less than zero.

16 Do you see that?

17 A. I do see it.

18 Q. Is that passage describing a single
19 stage TPC?

20 A. Yes, I believe it is. I would like
21 to make one point about this passage.

22 Q. Okay.

1 A. Hopefully not confuse anybody, but
2 there is a grammatical or semantic error here,
3 because it doesn't mean to say decrement by -1 dB
4 because that would be an increment.

5 But I think we all understand what
6 the author meant, right?

7 Q. Right. So actually --

8 A. Am I clear?

9 Q. Yes. So what you're saying is that
10 that actually means decrement by 1 dB --
11 decrement by -1 dB?

12 A. That is correct.

13 Q. Understood.

14 A. But, yes, that is single stage, yes,
15 to answer your question.

16 Q. And in that single stage embodiment
17 that's described at column 11, lines 4 through 11
18 of Dateki, would the TPC command include a single
19 bit to encode the increment or decrement?

20 A. Logically it would be a single bit of
21 information that is being signaled, that is
22 correct.

1 Q. Okay. Let's look at another passage
2 from Dateki. And this is the same column 11 and
3 it's lines 14 through 18. I'll just go ahead and
4 read it.

5 It is noted that the transmission
6 power control information TPCC may be arranged to
7 use plural bits so that transmission power
8 control may be conducted in plural stages, i.e.,
9 so that transmission power may be increased or
10 decreased in plural stages.

11 Did I read that correctly?

12 A. Yes, you did.

13 Q. Okay. Is that passage describing
14 multistage TPC?

15 A. Yes.

16 Q. So you'd agree that Dateki describes
17 both single stage TPC and multistage TPC,
18 correct?

19 A. Yes, I do agree.

20 Q. And so Dateki is not limited to only
21 multistage TPC; is that correct?

22 A. Well, this is basically background

1 information, I believe, that he's describing
2 here. So the background is not limited to
3 multistage, yes. Oh, it is actually -- he is
4 referring to an embodiment, so it's more than
5 just background.

6 He has a single stage embodiment,
7 yes, in addition to a multistage.

8 Q. Okay. So just to -- just to clarify,
9 the disclosure of Dateki is not limited to only
10 multistage TPC; is that correct?

11 A. That is correct.

12 Q. Okay. Let's go to -- so I'm going to
13 be asking questions about Figure 6 now, the one
14 that -- the one we were kind of touching on
15 earlier. And let's look at Dateki column 7,
16 lines 44 through 46.

17 A. Okay.

18 Q. And so that's -- that portion reads,
19 Figure 6 is a diagram illustrating a transmission
20 power control operation according to a second
21 embodiment of the present invention.

22 Is that correct?

1 A. That's what it says, yes.

2 Q. Okay. And that passage does not
3 indicate that Figure 6 is limited to multistage
4 TPC, does it?

5 A. It does not indicate that.

6 Q. Okay. And let's go to column 11,
7 line 65. I'm sorry, line 66. Excuse me. And
8 that's in the body of the disclosure.

9 It reads, Figure 6 is a diagram
10 illustrating a transmission power control process
11 according to a second embodiment of the present
12 invention.

13 Do you see that?

14 A. Yes.

15 Q. Okay. And that passage doesn't
16 indicate that Figure 6 is limited to multistage
17 TPC, does it?

18 A. That sentence does not say anything
19 about multistage.

20 Q. And this -- line 66, column 11,
21 that's -- you see that that's the beginning of
22 the description of Figure 6; is that correct?

1 A. Yes.

2 Q. Okay. All right. Let's actually
3 take a look at the figure itself, Figure 6. You
4 may want to rotate it, if you can.

5 A. Yes, I can do that. Well, let me do
6 it and then I'll say I can do it.

7 Q. Okay.

8 A. My controls are -- are not standard
9 because of the opening of the file, so -- I'm
10 just going to turn my head. I don't see a little
11 rotate icon. Let me see if there's a tool here.

12 There isn't, frustratingly enough.
13 Oh, here. No, that's the refresh button for the
14 browser.

15 I can see it fine.

16 Q. Okay.

17 A. I don't need to rotate it.

18 Q. Okay. I'm not going to -- I will
19 have some questions about this figure, but it
20 will most likely be about the annotated version
21 that's in your -- in your dec. The ones I'm
22 asking now are just kind of establishing some

1 stuff.

2 A. Okay.

3 Q. You see Figure 6 depicts two channels
4 labeled F-DPCH and HS-SCCH, correct?

5 A. I do see that, yes.

6 Q. And F-DPCH stands for fractional
7 dedicated physical channel; is that correct?

8 A. My recollection is the F stands for
9 fractionated.

10 Is that right? Do you --

11 Q. Let me see if I read that wrong.

12 A. I might be wrong too.

13 Q. If you scroll down to column 12,
14 line 1 --

15 A. Yeah.

16 Q. -- of Dateki.

17 A. Maybe he used both terms. Okay.
18 Fractional is correct, okay. I may have been
19 thinking of a different document, but fractional
20 is fine.

21 Q. Okay. And Dateki -- we'll just stay
22 in column 12. Dateki states that the HS-SCCH is

1 a shared control physical channel; is that right?
2 That would be column 12, line 4.

3 A. Yes, I see that. That's correct.

4 Q. Okay. Does the acronym HS-SCCH stand
5 for high-speed shared control channel?

6 A. I believe so.

7 Q. Okay. And that was just out of
8 curiosity, because shared control physical
9 channel doesn't appear to follow from the
10 acronym.

11 A. Yes, I agree the acronyms are not --
12 are not very clear.

13 Q. I understand.

14 All right. Let's take -- let's go
15 down to line 11 of that column 12.

16 A. I have it.

17 Q. Okay. And that -- that passage says,
18 The TPC bit, parentheses, transmission power
19 control information, is transmitted via the
20 F-DPCH and HS-SCCH.

21 Do you see that?

22 A. I see that, yes.

1 Q. So does that sentence mean that the
2 transmission power control information in
3 Dateki's Figure 6 can be a single bit?

4 A. Well, in that sentence he refers to
5 it as a singular bit, yes.

6 Q. And if it's a single bit, if the
7 transmission power control information is a
8 single bit, that would be single stage TPC,
9 correct?

10 A. In that case it would be, yes.

11 Q. Okay. So based on that sentence in
12 Figure 6 of Dateki, single stage TPC can be used
13 to control the transmission power of the UE; is
14 that correct?

15 A. I -- I believe that is correct to
16 interpret Dateki that single stage can be used,
17 yes.

18 Q. And based on that sentence, single
19 stage TPC can be used on both the F-DPCH and
20 HS-SCCH in Figure 6; is that correct?

21 A. Based on that sentence, that would be
22 a reasonable inference, yes. Obviously I should

1 point out that there are other sentences in the
2 document that refer to other configurations where
3 more than one bit is involved, but that sentence
4 does say what it says.

5 Q. Okay.

6 MR. SMITH: I'm at a stopping point
7 between modules, so this would be a good
8 time for a break.

9 MR. THEISS: Works for me.

10 MR. SMITH: I'd like to get it done
11 in a single break session -- a single
12 session between breaks, so let's go ahead
13 and take -- do you want to do 10 minutes?

