

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD
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5 _____
6
7 TESLA, INC.,
8 Petitioner
9 v.

10 INTELLECTUAL VENTURES II LLC,
11 Patent Owner

12 _____
13 IPR2025-00220
14 U.S. Patent 11,206,670
15 _____

16 Remote Video Deposition of GARY LOMP,
17 PH.D., taken with the witness participating
18 from his residence in the State of New York,
19 beginning at 9:58 a.m., EST, on January 14, 2026,
20 before Ryan K. Black, Registered Professional Reporter,
21 Certified Livenote Reporter and Notary Public in
22 and for the Commonwealth of Pennsylvania.
23
24
25

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I N D E X

TESTIMONY OF: GARY RAYMOND LOMP, PH.D	PAGE
By Mr. Wilkins.....	4

E X H I B I T S

EXHIBIT	DESCRIPTION	PAGE
Exhibit 2010	Dr. Lomp's Declaration in the IPR.....	6
Exhibit 1001	U.S. Patent No. 11,206,670....	10
Exhibit 1006	a document referred to as the Wallen Provisional Abbreviated "Wallen-Prov,".....	19

1 THE REPORTER: We're going on the
2 record at 9:58 a.m.

3 * * *

4 Whereupon --

5 GARY RAYMOND LOMP, PH.D.,
6 called to testify via remote Zoom
7 videoconference, having been first duly sworn or
8 affirmed, was examined and testified as follows:

9 * * *

10 THE REPORTER: Counsel, you may
11 proceed.

12 EXAMINATION

13 BY MR. WILKINS:

14 Q. All right. Dr. Lomp, can you please
15 state your full name for the record?

16 A. My name is Gary Raymond Lomp.

17 Q. Is there any reason why you cannot
18 provide truthful and accurate testimony today?

19 A. No.

20 Q. If you don't understand a question,
21 will you please let me know?

22 A. Yes.

23 Q. Have you ever been deposed before?

24 A. Yes.

25 Q. Do you know about how many times you've

1 been deposed?

2 A. Between 75 and a hundred, I guess, at
3 this point.

4 Q. Okay. So you probably know this
5 process really well. But you understand that
6 everything we say is being recorded by the court
7 reporter, correct?

8 A. Yes.

9 Q. Do you have any of the relevant case
10 materials with you?

11 A. Only the ones that are in the box.

12 Q. Okay. So none of the materials have
13 any -- have your notes on them or anything like
14 that?

15 A. Nope.

16 Q. Do you have any device around you, such
17 as a smartphone or an iPad where -- where you
18 will be communicating with your counsel during
19 the deposition?

20 A. No. But I will silence the phone now
21 that you mentioned it.

22 Yep. Yes. Okay.

23 Q. And you're aware that you're not
24 supposed to be conferring with your counsel
25 during the course of the deposition regarding

1 the substance of your testimony, correct?

2 A. I am aware.

3 (Exhibit No. 2010, Dr. Lomp's
4 Declaration in the IPR, was introduced
5 electronically.)

6 BY MR. WILKINS:

7 Q. So let's introduce the -- an exhibit,
8 Exhibit 2010.

9 Just let me know when you have that
10 open.

11 A. I do.

12 Q. Do you recognize the Exhibit 2010?

13 A. Yes.

14 Q. And what is that exhibit?

15 A. It's my Declaration in this IPR.

16 Q. And you understand that you can refer
17 to your declaration anytime you wish today
18 during the deposition, okay?

19 A. Yes. Thank you.

20 Q. Is there anything you would like to
21 correct in your dep -- in your declaration at
22 this time?

23 A. I haven't noticed anything -- any
24 discrepancies, no.

25 Q. So you've reviewed your declaration,

1 and everything is accurate, correct?

2 A. Yes. I believe so. Mm-hmm.

3 Q. Okay. Great.

4 You're familiar with technology
5 referred to as "LTE," correct?

6 A. Yes, I am.

7 Q. What is "LTE"?

8 A. LTE is an acronym that stands
9 for Long-Term Evolution, which itself
10 is a reference to a standard for wireless
11 communication systems that have been developed
12 over many years.

