

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

INTELLECTUAL VENTURES II LLC,
Patent Owner.

IPR2025-00221
U.S. Patent No. 11,664,889

**DECLARATION OF MICHAEL D. KOTZIN, PH.D.
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITIONER REPLY**

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I. INTRODUCTION

1. I am making this declaration at the request of Tesla, Inc. in the matter of the *Inter Partes* Review (“IPR”) of U.S. Patent No. 11,664,889 (“the ’889 patent”) to Howard.

2. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this IPR. My compensation is not contingent on the outcome of this matter or the specifics of my testimony, and I have no other interest in this case or the parties thereto.

3. I have been asked to provide opinions addressing arguments presented in Patent Owner’s Response (Paper 15, the “Response”) in this IPR, which are also stated in Dr. Lomp’s Declaration (Ex.2017). I understand that this Declaration is being filed concurrently with Petitioner’s Reply to the Response.

4. In preparation of this Declaration, I have considered all materials listed in my Prior Declaration (Ex.1003). I have also considered the following additional materials:

Ex.1069	Deposition Transcript of Dr. Gary R. Lomp, Ph.D., January 12, 2026
Ex.2017	Declaration of Dr. Gary Lomp in Support of Patent Owner’s Response

5. In forming the opinions expressed below, I have considered:

- the documents listed above as well as any materials cited in my

analysis below;

- the relevant legal standards, including the standard for obviousness, as explained to me by counsel, and any additional authoritative documents as cited in the body of this declaration; and
- my own knowledge and experience based upon my work in the field of wireless communication systems as described below.

6. Unless otherwise noted, all emphasis in any quoted material has been added.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

7. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in Exhibit 1004. A brief summary of my relevant qualifications and professional experience is included in my Prior Declaration (Ex.1003) and is hereby incorporated by reference.

8. My technical background has addressed private/public wireless systems, base/mobile hardware and software, algorithms, networking and protocols, signal processing, software/hardware design methodologies, antennas and cybersecurity. Based on my experience and education, I consider myself to be an expert at least in the fields of telecommunications, cellular networking, infrastructure, and mobile devices. As of the earliest priority date of the '889

patent, I was at least a person of ordinary skill in the art, and I had personal knowledge of the technologies utilized therein.

III. LEVEL OF ORDINARY SKILL IN THE ART

9. I have performed the present analysis through the lens of a person of ordinary skill in the art (“POSITA”) in the field of the ’889 patent, as of its alleged priority date in October 2006, as defined in paragraphs 24-25 of my Prior Declaration (Ex.1003), which are hereby incorporated by reference.

IV. RELEVANT LEGAL STANDARDS

10. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the ’889 patent, I am relying on certain basic legal principles that counsel have explained to me. These principles are discussed below.

11. I understand that prior art to the ’889 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the ’889 patent.

12. I have been informed that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I have also been informed by counsel that the obviousness analysis

takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

13. I have been informed by counsel that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

V. ANALYSIS

A. CDMA and Time Sharing

14. Code Division Multiple Access (CDMA) allows multiple wireless devices to communicate in the same frequency band and at the same time by using

unique spreading codes. Ex.1011, 162-165; Ex.1013, 321-324. In other words, a base station may send two downlink communications to the same UE at the same time if those communications are on different channels associated with different codes. These spreading codes are used both to encode signals for transmission, and to decode received signals. The receiver uses the codes to associate the decoded signals with each corresponding user. Ex.1011, 162-163; Ex.1013, 321-323 (explaining that both the transmitting device and receiving device use code sequences to transmit and receive data on CDMA channels). *See* Ex.1003, ¶¶30-33.

15. Different variations of CDMA have developed over time. For example, Wideband CDMA (W-CDMA) uses separate frequency bands for uplink and downlink (Frequency Division Duplex) and is used for voice and balanced data services. Time Division CDMA (TD-CDMA) uses the same frequency band for both uplink and downlink (Time Division Duplex), but the uplink and downlink signals are transmitted in different time slots. Ex.1003, ¶¶34-36.

B. Connection States and Channel Selection

16. CDMA protocols use different “modes” or “states” corresponding to the level of activity a mobile device has with the network. Ex.1008, 89. These modes include an “Idle” mode and several “connected” modes, which govern which types of services and channels a mobile device can use to transmit or receive packets. *See* Ex.1008, FIG. 5.1, 39, 104. Some network services, such as high-

speed data communication, are often only available through dedicated channels.

Dedicated channels typically rely on the mobile device keeping tight time synchronization with the network's base station (e.g., cell tower) in order to properly receive and decode data at the specified rates. Ex.1008, 39, 104.