14 THE WITNESS: That's fine.

15 MR. SMITH: Okay. We'll be back at
16 10:03.

17 We can go off the record.

18 (Thereupon, a brief recess was
19 taken.)

20 BY MR. SMITH:

21 Q. Dr. Lomp, did you speak to anybody
22 during the break?

1 A. No.

2 Q. Let's turn to paragraph 89 of your
3 declaration and specifically the annotated figure
4 right above it.

5 A. I have it.

6 Q. As you predicted, we would get back
7 to this.

8 A. I'm sure we will.

9 Q. Am I correct that this figure is an
10 annotated version of Figure 6 from Dateki?

11 A. That's correct.

12 Q. And you added these annotations to
13 Figure 6 from Dateki; is that correct?

14 A. Yes.

15 Q. So the annotations don't appear in
16 Dateki, just to be clear?

17 A. That is correct.

18 Q. And is it fair to say this figure
19 shows five channels running across the horizontal
20 axis?

21 A. Yes.

22 Q. Okay. And the first three channels

1 from the top of the figure to the bottom are
2 labeled in the original figure F-DPCH, HS-SCCH
3 and HS-DSCH; is that correct?

4 A. Yes, that's correct.

5 Q. And the last two channels are labeled
6 in the figure Uplink ACK/NACK Transmission and
7 Uplink Pilot Transmission; is that correct?

8 A. Yes.

9 Q. And the added annotations label those
10 last two channels HS-DPCCH and DPCH; is that
11 correct?

12 A. Yes.

13 Q. Okay.

14 A. Excuse me one second.

15 Q. No problem.

16 A. Okay.

17 Q. All right.

18 A. My wife needs my car keys for some
19 reason. I'm scared to even ask why, but I gave
20 them to her.

21 Q. That's totally fine. We're all
22 familiar with that scenario.

1 Okay. At the top of the annotated
2 Figure 6 you have two labels, one label that
3 includes TPCC1 that's in purple and another label
4 that includes the text TPCC2 that's in blue; is
5 that correct?

6 A. That is correct, yes.

7 Q. And you're identifying TPCC1 as a
8 transmission on the F-DPCH with a purple arrow;
9 is that correct?

10 A. That is correct.

11 Q. Okay. And you're identifying -- give
12 me just one second.

13 MR. THEISS: Did Dan freeze?

14 MR. SMITH: No.

15 MR. THEISS: Oh, okay.

16 MR. SMITH: Just looks like it.

17 BY MR. SMITH:

18 Q. Could I actually have you turn to
19 paragraph 95.

20 A. Of course.

21 Q. And above -- go ahead. Sorry.

22 A. I have it.

1 Q. Okay. And above paragraph 95 is
2 another annotated Figure 6 from Dateki; is that
3 correct?

4 A. That is correct.

5 Q. Okay. And all of the -- the
6 annotations and the -- the annotations regarding
7 the channels on the left-hand side, those are the
8 same between the figure in -- above paragraph 95
9 and the one above paragraph 89; is that correct?

10 A. That is correct, yes. But I haven't
11 been able -- I don't see any difference. They're
12 supposed to be the same, so yes.

13 Q. Okay. So you are identifying -- in
14 this figure you're identifying TPCC1 as a
15 transmission on the F-DPCH with a purple arrow,
16 correct?

17 A. As before, yes, that's correct.

18 Q. Okay. And you're identifying two
19 transmissions on the HS-SCCH as TPCC2 with blue
20 arrows; is that correct?

21 A. Yes.

22 Q. Does Dateki specifically identify

1 those two transmissions that you're identifying
2 with blue arrows on the HS-SCCH as TPCC2?

3 A. I don't know that he uses the
4 notation TC -- TPCC2. I don't think he does. I
5 would have to go back to the text and check that.
6 I think that's what -- notations that we use to
7 distinguish between the two.

8 Q. Okay. So let's -- let's discuss --
9 let's go to Dateki column 13. And I'm going to
10 be discussing the paragraph that begins at
11 line 50. That would be column 13, lines 50
12 through 62. And I'm not going to read them --

13 A. Okay.

14 Q. -- in whole this time.

15 You -- go ahead.

16 A. No, I'm -- I'm scanning the text
17 myself right now, but I do see it, yes.

18 Q. Okay. Actually, if you want to
19 just -- if you want to just scan that text and
20 let me know when you're done, lines 50 through
21 62.

22 A. Yeah, that does go to my previous

1 statements, which I misspoke. So he does use
2 that CC1 and CC2, as we have annotated the
3 figure, so just to clarify that point.

4 I don't have the ability to search
5 the document in the presentation that I have on
6 my screen, so I couldn't check that so quickly,
7 but --

8 Q. I understand.

9 A. Okay. So I'm reading that paragraph.

10 Q. Okay.

11 A. Okay. I've read it.

12 Q. Okay. Does that paragraph
13 specifically say that the transmissions, the two
14 transmissions on the HS-SCCH annotated in the
15 figure above paragraph 95 in your declaration --
16 does that paragraph say that those two
17 transmissions are TPCC2?

18 A. I want to say yes. I'm trying to
19 make sure I didn't miss any -- any nuances in
20 your question, but I think you're asking a very
21 straightforward question. The paragraph, I
22 believe, does correlate with the figure above --

1 that we were just looking at above paragraph 95.
2 And the TPCC2 transmissions are, indeed, the ones
3 on the second line in the figure, which is the
4 HS-SCCH.

5 Q. So does TPCC2 refer to all of the
6 transmissions shown on the HS-SCCH?

7 A. I'm not sure I understand that
8 question. I think all of the transmissions -- if
9 I may just refer back to the figure for a
10 second --

11 Q. Absolutely.

12 A. All of the -- yeah.

13 All of the -- all of the
14 transmissions on line 2, in my understanding, are
15 TPCC2-type transmissions. It may be a little
16 different wording than your wording. I'm not
17 sure if there is a difference, but ...

18 Q. Okay. In that paragraph that starts
19 at column 13, line 50 in Dateki, do you see that
20 it begins with the words, In another embodiment?

21 A. Yes, I do.

22 Q. Does that mean an embodiment other

1 than the one pictured in Figure 6?

2 A. I don't think so. Let me try to
3 figure out how I would answer or know that.

4 It looks like this is a continuation
5 of the description of Figure 6 that begins on the
6 previous page, column 11, bottom. And, let's
7 see, I think it's still pertaining to Figure 6.

8 Q. Would you agree that what -- that
9 based on the language, In another embodiment,
10 that passage is describing just one example of
11 how Figure 6 could work or how the interaction in
12 Figure 6 could take place?

13 A. It's -- yeah, I believe it provides
14 an example. I think that's what an embodiment
15 is, an example.

16 So just to, sort of, create a little
17 context here, looking at the column, including
18 some of the paragraphs above, on line 25 of
19 column 13 there's a reference to a preferred
20 embodiment and then there is -- let's see -- what
21 does that one do -- predetermined number of pilot
22 signals of a predetermined length are

1 transmitted --

2 (Reporter clarification.)