13 Q. And you're familiar with system
14 information in LTE, correct?

15 A. Yes.

16 Q. Could I direct you to Paragraph 35 of
17 your declaration?

18 A. Yes.

19 Q. Got it.

20 And you refer to SIB-1 in Paragraph 35?

21 A. Yes.

22 Q. And SIB-1 stands for System Information
23 Block 1, correct?

24 A. Yes.

25 Q. So whenever I refer to SIB-1 during the

1 deposition, you understand I'm referring to
2 System Information Block 1, correct?

3 A. Yes.

4 Q. Was SIB-1 known to carry information
5 essential for UAE to connect to the LTE network?

6 A. It is -- it is known to be essential,
7 yes.

8 Q. And I -- and a connection to an LTE
9 network would occur via a base station, correct?

10 A. Yes.

11 Q. And I believe you abbreviated base
12 station as "BS," for example, in Paragraph 35,
13 correct?

14 A. Yes, I did.

15 Q. And you also refer to something called
16 a "cell" in Paragraph 35. What do you mean by
17 "cell"?

18 A. A cell is a geographical area that is
19 served by an antenna connected to a base
20 station.

21 Q. And so connecting to a cell -- when you
22 refer to connecting to a cell in LTE, that's
23 connecting to an LTE network, or relates to
24 connecting to an LTE network, correct?

25 A. If it is an LTE technology serve

1 -- that's serving the area, yes. Mm-hmm.

2 Q. Great.

3 And you referred to MTC devices in
4 Paragraph 35 also, correct?

5 A. That would be on the next page, but I
6 believe it's -- let's see.

7 Yes. I -- I -- that is in that
8 paragraph as well, yes. Mm-hmm.

9 Q. And "MTC" is an abbreviation for
10 Machine-Type Communication, correct?

11 A. Yes.

12 Q. So when I refer to "MTC devices" during
13 this deposition, you understand I'm referring to
14 Machine-Type Communications devices, correct?

15 A. Yes.

16 Q. In Paragraph 35, you referred to
17 Exhibit 1001, which is the patent at issue,
18 correct?

19 A. Yes.

20 Q. And an MTC device is not able to
21 receive the full system bandwidth in LTE,
22 correct?

23 A. In general, yes. Mm-hmm.

24 Q. Would an MTC device need to receive an
25 SIB-1 in order to connect to the network -- to a

1 LTE network?

2 A. They would have to receive something
3 similar to an SIB-1 to connect to the network.

4 (Exhibit No. 1001, U.S. Patent No.
5 11,206,670, was introduced electronically.)?

6 BY MR. WILKINS:

7 Q. Can I ask -- can I refer you to Exhibit
8 1001 and ask you to open that exhibit as well
9 and have it open during the deposition?

10 A. Okay. It's open.

11 Q. Can I refer you to Columns 9 and 10
12 specifically? Column 9 starting with Line 33.

13 A. Okay. I have that.

14 Q. And in this column, this is describing
15 -- or in this paragraph starting at Line 33 of
16 Column 9, it's describing LTE as it existed
17 prior to the '670 patent, correct?

18 A. I believe that's correct, yes.

19 Q. Do you see in Lines 55 and 56 where it
20 refers to, "the remainder of the carrier system
21 information"?

22 A. I see that.

23 Q. Does the -- would this remainder of the
24 carrier system information include SIB-1?

25 A. It could -- yes, it would include

1 SIB-1.

2 Q. And do you see where it refers to, "the
3 full bandwidth of the carrier," in Lines 57 and
4 58?

5 A. Yes.

6 Q. And an MTC device would not be expected
7 to receive the full bandwidth of the carrier in
8 LTE, correct?

9 A. Correct.

10 Q. Would a POSITA understand this passage
11 as implying that an MTC device cannot receive
12 SIB-1?

13 A. I think a POSITA would understand an
14 MTC device could not receive SIB-1 that is the
15 standardized version that is transmitted to the
16 cell phones, because it's too wide of band -- in
17 bandwidth, yes.

18 Q. Could I refer you to Paragraph 48 of
19 your declaration?

20 A. Okay. I have it.

21 Q. Do you where -- do you see where it
22 refers to SIB-1 and it says "Legacy SIB-1"?

23 A. Yes.

24 Q. And it says, "Legacy SIB-1 is prominent
25 because it is transmitted in the core frequency

1 range that can be detected and decoded by all
2 devices on the network, which means 1.4
3 megahertz in LTE." Do you see where it says
4 that?