Accordingly, the mobile device's use of those dedicated channels typically requires the mobile device to be in a connected mode (e.g., CELL_DCH, CELL_FACH).

Ex.1008, 89-91, FIG. 5.1. Among other things, entering or remaining in a connected mode requires the mobile device to obtain or keep the level of time synchronization with the base station required for those channels. Ex.1008, 105, 120-121, 156-159. *See* Ex.1003, ¶¶149-153.

17. By contrast, when the mobile device is in an Idle mode, the synchronization requirements are substantially relaxed, as well as the synchronization procedures the UE uses. Ex.1008, 53. As a result, a mobile device in the Idle mode will become less synchronized with the base station. In the Idle mode, the mobile device can transmit certain information and messages using a “random access channel,” which allows for relatively less time synchronization with the base station. Ex.1008, 23, 120. *See* Ex.1003, ¶¶149-153.

18. There are multiple reasons a mobile device enters an Idle mode, including: (1) the mobile device does not have data to transmit or receive for some period of time, (2) a connection failure (interference or moving out of coverage),

and (3) an RRC Connection Release message from the network. *See* Ex.1003, ¶¶48, 150.

C. Claim Construction

1. ***“configured to transmit the signal over the physical control channel when time synchronized and to transmit a signal over a random access channel when not time synchronized”***

19. Dr. Lomp has proposed a construction for the limitations in claims 4 and 8 reciting *“transmitting, by the first UE, the signal over the physical control channel when time synchronized; and transmitting a signal over a random access channel when not time synchronized.”* Ex.2017, ¶70. Dr. Lomp argues that this limitation requires the UE to make a “binary choice” about whether to transmit on the “physical control channel” or the “random access channel” based on whether or not there is time synchronization. Ex.2017, ¶70. Dr. Lomp’s construction also requires the UE to “**transition** from transmitting ‘the signal over the physical control channel’ to transmitting ‘a signal over a random access channel’” if the UE is “not time synchronized.” Ex.2017, ¶70. Dr. Lomp’s construction is inconsistent with the claims and specification of the ’889 patent, and with a POSITA’s understanding of time synchronization and channel selection. In my opinion, the claim language as written requires no further construction.

20. As explained above and in my Prior Declaration, in CDMA systems, a mobile device’s level of synchronization with the network typically depends on the

services the mobile device requires, and, as a result, the connection state the mobile device is in. *See* Ex.1003, ¶¶149-153, §V.A. If the UE requires a relatively high-speed data stream, the UE will move into a “connected” state (e.g., CELL_DCH), which requires more tight time synchronization with the base station. *See* Ex.1003, ¶151. If the UE has no data to receive or transmit, or if the network sends the UE a connection release message, the mobile device will move to the “Idle” mode and its level of synchronization with the network will eventually drop. Ex.1003, ¶151.

21. In other words, whether or not the UE has synchronization often *follows* the UE’s change between connection states, rather than the other way around. *See* above, §V.B. Although loss of time synchronization can be one factor leading to a connection failure, it is but one of many scenarios which may cause the UE to move into Idle mode. *Id.*; Ex.1003, ¶150. And even in that scenario, the ’889 patent indicates that the determination of whether the UE is out of synchronization is *inferred* from other measurements, such as “high downlink errors or low received signal strength.” Ex.1001, 7:38-45. Dr. Lomp’s construction is inconsistent with CDMA time synchronization principles because it exclusively focuses on a single mechanism and metric causing a change from a connected state to an Idle state. The claim language of the ’889 patent is not limited to that mechanism.

22. Moreover, Dr. Lomp’s construction is also inconsistent with the text of the ’889 patent. Dr. Lomp’s construction forbids transmitting signals on the physical shared channel at the moment there is “not time synchronization”—not after the UE *detects* that there is no time synchronization. Ex.2017, ¶70. However, the portion of the ’889 patent’s specification that Dr. Lomp cites indicates that the UE “automatically come[s] out of CELL_ACTIVE state if the downlink is ***deemed*** to be out-of-synchronization.” Ex.1001, 7:38-45. Indeed, in CDMA systems, a UE may lose time alignment with the base station before it is detected (e.g., based on the measurements described above). As a result, a UE may transmit uplink signals without time alignment with the base station, prior to the UE’s detection of it. *See* Ex.1008, 70, 156-159. But, as explained above, Dr. Lomp’s construction is so narrow that it does not allow time for the UE to “deem[]” or detect a loss of time synchronization. Ex.2017, ¶70. According to Dr. Lomp’s construction, a UE would effectively need to predict loss of time synchronization before it happens and change connection states accordingly before transmitting a signal on a physical shared channel.