3 THE WITNESS: I was just reading
4 out loud. I didn't mean for that to be on
5 the record. Sorry.

6 I'll just refer to the embodiment.

7 So on line 25 there's a preferred
8 embodiment. It seems that on line 50
9 there's a modification of the embodiment
10 wherein the TPCC2 transmitted via HS-SCCH
11 may be arranged to represent different
12 transmission power control levels. In
13 such a case, the second transmission power
14 control information, DPCC2, is arranged to
15 be greater than the first transmission
16 power control information, TPCC1. Then
17 there's a mathematical inequality in
18 parentheses following that.

19 But I think that's the distinction
20 of this another embodiment that is being
21 referred to, which could be a variation on
22 the preferred embodiment referred to

1 above, as I read it.

2 BY MR. SMITH:

3 Q. Okay. And the next paragraph
4 begins -- it refers to the illustrated example of
5 Figure 6. That's at line 63.

6 Do you see that?

7 A. Yes, I do.

8 Q. And so would you agree that the
9 illustrated -- when it says the illustrated
10 example of Figure 6, it's talking about what's
11 shown in Figure 6; is that correct?

12 A. Yes.

13 Q. Okay. And let's look at the
14 paragraph that starts at column 13, line 63.

15 And specifically there's a portion --
16 I'll go ahead and read it -- starting at line 63.
17 It says, the leftmost TC -- strike that.

18 It says, the leftmost TPC bit in the
19 HS-SCCH is generated based on the most recently
20 received pilot signal before this TPC bit,
21 parentheses, i.e., the second pilot signal from
22 the left in Figure 6.

1 Do you see that?

2 A. I do.

3 Q. And when -- when it says -- when
4 Dateki in that sentence says the leftmost TPC bit
5 in the HS-SCCH, it's referring to the first
6 portion of the HS-SCCH that you're labeling as
7 TPCC2 in the annotated Figure 6 above
8 paragraph 95; is that correct?

9 A. Yes, that is correct.

10 Q. And that portion of Dateki is
11 referring to the TPC portion of that transmission
12 as a single bit; is that correct?

13 A. The TPC bit in line 64, column 13 is
14 singular, yes. Yes, it is singular in that
15 sentence.

16 Q. So it's possible that the HS-SCCH
17 transmissions, specifically the TPC portions of
18 those transmissions, could be single bits in
19 Figure 6; is that correct?

20 A. Yes, it is possible.

21 Q. And that would mean that those are
22 single stage TPC commands; is that correct?

1 A. If they were single bit, then they
2 would be what we agreed were single stage, yes.

3 Q. Still looking at Figure 6 above
4 paragraph 95 --

5 A. Okay.

6 Q. -- let's discuss the red arrows and
7 the boxes at the bottom of that annotated figure.
8 And specifically I'm talking about the red arrows
9 that are originating at the bottom of the second
10 HS-SCCH transmission that you've labeled TPCC2.

11 Do you see those?

12 A. I do see those, yes.

13 Q. Okay. And what are the red arrows
14 and the boxes at the bottom of that figure.
15 Specifically the red arrows originating from that
16 TPCC2 transmission, what do those red arrows and
17 boxes represent?

18 A. They represent the response to the
19 TPCC2 from which they originate as transmitted
20 power levels of the three -- in this case three
21 exemplary ACK/NACK -- well, two ACK/NACKs and
22 three pilots, which power levels are varying, in

1 accordance with the other sentence in Dateki,
2 wherein plural bits are used as opposed to the
3 singular in the sentence we were just talking
4 about.

5 Q. Do the boxes and the arrows
6 originating from the TPCC2 transmission, does
7 each box represent an adjustment to the power
8 level?

9 A. Each box reflects an adjustment to
10 the power level at what we might, to use our
11 parlance, call three successive stages. I think
12 that's what is indicated here.

13 Q. Okay. And am I correct that the
14 first two of those adjustments increase the power
15 level?

16 A. It appears that that is -- well, yes.
17 The first red box is bigger than the yellow box
18 preceding it and then the second red box is also
19 bigger. So two increases are -- are evident
20 here, yes.

21 Q. Okay. And then the third box
22 indicates a decrease in the transmit power level?

1 A. In -- in this picture, yes.

2 Q. And you, in fact, have those labeled
3 at the bottom of the figure as first stage,
4 second stage and third stage; is that correct?

5 A. That is correct, yes.

6 Q. Is the -- so just to be clear, that
7 TPCC2 transmission includes -- or your contention
8 is that that TPCC2 transmission includes two
9 increases and one decrease in the transmit power
10 level; is that correct?

11 A. That's how I interpret the -- the
12 figure as Dateki has drawn it, yes.

13 Q. Is two increases and one decrease in
14 the power level equivalent to a single increase
15 in the power level?

16 A. No, it's not equivalent.

17 Q. And why is it not equivalent?

18 A. Well, a single increase in the power
19 level would result in three transmissions of
20 equal increased power, unlike what is depicted in
21 the figure; hence, the effect would be different.

22 Q. Does an increase in the power level

1 followed by a decrease in the power level result
2 in the power level being the same as it was
3 before those two adjustments took place?

4 A. It depends on the propagation
5 dynamics. There's a time gap in between those
6 events, so the power level -- at the transmitter,
7 if it were increased by two and decreased by one
8 would have a power level that is the same as an
9 increase by one, but at a -- at a different time
10 distribution. But, yes, the level would be the
11 same, hypothetically, in that case.

12 At the receive level -- I should
13 elaborate a little further. The receive level
14 might not be the same because conditions may be
15 changing in between the transmissions.

16 Q. And each of the adjustments is the
17 same size, correct?

18 A. I would not infer that to be a firm
19 rule based on simply the graphic here. They may
20 look to be the same size. They do look to be the
21 same size. In other words, the difference
22 between three and two, the red -- well, the

1 second and first red rectangle seems to be the
2 same difference as between the second and third
3 in the opposite direction.

4 But I wouldn't infer that that's an
5 algorithmic certainty or rule.

6 Q. Is it your understanding -- strike
7 that.

8 Is it your understanding that
9 adjustments to the transmit power level by TPC
10 occur in fixed increments?

11 A. I don't really have an understanding
12 specifically of that because I don't believe --
13 again, I'm going by memory here without referring
14 to Dateki as I'm sitting here, but I don't
15 believe there's a specification of the
16 increments.

17 The -- the important thing, from my
18 understanding here, is that there's a -- as
19 paragraph 96 starts to explain, plural bits are
20 sent, let's say, from that second TPCC2. And the
21 plural bits can indicate many different patterns
22 of increase and decrease.

1 So, you know, one thing that comes to
2 mind is that there is a two-step increase
3 followed by a back-off. You know, what patterns
4 are available from the -- in -- in the system is
5 probably a design choice, which is not specified
6 in the spec of the patent, but it could be a wide
7 range of patterns of increase and decrease or
8 adjustment over multiple stages that are signaled
9 by using plural bits.

10 And so I wouldn't read anything more
11 into it than that there can be various patterns
12 over multiple stages.

13 Q. Does Dateki say anything about
14 patterns that those plural bits would indicate?

15 A. I don't know what word he uses.
16 Let's see. I don't -- you want me to find his
17 passage on that subject?

18 Q. Sure.

19 A. I can do that. Yeah, I don't
20 remember where it is. And, again, I don't have
21 searchability.

22 Q. If you hit control F, it might -- if

1 you try hitting control F, it might do that.