5 A. Yes, I do.

6 Q. And you see where it says, "Such
7 devices can read SIB-1"?

8 A. Yes.

9 Q. Is this saying that MTC devices can
10 read SIB-1?

11 A. They can read SIB-1, yes. Not the
12 other SIBs, but that one, yes.

13 Q. How does this square with what we just
14 described with respect to the '670 patent where
15 it says, "In order to receive the remainder of
16 the carrier system information, the terminal
17 device is required to be able to receive the
18 full bandwidth of the carrier"?

19 A. Because there's information sent
20 outside of the 1.4 megahertz bandwidth, in
21 addition to the SIB-1.

22 Q. So the SIB-1 is limited to always being
23 transmitted in 1.4 megahertz?

24 A. That's right.

25 Q. Could I refer you back to Paragraph 35?

1 A. Okay.

2 Q. Where you say, the novel MTC devices --
3 at the top of Page 15, "The novel MTC devices
4 had narrower bandwidths and could not receive
5 the SIBs aimed at the wideband mobile
6 terminals."

7 A. I see that.

8 Q. So that -- isn't that saying -- aren't
9 you saying there that MTC devices could not
10 receive SIB-1?

11 A. I don't say "SIB-1." I say "the SIBs"
12 there, in plural, which are to include other
13 SIBs besides SIB-1.

14 Q. Above that in the Paragraph 35, you
15 receive -- you refer to at least two SIBs --
16 SIB-1 and SIB-2.

17 A. Yes.

18 Q. So when you say, "the SIBs," this is
19 not SIB-1 and SIB-2?

20 A. There are other SIBs besides those two.

21 Q. Okay. So your position is that a
22 legacy SIB-1 is always transmitted in 1.4
23 megahertz of bandwidth?

24 A. Yes.

25 Q. In LTE?

1 A. In LTE, yes.

2 Q. Okay. Could I direct you to Paragraph
3 36?

4 A. Okay.

5 Q. And do you see where it refers to
6 "PDCCH"?

7 A. Yes.

8 Q. And PDCCH is an abbreviation for
9 Physical Downlink Control Channel in LTE,
10 correct?

11 A. Yes.

12 Q. Is the PDCCH transmitted over the
13 entire bandwidth of the cell in LTE?

14 A. Yes, it is.

15 Q. So an MTC device would not be able to
16 receive a PDCCH, correct?

17 A. Not the -- not the broadband one, no.
18 Not the standardized one, no.

19 Q. So when I refer to PDCCH, I mean the
20 PDCCH in the LTE as it existed at the time of
21 the '670 patent?

22 A. Correct. Yes.

23 Q. Okay. Could I get you to refer back to
24 Exhibit 1001, which is the '670 patent?

25 A. Okay. I have it.

1 Q. Could we go to Column 2, Lines 15
2 through 19, where it says, "Third- and fourth-
3 generation mobile telecommunications networks,
4 et cetera."

5 A. I see that.

6 Q. And it says, "They typically employ
7 advanced data modulation techniques, which can
8 require more complex and expensive radio
9 transceivers to implement."

10 A. Yes. I see that.

11 Q. Would a POSITA have understood that
12 MTC devices use a more limited set of modulation
13 techniques than the standard LTE device?

14 A. I think that a POSITA would understand
15 that there is an intention or an interest or a
16 benefit to making the MTC devices simpler and,
17 in pursuit of that, that POSITA would expect to
18 be using simplified processing, which would
19 include, or could include, simplified modulation
20 techniques as well, yes.

21 Q. Okay. Could I refer you back to your
22 declaration and Paragraph 43?

23 A. Yes.

24 Q. And do you see where you're referring
25 to MTC devices there in Paragraph 43?

1 A. Yes.

2 Q. Would a POSITA have understood that an
3 MTC device could have included a display?

4 A. I think that a POSITA would understand
5 an MTC device could include any kind of
6 interface that was appropriate for its function.
7 But, generally speaking, the devices would not
8 include a display, because they're power-hungry
9 and not generally necessary, because they're
10 usually not operated by a human being.