D. Dateki renders obvious “*transmitting, by the UE, a signal over a physical control channel to a base station in a second time slot at a transmission power level based on the extracted power control*”

information”

1. Dateki’s UE does not ignore TPCC1

23. Dr. Lomp characterizes Dateki’s FIG. 6 such that the UE would ignore the “first transmission power control information TPCC1” on the fractional dedicated physical channel (F-DPCH) while the high-speed shared control channel (HS-SCCH) is active. Ex.2017, ¶105 (Dr. Lomp arguing that TPCC1 sent on F-DPCH is “not used” when HS-SCCH and HS-PDSCH are being transmitted). Dr. Lomp’s basis for this conclusion includes portions of Dateki disclosure explaining optional embodiments that provide different parameters for TPCC1 and TPCC2. *See* Ex.2017, ¶¶107-114. These passages explain, for instance, that TPCC2 may be transmitted in shorter intervals, and that it may effect larger changes in transmission power compared to TPCC1. *See* Ex.1005, 13:50-62, 14:45-57. Dr. Lomp argues that the UE would thus ignore TPCC1 and only apply TPCC2 during packet transmission when HS-SCCH is active. Ex.2017, ¶¶107-114.

24. This theory is contrary to Dateki. Dateki explains that “transmission power control information [on] a control channel” (TPCC2) is transmitted by the base station *in addition to* “transmission power control information...via a channel for transmitting [TPC information] (TPCC1) to adjust the UE’s power:

According to an aspect of the present invention,
transmission power control information is transmitted at

prescribed periodic intervals via a channel for transmitting information including the transmission power control information, and **when packet transmission is conducted, transmission power control information is also transmitted via a control channel.** When packet transmission is not conducted, the transmission power control information is transmitted via the channel for transmitting...power control information at prescribed intervals that are set to be relatively long, thereby enabling conservation of power.

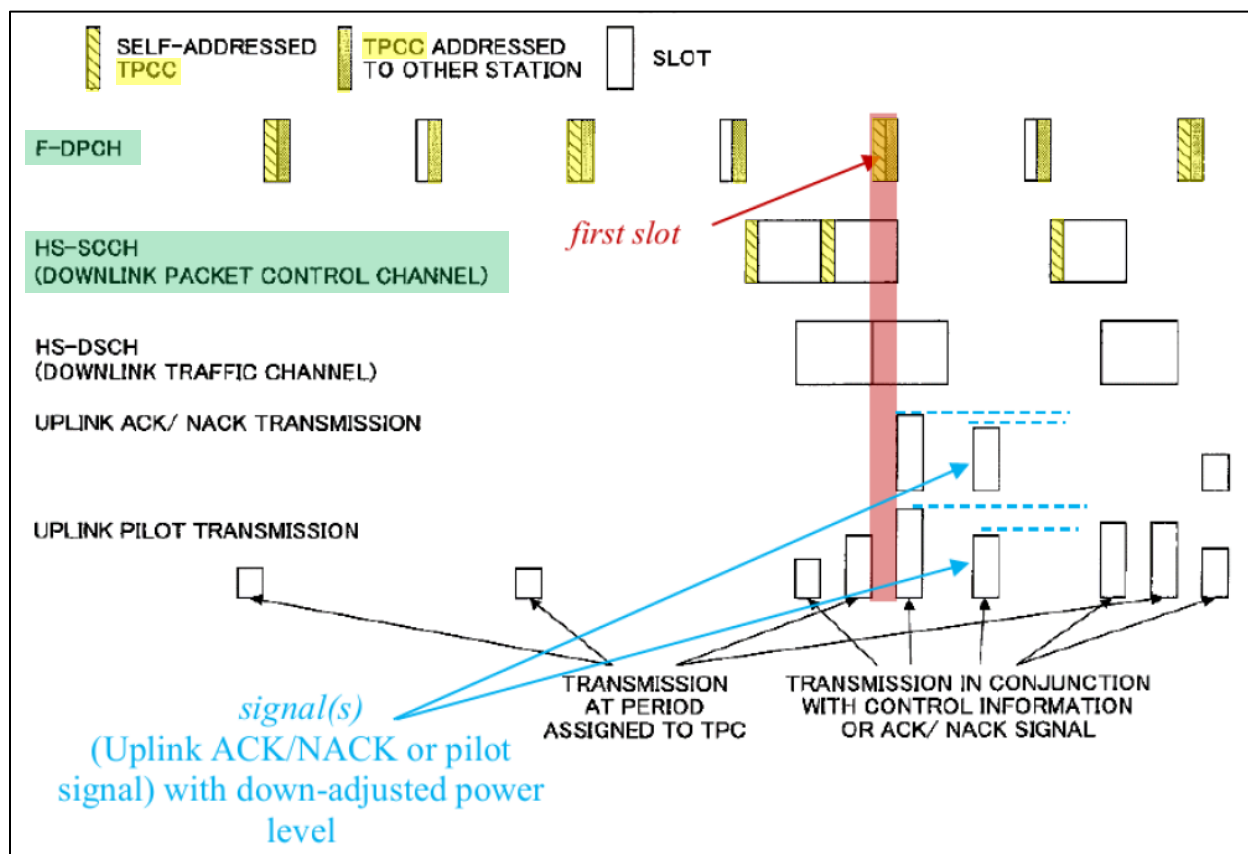
Ex.1005, 6:61-7:4; *see also* Ex.1005, 13:8-11 (explaining that HS-SCCH is active during packet transmission).