2 A. Oh, thank you so much.

3 Q. There we go.

4 A. It appeared.

5 Okay. So I found one thing that I
6 was looking for. I'm just going to -- just give
7 me a minute, please. I want to just find the
8 instances.

9 Q. No problem.

10 A. Okay. So I believe the relevant
11 language is in column 9.

12 Q. Okay.

13 A. And, in particular, I guess it would
14 be line 42 -- 40, which says, As is described
15 below, TPCC may be arranged to conduct
16 transmission power control in plural stages.

17 It doesn't use the word "pattern,"
18 but it says that there can be multiple
19 adjustments. It doesn't use the word
20 "adjustments," but I infer the word "adjustments"
21 is meant there.

22 Q. I'm sorry. Which portion did you

1 say?

2 A. I'm talking about column 9, line 40.

3 Q. Okay. Gotcha.

4 And those plural adjustments could be
5 in fixed increments; is that correct?

6 A. Yeah, I think the specification is
7 silent as to whether they're fixed increments or
8 variable increments. But, yes, it could be fixed
9 or variable.

10 When you have plural bits, obviously
11 you have many, many degrees of freedom that could
12 be signaled, depending on how much bandwidth you
13 want to use to do that signaling.

14 Q. And by specification, you mean
15 Dateki's specification, correct?

16 A. Yes, sir. Yeah.

17 Q. All right. So your contention in
18 your declaration is that the UE does not use the
19 TPC command labeled as TPCC1 to adjust the
20 transmit power; is that correct?

21 A. It does not use TPCC1 to adjust power
22 when there is transmission of data and -- and

1 TPCC2. That is my contention, yes.

2 Q. So your contention is that
3 effectively, T -- effectively, the UE ignores
4 TPCC1 in Figure 6 of Dateki?

5 A. Yes, in the -- in the times -- in the
6 vertical strip of time in which there is activity
7 on HS-SCCH and HS-DSCH, as indicated in the
8 figure.

9 Q. Does Dateki explicitly say that TPCC1
10 is not used or ignored by the UE?

11 A. He doesn't say that it is ignored,
12 but it's implied by the rest of his discussion
13 about the -- first of all, the timing of TPCC1
14 and -- which results in this communication burst
15 occurring between TPCC1 transmissions by the base
16 station as one -- as one point. And also he goes
17 to great lengths to explain why TPCC2 is used,
18 which is that it's more accurate and more --
19 enables more -- I'm paraphrasing -- more rapid
20 and accurate adjustments.

21 Therefore, one would -- a POSITA
22 would understand that is intended to use TPCC2.

1 Q. Is it possible that it uses both?

2 (No audible response.)

3 MR. SMITH: Let's go off the
4 record.

5 (Thereupon, a discussion was had off
6 the record.)

7 (Thereupon, a brief recess was
8 taken.)

9 THE WITNESS: So it's physically
10 and theoretically possible to use both,
11 but it wouldn't make sense to use both,
12 because it would be a waste of power and
13 resources to send redundant signals where
14 one is notably less reliable than the
15 other. Why not just use the more reliable
16 one?

17 And as in sort of a theoretical
18 signal processing concept, it would be
19 more efficient to take the power from
20 TCPP1 and add it and use it for TCPP2,
21 rather than to send both of them.

22 So I would say that a POSITA would

1 not go down that path of inference or --
2 or implementation. But one could. I
3 mean, it's always possible to do
4 something, you know, that is not ideal or
5 optimum. So it certainly is possible. I
6 couldn't swear that it's impossible.

7 BY MR. SMITH:

8 Q. So is it your contention that the
9 base station does not send TPCC1 in that case?

10 A. In this system it's important --
11 that's a great question. Thank you.

12 It's a very important part of the
13 system that it uses both time and code division
14 multiple access and that TPCC1 could well be
15 transmitted and meant for another UE in that time
16 interval if that were scheduled that way. It's
17 possible.

18 It's also possible that the base
19 station does transmit it and it is ignored, which
20 would be wasteful of power. As I said, it is
21 possible. Base stations have a lot more power
22 than UEs, so there may not be as much of a

1 concern.

2 But the UE, if it was to try to
3 receive TPCC1 and 2 redundantly, would have to
4 use more processing power in the UE to demodulate
5 both of them, which would be unlikely during an
6 interval in which there was a packet being -- a
7 data packet being transmitted, as illustrated in
8 Figure 6.

9 The resources in the UE would be
10 devoted to processing that data packet and the
11 ancillary control information associated with the
12 power control and would not -- would, for that
13 reason, prefer to ignore TCPP1, although again,
14 it would not be impossible for it to look at both
15 if they were both present.

16 Q. So in your last answer -- I'm going
17 to take -- take that -- take it in parts -- you
18 said that TPCC1 could well be transmitted and
19 meant for another UE in that time interval if
20 that were scheduled that way.

21 A. That's right.

22 Q. What did you mean by that?

1 A. Well, the TPCC1 signals are scheduled
2 or timed to be transmitted periodically. And
3 there are intended recipients. And it is -- it
4 is possible to distinguish the recipients using
5 different codes.

6 I think Dateki uses the term
7 "diffusion codes," but, you know, spreading
8 codes, CDMA codes. I think we all know what
9 codes are at this point in the -- in technology.

10 So that's -- that's why the fact that
11 TPCC1 pictorially and temporally overlaps the
12 packet transmission in Figure 6, because it could
13 very well be meant for another UE using a
14 different code.

15 Q. Could you go look at the version of
16 Figure 6 in Dateki.

17 A. Sure.

18 Got it.

19 Q. And do you see at the top there are
20 three boxes? One is labeled Self-Addressed TPCC.
21 Another one is labeled TPCC Addressed to Other
22 Station. And then the last one is labeled Slot.

1 A. Yes.

2 Q. Do you see the -- the box that's
3 labeled Self-Addressed TPCC has, like, diagonal
4 hashing in it?

5 A. Yes.

6 Q. And that -- so do you understand that
7 to be a legend indicating how the different boxes
8 in the figure below, what they represent?

9 A. Yes.

10 Q. And that legend doesn't appear in the
11 annotated figure above paragraph 95 in your
12 declaration; is that correct?

13 A. I -- that is correct, yes.

14 Q. Okay. The transmission labeled TPCC1
15 in the annotated figure in your declaration, does
16 it have diagonal hashing in it?

17 A. Yes.

18 Q. And based on the legend, that
19 indicates that it is self-addressed TPCC,
20 correct?

21 A. Yes.

22 Q. And that it's not also looking at the

1 legend that -- it is not TPCC addressed to other
2 station; is that correct?

3 A. According to the legend, that's
4 correct, yes.

5 Q. So looking back at the annotated
6 figure above paragraph 95, what you're labeling
7 as TPCC1 is addressed to the UE in question,
8 correct?