11 Q. Could they have included a keypad for
12 user input?

13 A. The same answer applies. It is
14 possible to have a keypad, especially if the
15 device needed to be programmed at the moment
16 that it was deployed. But, generally speaking,
17 there would probably be a simplified version or
18 method of doing that to save the cost, size,
19 power consumption, et cetera, associated with
20 the keypad.

21 So I would expect that to be not
22 present unless absolutely necessary if I was a
23 person of ordinary skill in the art looking at
24 this type of technology.

25 Q. But an MTC device could have an keypad?

1 A. It would be very unlikely, I think.
2 But it's possible, yes. Certainly there's
3 nothing saying physically that it can't, but it
4 would be contrary to the idea of it being ultra
5 low-power, low-cost.

6 Q. Could we go to Paragraph 65? Let's
7 go to Paragraph 65 starting there in your
8 declaration.

9 A. Okay. I have that.

10 Q. Do you -- let's go to Paragraph 67,
11 actually, where it's quoting Wallen, Exhibit
12 1005.

13 A. Yes, I have that.

14 Q. And the SIB -- do you see where it's
15 underlined "SIBs that are intended for this MTC
16 device"?

17 A. I see that.

18 Q. Is this referring to sys -- additional
19 system information other than an MIB?

20 A. Let me read the paragraph, please.

21 (Reviews document.)

22 I believe that the reference to the
23 SIBs here is to SIBs that are distinct from the
24 MIB.

25 Q. So this would be additional system

1 information other than the MIB, correct?

2 A. That's correct, yes.

3 Q. Okay. Let's go to Paragraph 72 of your
4 declaration.

5 A. I have that.

6 Q. Really I just want to ask if there's a
7 typo here where you say -- you refer to a
8 "legacy MIB." Do you mean "legacy SIB"?

9 A. (Reviews document.)

10 I believe it could be legacy MIB or SIB
11 and the sentence would still be accurate.

12 Q. Okay.

13 A. I don't recall the exact thought
14 process I had at the moment I wrote that
15 sentence. That was quite some time ago.

16 Q. Okay. And the same question for
17 Paragraph 74 where it says "legacy MIB."
18 Is that a typo? Do you mean "legacy SIB"?

19 A. No. I don't believe I meant anything
20 besides "legacy MIB" there.

21 Q. Okay. So Paragraph 74 does not deal
22 with System Information Blocks?

23 A. Well, it doesn't mention them by name
24 in that paragraph, but it's in the context of
25 the paragraph, I believe.

1 (Exhibit No. 1006, a document referred
2 to as the Wallen Provisional Abbreviated
3 "Wallen-Prov," was introduced electronically.)

4 BY MR. WILKINS:

5 Q. Okay. Could you open Exhibit 1006?

6 A. I have that open.

7 Q. Do you recognize Exhibit 1006?

8 A. I do.

9 Q. Exhibit 1006 is referred to the Wallen
10 Provisional Abbreviated "Wallen-Prov" in your
11 declaration, correct?

12 A. Yes.

13 Q. And it's the provisional application of
14 the Wallen reference, correct?

15 A. Yes, it is.

16 Q. So let's go to Paragraph 84.

17 A. Paragraph 84 of the provisional?

18 Q. Paragraph 84 of your declaration.

19 I'm sorry.

20 A. Okay. I have it.

21 Q. In that paragraph, you refer to
22 Figure 5 of the Wallen Provisional, correct?

23 A. Let's see. I think it's Figure 6 of
24 the Wallen Provisional.

25 Q. You say that depicts one of the UEs

1 from Figure 5.

2 A. Oh, okay. Hold on one second.

3 Depicts one of the UEs from Figure 5.

4 I'm not sure which Figure 5 that is referring to
5 at the moment. But I do see the words "Figure
6 5," yes.

7 Q. Do you think that you're referring to
8 Figure 5 from the Wallen Provisional? I believe
9 you cite to Exhibit 1006, Page 12, in that
10 paragraph.

11 A. Let me refresh my recollection here.

12 (Reviews document.)

13 Oh, okay.

14 Right. So, now, yeah, I believe both
15 the figures in that sentence are referring to
16 the provisional. And the sentence is saying
17 that Figure 6, which is on the right-hand side
18 of the page in the provisional, is a picture of
19 one of the UEs that appears on the left-hand
20 side of the page, where there are three cellular
21 telephones shown.