9 A. I believe so, yes. In fact, the
10 entire sequence proceeds along the top even
11 further to the right and -- which makes sense,
12 because if TPCC1 -- if the UE remains connected,
13 which we could assume safely, after the packet
14 transmission, it will then return to TCPP1 power
15 control, which is what I would understand from
16 the figure with the annotations -- with the
17 legend that you mentioned.

18 But that's still -- my contention is
19 still that the power control itself is being
20 effectuated by TCPP2 during that one overlapping
21 period of time.

22 Q. But you would agree that TPCC1 is

1 meant for the UE in question and that it's not
2 meant for another UE, correct?

3 A. Well, it would be suggested by the
4 legend that it was the same UE. I think that's a
5 fair guess, yes, or -- or inference, addressed to
6 the same UE.

7 Q. How is it a guess if it's -- if the
8 legend indicates it?

9 A. Yeah. No, I think it's -- it's a
10 continuation of the transmission to be resumed so
11 that it's present when the UE resumes the power
12 control under TPCC1. That's -- that would make
13 sense to me, yes.

14 Q. So if that's the case, would the UE
15 apply the adjustment in TPCC1, once it resumes --
16 once it resumes processing power control
17 information from F -- the F-DPCH?

18 A. Yes, exactly. After it ceases being
19 controlled by TCPP2 [sic] it would refer back to
20 TCPP1 [sic].

21 Q. So in that case, it would adjust the
22 power level based on what you've labeled as

1 TPCC1, correct?

2 A. Yes. I would expect that to be the
3 case, yes.

4 MR. SMITH: All right. We've been
5 going for about an hour. Let's take -- do
6 you want to take a break?

7 THE WITNESS: Okay.

8 MR. SMITH: Does that work?

9 MR. THEISS: Works for me.

10 (Thereupon, a brief recess was
11 taken.)

12 BY MR. SMITH:

13 Q. Dr. Lomp, did you speak to anybody
14 during the break?

15 A. I did not. If --

16 Q. Go ahead.

17 A. Are we going to continue? I was just
18 going to ask if we're still continuing the same
19 vein or switching. But I did want to, if
20 possible or if you would permit, elaborate on one
21 thing regarding the CDMA aspect that I answered
22 about.

1 Q. The CDMA aspect? Which aspect are
2 you referring to?

3 A. The fact that the system uses codes
4 and time.

5 Q. Okay. Yeah, go ahead.

6 Let me see if I can pose a question
7 for you to answer there.

8 A. Sure.

9 Q. Dr. Lomp, would you like to elaborate
10 on that aspect?

11 A. Thank you, yes.

12 I did refer to the use of the codes
13 to -- wherein the signals can be steered or
14 directed to different UEs. It's also common
15 practice to use different codes for a single UE
16 to separate different kinds of channels. And I
17 think that this is -- it's an important point
18 that needs to be kept in mind, so that the F --
19 let me clear this window here.

20 The F-DPCH, for example, would be, in
21 my understanding, carried on a different CDMA
22 code than the HS-SCCH, for example, so that

1 the -- again, the F -- TPCC1 on the F-DPCH, if it
2 did, in fact, continue to be transmitted, which
3 it does appear to be, it would be on another code
4 most likely, not -- not swearing that this has to
5 be true, but it certainly would be likely, and so
6 that the UE would be listening to a code matched
7 to the HS-SCCH and the HS-DSCH during that
8 signaling interval where there's traffic and not
9 to the other F-DPCH code.

10 So not only would it be ignoring that
11 TPCC1, it wouldn't even see it because it would
12 be -- again, it would just be, like, noise in the
13 background, as in the CDMA system.

14 So I don't know -- I don't know if
15 that's clear. It's not just the CDMA codes
16 separate UEs, they also separate signals that are
17 going to one UE. And that's just a piece I
18 wanted to add so that my answer was complete.

19 And I'll just interject one other
20 thing. The typo that I mentioned at the
21 beginning of the deposition appears on this page
22 as well, where it says orange arrow and orange

1 box and purple font. That's what I was referring
2 to.

3 I'm sure that's of much less
4 interest, but I'll just point that out. Thank
5 you for allowing me to clarify.

6 Q. Sure.

7 When you say orange arrow and purple
8 font, you're talking about paragraph 95?

9 A. Yes. I had mentioned at the
10 beginning that I had found a typo and that's it.
11 I just wanted to circle back to that since it's
12 right in front of me.

13 Q. Okay. All right.

14 A. I think that should say yellow arrow.

15 Q. Okay.

16 A. It doesn't affect our conversation.

17 Q. Gotcha.

18 So with your last answer, are you
19 saying that the -- strike that.

20 So, actually, let's discuss TPCC1,
21 specifically the transmission in F-DPCH labeled
22 as TPCC1 in the figure above paragraph 95 of your

1 declaration.

2 A. Right.

3 Q. So that -- so your contention is that
4 TPCC1 is ignored by the UE when it's received; is
5 that correct?

6 A. Well, yes. I'm sorry for cutting you
7 short.

8 Yes, I believe it would either be
9 ignored or -- or, more accurately, considering
10 this is a -- a time division, code division
11 system, there are many ways of describing that,
12 but it uses both forms of -- of bandwidth
13 separation or channelization, and different codes
14 correspond to different physical channels.

15 So, I mean, I can fast-forward right
16 to the claim language that's relevant here.
17 It's -- if the TPCC1 is transmitted on code 1 and
18 TPCC2 or other information, such as other control
19 information, for example, is transmitted on
20 code 2 using HS-SCCH, as the figure shows it on
21 the second line, if there -- the fact that
22 they're on separate codes is significant because

1 that means that the -- there is no sharing of a
2 time slot when they're on different codes. They
3 would have to be on the same code in order to
4 share the time slot.

5 And I think that's the distinction
6 that ultimately we're talking about here.

7 Q. They would have -- you said it would
8 have to be on the same code to share a time slot?

9 A. Yes. In other words, two time slots
10 that are on different codes are not sharing
11 anything. The -- the -- they're orthogonal,
12 basically. One of them appears as either
13 noise -- depending on the kind of CDMA code
14 that's being used, it will either appear as
15 background noise and, hence, would be ignored; or
16 it would be orthogonal, meaning that it would
17 have zero output in the UE that's listening to
18 code 2.

19 So it would be impossible to -- to
20 share the time slot in the sense of having, you
21 know, two different kinds of information being
22 sent from point A to point B. That wouldn't be

1 possible if they're on different codes.

2 I guess I'll just add as a -- as a
3 further reference, this type of arrangement is --
4 is called a multicode CDMA system, which is
5 exactly that. Multiple codes are assigned to a
6 UE and the different codes correspond to
7 different kinds of channels.

8 In the very beginning of CDMA, each
9 user had their own code and that was a one-to-one
10 mapping. But later systems had multiple codes
11 assigned to users for different channels. And
12 that's the point that crossed my mind during the
13 break that I wanted to clarify.

14 Q. So you're saying that -- strike that.

15 You're saying that two transmissions
16 that have different codes that occur at the same
17 time don't share a time slot?

18 A. Yes, that's -- that's -- in a
19 nutshell, yes.

20 Q. Are you also saying that each channel
21 in Figure 6 is assigned to a particular code or
22 is denoted by a particular code?

1 A. That would be the way I would imagine
2 it or interpret it being organized, yes; although
3 it's not mandatory, because I don't think Dateki
4 says that that's mandatory. But he does describe
5 the system as a CDMA system. He does have
6 diagrams showing diffusion codes.

7 As a matter of fact, if we look at
8 that diagram, we might get an even more
9 definitive answer to the question, where -- which
10 shows that these different channels are on
11 different codes.

12 So -- so that is my understanding.
13 And I do believe he has support for that in his
14 figures, as well as possibly the text.

15 Q. So if -- if these channels are on
16 different codes and transmissions are taking
17 place at the same time on those channels, only
18 one of them will get through to the UE?

19 A. That is correct.

20 Q. Which one?

21 A. That is correct.

22 Q. How does --

1 A. The one --

2 Q. How do you determine which one gets
3 through?

4 A. The UE would -- would switch the code
5 to receive the channel of interest. So there
6 is -- not all the signaling that goes on in the
7 system is shown in Figure 6, obviously. But
8 certainly there is coordination between the base
9 station and the UE to know when a packet
10 transmission is going to occur.

11 There are numerous ways of -- of
12 signaling that. And so, yes, the UE would then
13 change the code that it was -- there are various
14 words that are used that I don't want to start
15 introducing new terminology, but despreads or
16 correlating different codes -- the UE would pick
17 the code for the channel that it wants to
18 demodulate and then the other ones would, as you
19 said, not come through.

20 Q. Let's look at the '889 real quick.

21 A. Oh, okay.

22 Q. That's Exhibit 1001.

1 A. Yeah.

2 (Thereupon, Exhibit 1001,
3 previously marked, was referred to.)

4 THE WITNESS: I got it.

5 BY MR. SMITH:

6 Q. Okay. And looking at the -- the
7 limitation, it's the fourth one down, the
8 receiver and the processor are configured to
9 receive a control message over a physical control
10 channel in a first time slot, wherein the first
11 time slot also includes a downlink shared
12 channel.

13 Do you see that?

14 A. I -- I did see it. My screen just
15 went white. I'm back to this situation. It's no
16 longer displaying. I'm going to have to open it
17 again. Sorry. Where is it? Open in new tab.

18 Okay. Sorry. I have the '889 again.
19 Can you please redirect me?

20 Q. Sure. So you've got Exhibit 1001
21 open?

22 A. Yes.

1 Q. Okay. Column 10.

2 A. Okay.

3 Q. And this is looking at claim 1.

4 A. Oh, okay.

5 Q. And do you see the limitation that
6 starts with the receiver?

7 A. Yes.

8 Q. Okay. I'm just going to read that --
9 first part of that real quick.

10 The receiver and the processor are
11 configured to receive a control message over a
12 physical control channel in a first time slot,
13 wherein the first time slot also includes a
14 downlink shared channel.

15 Do you see that?

16 A. Yes.

17 Q. So -- and you're saying in CDMA the
18 different channels are assigned different codes?

19 A. Yes.

20 Q. And if -- if two channels are on
21 different codes and they transmit at the same
22 time, you would say that they're not sharing a

1 time slot?

2 A. Yes, I would. They're not sharing a
3 time slot. The time slot is a logical unit of
4 transmission resources and it's defined by the
5 time and the code. If it weren't for the code,
6 then they would obviously be the same. But it's
7 a two-dimensional partition that we're talking
8 about in this kind of a system.

9 Q. So in CDMA, how could a physical
10 control channel and a downlink control channel be
11 included in the first time slot, as recited in
12 claim 1?

13 A. Well, if we look at the Figure 6, the
14 famous Figure 6 -- here we go.

15 Q. The one in the patent or the one in
16 your declaration above paragraph 95?

17 A. The one in the declaration is -- is
18 fine.

19 Q. Okay.

20 A. The -- yeah. I mean, the -- the --
21 it depends on the way the CDMA codes are
22 arranged. But the CDMA codes that are arranged

1 on the -- let's see now.

2 The codes that are -- the traffic
3 control channel and the traffic channel are
4 received at the same time. And, therefore,
5 they're -- when they're -- since they're being
6 received, they're obviously both getting through,
7 as you said before. They're both going through
8 the CDMA coding process and they're going through
9 it at the same time.

10 So if they're both being received at
11 the same time, then -- then they are sharing the
12 time slot.

13 Q. But you said that if they are -- if
14 the channels are assigned different codes,
15 they -- and they were being -- data was being
16 sent at the same time on those two different
17 codes on the two different channels, that the UE
18 would only receive one of them; is that correct?

19 A. Yeah. They are -- in principle,
20 there could be -- if we look at this diagram as
21 an example, there could be three codes: the
22 F-DPCH code, the HS-SCCH code and the HS-DSCH

1 code. And the UE can listen to all of them
2 simultaneously if it wanted to, but it -- I
3 would -- it would be my opinion that it does not
4 for the reasons I said before, because it takes
5 resources that don't need to be consumed.

6 But it can listen to, and according
7 to the context here, it does listen to, HS-SCCH
8 and DSCH at the same time.

9 Q. Okay. So -- so your contention is
10 that the UE can listen to multiple channels at
11 the same time that are on different codes, so
12 that it listens to the HS-SCCH and the HS-DSCH at
13 the same time, correct?

14 A. It can, yes.

15 Q. But it doesn't listen to the F-DPCH
16 at the same time, correct?

17 A. I would -- I would -- I would say it
18 does not. During -- during the time that it's
19 listening to the traffic channel for the packet,
20 the high-speed packet channel, it does not listen
21 to the F-DPCH.

22 Q. Does Dateki say that it doesn't

1 listen to the F-DPCH during that scenario?

2 A. He does not explicitly say that, no.

3 Q. Okay. Let's turn to Dateki column 14
4 and specifically line 26.

5 Let me know when you're there.

6 A. 26, yes, I have it.

7 Q. And this portion of Dateki is still
8 describing Figure 6, correct?

9 A. I think so, yes.

10 Q. Do you see it references Figure 6 in
11 the paragraph above column 14, line 5?

12 A. Yes.

13 Q. And then in the paragraph below, it
14 also references Figure 6 at line 49?

15 A. I see that.

16 Q. Okay. So it's fair to say that the
17 paragraph column 14, line 26 is also referring to
18 Figure 6?

19 A. Yes.

20 Q. Okay. Let me see.

21 Okay. On line 28, I'm going to read
22 something for you here. This is starting at

1 column 14, line 28 of Dateki:

2 According to the present embodiment,
3 the HS-PDSCH is arranged to prioritize data
4 transmission to a mobile station at which the
5 elapsed time from a transmission timing of the
6 first transmission power control information
7 TPCC1 is not so long. According to such an
8 arrangement, transmission power control may be
9 effectively realized without including
10 transmission power control information in the
11 HS-SCCH.

12 Do you see that?

13 A. Yes.

14 Q. Did I read that correctly?

15 A. Yes.

16 Q. Okay. Is this describing a situation
17 where TPCC1 in Figure 6 would be used by the UE
18 to adjust the transmit power level?