22 Q. What's your basis for saying the UEs in
23 Figure 5 are cellular telephones?

24 A. They look exactly like cellular
25 telephones.

1 Q. What about them looks exactly like
2 cellular telephones?

3 A. Their shape, the display, the keypad,
4 although it's not -- it's a fuzzy picture, but
5 that's what I see when I look at it.

6 Q. So that's the entirety of your basis
7 for saying the UEs are cellular telephones is
8 the look of the devices in Figure 5?

9 A. That and the fact that there's no
10 indication that they're anything other than
11 that, yes. Yes.

12 Q. Okay. Could we go to Paragraph 90 of
13 your declaration?

14 A. I have it.

15 Q. So you mentioned in Paragraph 90 a
16 speaker and a microphone, correct?

17 A. Yes, I do.

18 Q. So your opinion is that all the UEs in
19 Figure 5 have voice capability, correct?

20 A. That's my opinion, yes.

21 Q. And your opinion is that all the UEs in
22 Figure 5 would include a speaker, correct?

23 A. Yes.

24 Q. And that all the UEs in Figure 5 of
25 the Wallen Provisional include a microphone,

1 correct?

2 A. Yes.

3 Q. Could we take a five-minute break here?

4 MR. THEISS: Sure. Want to come back
5 at 10:35?

6 MR. WILKINS: Yep. Sounds good. Thank
7 you.

8 (Recess taken -- 10:28 a.m.)

9 (Resume testimony -- 10:35 a.m.)

10 BY MR. WILKINS:

11 Q. All right. Dr. Lomp, could I direct
12 you to Paragraph 35 of your declaration?

13 A. I have it.

14 Q. Do you see where you referred to the
15 "PDSCH"?

16 A. Yes.

17 Q. And the "PDSCH" is an abbreviation of
18 the Physical Downlink Shared Channel?

19 A. Yes.

20 Q. And this is a channel as it existed in
21 LTE prior to the '670 patent, correct?

22 A. Yes.

23 Q. Could an MTC device receive the PDSCH
24 in LTE?

25 A. Only if it was a PDSCH that was part

1 of a system that only had a 1.4 megahertz
2 bandwidth, which would have been possible, but
3 not the general case.

4 Q. The systems in LTE, I believe you
5 referred to in this paragraph, had bandwidths up
6 to 20 megahertz, correct?

7 A. Yes.

8 Q. And those were LTE systems prior to the
9 '670 patent, correct?

10 A. Yes. But I don't know if that means
11 that all deployments were at 20 megahertz.
12 There were certainly smaller bandwidth
13 allocations possible.

14 Q. For any deployment larger than 1.4
15 megahertz, an MTC device could not receive the
16 PDSCH, correct?

17 A. That's my understanding, yes.

18 MR. WILKINS: Okay. I have nothing
19 further.

20 MR. THEISS: Could I just take five
21 minutes? I don't think there's going to be a
22 redirect. I just want to make sure we got
23 through everything.

24 MR. WILKINS: Sure.

25 MR. THEISS: Want to come back at 45?

1 MR. WILKINS: Yeah. 9:45 sounds good.

2 (Recess taken -- 10:36 a.m.)

3 (Resume testimony -- 10:39 a.m.)

4 THE REPORTER: Okay. Back on the

5 record.

6 MR. THEISS: We have no redirect.

7 THE REPORTER: Okay. Off the record at

8 10:39 a.m.

9 (Deposition concluded -- 10:39 a.m.)

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C E R T I F I C A T E

I do hereby certify that I am a Notary Public in good standing, that the aforesaid testimony was taken before me, pursuant to notice, at the time and place indicated; that said deponent was by me duly sworn to tell the truth, the whole truth, and nothing but the truth; that the testimony of said deponent was correctly recorded in machine shorthand by me and thereafter transcribed under my supervision with computer-aided transcription; that the deposition is a true and correct record of the testimony given by the witness; and that I am neither of counsel nor kin to any party in said action, nor interested in the outcome thereof.

WITNESS my hand and official seal this 19th day of January, 2026.



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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