19 A. It seems to me that it's suggesting
20 that the power level that has been established
21 previous to this HS-PDSCH transmission is still
22 valid. So it's being controlled by a previous

1 TPCC1.

2 And I think this paragraph is saying
3 that it would not even -- it would not then be
4 necessary to send the PC -- I'm sorry -- TPCC2
5 seems to be what this is suggesting.

6 And it's informed -- the
7 interpretation is also informed by the fact that
8 he wants to specify that the elapsed -- what word
9 does he use here -- elapsed time is not too long,
10 meaning that the previous TPCC1 is still usable.

11 I have a cleaning service vacuuming
12 outside my door. Hopefully they'll be done in a
13 few seconds here.

14 Q. We can't hear it, actually.

15 A. Okay. Good.

16 Q. In your previous answer, what did you
17 mean by the TPCC1 being still usable?

18 A. Meaning that the elapsed time since
19 the last TCPP1, which was presumably acted upon,
20 registered by the UE, is short, maybe a few
21 milliseconds, and, based on the adjustments that
22 the UE had made, might be -- the power level

1 would be still adequate to -- for the UE to send
2 the ACK/NACK and pilot signals that it was going
3 to send and not have to send the TC -- sorry --
4 TPCC2.

5 Q. But it would adjust the power based
6 on the TPCC1, correct?

7 A. It would have already adjusted the
8 power based on the TCPP1 from a different time
9 interval, previous time interval.

10 Q. And you said that previous time
11 interval would have to be short, correct?

12 A. Well, I'm just reading what Dateki
13 says, that, yes -- what are his -- again, his
14 terminology is not too long. He says as the time
15 interval -- elapsed time is not too long.

16 And I interpret that to mean that the
17 power control -- the power level that the UE is
18 at is not stale, if you follow my metaphor. It's
19 still freshly adjusted.

20 Q. So if the TPCC1 was -- was received
21 and the adjustment made immediately before that
22 point, it would -- that would be an instance

1 where the previous time interval would not be too
2 long?

3 A. Yes, I suppose. To be honest, I'm
4 not sure what Dateki is really trying to say
5 here, other than to be complete in all possible
6 scenarios. I don't know what he's teaching here
7 exactly, but ...

8 Q. Help me understand the statement in
9 that passage that I read where Dateki says that
10 transmission power control may be effectively
11 realized without including transmission power
12 control information in the HS-SCCH.

13 A. You're asking me how I understand it?

14 Q. Yes.

15 A. Yeah, okay. I don't fully understand
16 it because that is not what's depicted in
17 Figure 6, which we agreed, you know, is still
18 under discussion here. So it would seem to me
19 that it would mean that in Figure 6, you would
20 eliminate at least some of the HS-SCCH that
21 appears there.

22 Again, it seems like he's gone on a

1 tangent here to capture possible scenarios that
2 are valid, I suppose, but I don't know that it's
3 really teaching anything useful.

4 Q. By eliminating those -- go ahead.
5 I'm sorry.

6 A. Well, I was going to elaborate a
7 little further.

8 In order for the system to work
9 efficiently, the UE would need to know, well, am
10 I going to receive a data packet, you know,
11 accompanied by TPCC2 or am I going to be expected
12 to operate without TPCC2.

13 So, I mean, if both of those
14 possibilities exist in the system, either you
15 design the system to signal which possibility is
16 in play or you make an assumption and you default
17 to one kind of behavior or the other.

18 It seems cumbersome to make this
19 exception here, unless there's a real deficiency
20 issue, in which case I don't think he's doing a
21 great job of elaborating that point.

22 But, you know, I do understand what

1 he's saying. If power control level is -- the
2 power level is still good, quote/unquote, that I
3 don't have to control it any further, that makes
4 logical sense.

5 But the implications for a system
6 design are that you have to now signal this --
7 the distinction between these two scenarios so
8 that the UE knows what to do, which makes more
9 overhead.

10 That's why I find it unintuitive.
11 But that's what it means. I think that's --
12 that's -- that's how I understand it, is it's, in
13 principle, possible you wouldn't have to use
14 TPCC2.

15 Q. So looking at Figure 6 above
16 paragraph 95 of your declaration, it's your -- so
17 why does the base station send the TPCC1 command
18 if it intends for the UE to ignore it?

19 A. That's a fair question. And my
20 understanding from the teachings overall of -- of
21 this patent is that F-DPCH is a rarefied -- I
22 sometimes refer to it as a keep alive power

1 control that keeps the UEs, you know, roughly
2 adjusted in the ballpark of where they need to be
3 when they are actually going to transmit. But
4 that even -- and even making adjustments when
5 they're not transmitting in this sort of
6 background state.

7 And as periodic, as can be seen in
8 UEs that are in this certain state where they're
9 receiving this, which the patent also defines as
10 a cell active state, the base station sends power
11 control for them.

12 As you can infer from the figure,
13 only one of those TPCC1s would be in a category
14 of being ignored. So if I'm sending them
15 continuously in this -- to -- to the UEs that I
16 want to keep, you know, loosely adjusted near
17 where their transmission powers need to be, I'm
18 just going to keep on sending them, most likely,
19 in my opinion, on another code so that it doesn't
20 interfere with the other traffic.

21 And the UE will be able to access
22 that, you know, almost all the time during short

1 bursts when it's receiving a packet such as
2 Figure 6 depicts. That extra pulse that's
3 ignored is, you know, not worth turning off and
4 turning back on. You know, I'm just going to let
5 it keep running because it's a small amount of
6 additional interference that, in principle, could
7 be erased, but probably makes no measurable
8 difference.

9 And that's how I -- that's my overall
10 interpretation of how the system works. The
11 F-DPCH is a keep alive power control and the more
12 accurate power control is affected by the TPCC2.

13 Q. But Dateki doesn't explicitly say
14 that -- that the F-DPCH is a keep alive, correct?

15 A. Well, he doesn't use that
16 terminology, but, you know, reading the
17 specification as a person of ordinary skill in
18 the art, you know, and trying to figure out, you
19 know, what's going on here, you know, how does
20 the system work, what if I had to build the
21 system, what would I do, you know, all the things
22 that a POSITA would do, that's -- I think a

1 POSITA would understand, especially since the
2 TPCC1 is not as accurate.

3 If it were as accurate, you wouldn't
4 need TPCC2. So you already know that TPCC1 is
5 more of a slow, but -- and rough adjustment, as
6 opposed to a fine adjustment.

7 Q. But Dateki does say that you can --
8 that -- for example, in the paragraph I read
9 previously, Dateki says, quote, transmission
10 power control may be effectively realized without
11 including transmission power control information
12 in the HS-SCCH, correct?

13 A. He does say that. And as I said, it
14 really doesn't make sense in the context of the
15 overall teachings here because it basically says
16 you might not need TPCC2, which I think is
17 logically a true statement, but it's not a very
18 useful statement, nor do I believe he's teaching
19 that you don't need TPCC2. He's just saying you
20 might not have to do it, which causes a POSITA to
21 then ask the question that I raised, well, what
22 am I supposed to do, do I now have to provide

1 signaling to tell me whether I'm going to listen
2 to TP -- or receive TPCC2 or not or do I just
3 default or -- or what.

4 So I -- I find that paragraph to be
5 sort of a red herring, frankly. But,
6 nonetheless, logically his statement -- I don't
7 have a logical problem with the statement. I
8 just have a heutagogical problem with the
9 statement.

10 Q. So did you review Figure 5 of Dateki?

11 A. I'm sure I did. Let me just look at
12 it to refresh my recollection.

13 It looks very similar to Figure 6,
14 but probably has some different verbiage
15 associated with it.

16 Yeah, I see the pilot level being
17 adjusted. Yes, I recall this.

18 Q. Okay. And so you'd agree that
19 Figure 5 and Figure 6 are similar, correct?

20 A. Yes, sir.

21 Q. Okay. The differences being -- the
22 channel names on the -- on the left, that would

1 be one difference, correct?

2 A. Yes.

3 Q. Okay. And would you agree that
4 Figure 5 uses continuous uplink pilot
5 transmissions that occur regardless of downlink
6 transmissions? That would be the -- the bottom
7 channel.

8 A. Yes, that appears to be what the
9 figure is showing. I'm not sure -- I mean, we
10 can go look at what he says Figure 5 is. Maybe
11 it's some kind of prior art or something. I
12 don't remember off the top of my head.

13 But, yes, I do see the continuous
14 pilot.

15 Q. Okay. Just real quick, column 7,
16 line 41, do you see that?

17 A. I'll get there.

18 Okay.

19 Q. You see it says FIG. 5 is a -- oh,
20 sorry. Didn't want to cut you off.

21 A. No, I see the description, yes.

22 Q. It says, FIG. 5 is a diagram

1 illustrating a transmission power control
2 operation --

3 (Reporter clarification.)

4 BY MR. SMITH:

5 Q. You see column 7, line 41 says,
6 FIG. 5 is a diagram illustrating a transmission
7 power control operation according to a first
8 embodiment of the present invention.

9 Do you see that?

10 A. I do see it.

11 Q. So Figure 5 is not showing the prior
12 art; is that correct?

13 A. Correct.

14 Q. Okay. Looking at FIG. 5, do you see
15 there are transmissions on the channel that's
16 labeled CCH that appear to correspond to the
17 transmissions in Figure 6 that you labeled as
18 TPCC2?

19 Do you see that?

20 A. Yes. I see the similarity, yes.

21 Q. And then do you see the -- in the DCH
22 channel there's a transmission there that appears

1 to correspond to the transmission you labeled as
2 TPCC1?

3 A. Yes.

4 Q. And do you see the arrows going down
5 from those transmissions on those two channels to
6 the Uplink Pilot Transmission channel?

7 Do you see that?

8 A. Yes, I do.

9 Q. Okay. And specifically do you see --
10 on the transmission that corresponds to the TPCC1
11 in Figure 6, do you see there's an arrow going
12 down to the Uplink Pilot Transmission channel?

13 A. Yes.

14 Q. Does that arrow indicate that the
15 power adjustment in that TPC command was applied?

16 A. Well, it's a little bit hard to tell
17 because the arrow is occurring before the command
18 was transmitted. So I don't see how, but --
19 right? You see that, right? The arrow that
20 we're talking about precedes the hashed TPCC1
21 transmission that's shown here.

22 I don't know if I could logically say

1 what's controlling that step, but it is possible
2 that that's what may have been meant.

3 If you look at Figure 4, by the way,
4 it also clarifies that these are all on different
5 codes. That's just another illustration of what
6 I was talking about before.

7 But, yes, I do see the arrow. I
8 question the timing, but I do see the arrow.

9 Interestingly, there's a period of
10 time here where that pilot level stays fixed,
11 which would, in my view, suggest that that
12 command is being ignored and the power level
13 doesn't change again until the hashed
14 transmission on the second row is transmitted.
15 And there's even a suitable delay there.

16 So I think this diagram even adds to
17 the understanding that that TPCC1 on the top line
18 is not being effectuated during that interval.

19 Q. So you think the arrow from the
20 command corresponding to TPCC1 pointing down to
21 the Uplink Pilot Transmission indicates that it's
22 being ignored?

1 A. I think it's just an arrow that's
2 part of the repetition pattern of the diagram.
3 But I think that the pilot level not changing
4 indicates it's being ignored because the arrow
5 indicates that --

6 Q. The power level does change at the --
7 at the point with you where the arrow is pointing
8 to, correct?

9 A. That change occurs before that
10 control signal was sent, which is not possible.
11 It can't be responsive to that signal, in other
12 words. And there's no change in the pilot level
13 for several steps -- stages, as you can see,
14 until the hashed transmission on the second row
15 is actually received. And then there's a
16 one-slot delay and the power level drops a little
17 bit.

18 So I think this picture really shows
19 what is controlling that pilot level. It is not
20 the TPCC1, at least not the one we're focused on.

21 Q. So looking at the -- the
22 transmissions corresponding to TPCC2, you see the

1 first one of those has an arrow going down to the
2 uplink pilot transmission?

3 A. Yes.

4 Q. And you see that the -- at the point
5 that the arrow is pointing to, the power level of
6 the uplink pilot transmission drops, right?

7 A. Yes, I do see that.

8 Q. Is that drop because of the
9 transmission corresponding to TPCC2?

10 A. It's really hard to tell for the
11 reason I said before. It would appear to be
12 anticipating the TPCC2. So the diagram is really
13 not clear because it -- again, it could -- the
14 arrow occurs before the TPCC2 could possibly have
15 been received.

16 Q. What else is -- what else could be
17 changing the power level at that point?

18 A. I don't know. It's not clear. It
19 could be part of a program step-down process. I
20 mean, a power level is decreasing. I don't know.
21 The figure does not inform that.

22 MR. SMITH: Okay. We've been going

1 about an hour. Let's take one last break
2 and then I'll finish up after the break.

3 (Thereupon, a brief recess was
4 taken.)

5 BY MR. SMITH:

6 Q. Dr. Lomp, I have no further
7 questions.

8 Thank you for your time this morning.

9 MR. THEISS: It's afternoon.

10 MR. SMITH: Sorry, afternoon.

11 MR. THEISS: We have no redirect.

12 Unless there's anything for you,
13 Dan, or Misty, we can consider this
14 deposition closed.

15 MR. SMITH: I think we're done.

16 Let's go off the record.

17 (Thereupon, signature having not been
18 addressed, at 1:19 p.m. EST, the
19 deposition concluded.)

20

21

22

E X H I B I T S

EXHIBITS PREVIOUSLY MARKED AND REFERRED TO:

NO.:	DESCRIPTION:	PAGE:
Exhibit 1001	U.S. Patent No. 11,664,889	67
Exhibit 1005	U.S. Patent No. 8,072,916	15
Exhibit 2017	Expert Declaration of Dr. Gary Lomp in Support of Patent Owner's Response, dated 10/7/25	9

I N D E X

WITNESS:	EXAMINATION BY:	PAGE:
Gary R. Lomp, Ph.D.	Mr. Smith	3

CERTIFICATE OF NOTARY

I, MISTY KLAPPER, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me in shorthand and thereafter reduced to typewriting by me; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.



Misty Klapper, RMR, CSR, RPR,
RSA and Notary Public

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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