25. Dateki similarly explains that the base station:

...transmits the transmission power control information TPCC via the F-DPCH as first transmission power control information TPCC at relatively long periodic intervals (transmission period of the present mobile station). **Also, in a case where packet transmission is conducted**, the transmission power control information is transmitted via the HS-SCCH **as second transmission power control information** TPCC at a shorter periodic cycle. In this embodiment, transmission power control may be realized without having to transmit the pilot signal on a continual basis, and thereby, the power consumption rate for transmitting the pilot signal may be reduced.

Ex.1005, 12:66-13:15.

26. This is confirmed by Dateki's FIG. 6 (annotated below), which illustrates that TPCC commands (highlighted in yellow) are sent by the same base station in **both** the F-DPCH and HS-SCCH channels to adjust transmission power up or down for subsequent ACK/NACK and pilot signals. *See also* Ex.1005, FIG. 6, 10:60-11:14, 12:11-12; Ex.1003, ¶¶104-105.



Ex.1003, ¶105 (additional annotations in yellow and green)

27. Thus, Dateki shows that the UE uses TPCC1 for transmission power adjustments, and TPCC2 merely *supplements* the TPCC1 when HS-SCCH is

transmitted to provide *additional* transmission power adjustments shortly before transmitting ACK/NACK. In this way, the TPCC2 may be transmitted between the relatively longer intervals of TPCC1 to provide additional power control adjustments, which improves the “responsiveness of the transmission power control operation.” Ex.1005, 9:61-67.

28. Ignoring TPCC1 would have the opposite effect that Dateki seeks to provide: more immediate and “responsive[]” power adjustments at times when ACK/NACK signals will be transmitted. *See* Ex.1005, 9:61-67, 11:56-65 (transmitting both the TPCC1 and TPCC2 allows for “**high-pace** transmission power control” during packet transmission, and transmitting only TPCC1 when no packets are being transmitted allows “the power consumption rate to be reduced.”), 13:1-11.

29. In fact, Dateki describes another optional implementation in which the base station **refrains** from sending **TPCC2** if TPCC1 is received within a time window such that TPCC2 is not needed:

According to the present embodiment, the HS-PDSCH is arranged to prioritize data transmission to a mobile station at which the elapsed time from a transmission timing of the first transmission power control information TPCC1 is not so long. According to such an arrangement, transmission power control may be effectively realized

without including transmission power control information in the HS-SCCH. In one embodiment, the transmission power control information may be omitted for a first HS-SCCH (e.g. a HS-SCCH of which transmission timing interval with respect to a previous HS-SCCH is longer than the transmission period of the first transmission power control information TPCC1), and the transmission power control information may be included in a next HS-SCCH of which the transmission timing interval with respect to a previous HS-SCCH is **shorter than the transmission period of the first transmission power control information TPCC1.**

Ex.1005, 14:28-44.

30. This example again shows that the UE uses, first and foremost, TPCC1, and uses TPCC2 transmission as a supplement to TPCC1 if it will more responsively adjust transmission power during packet transmission.

31. Dr. Lomp's deposition testimony asserts that TPCC2 is more "accurate" and more "reliable" than TPCC1, which is allegedly one reason he believes the UE would ignore TPCC1 in favor of TPCC2. *See* Ex.1069, 50:16-18, 51:9-16, 80:10-12, 81:1-2. I disagree with this testimony. As explained above, Dateki mentions a few differences between TPCC1 and TPCC2, none of which are mandatory features in Dateki's embodiments. In one of these examples, Dateki explains that TPCC2 may be "greater than [TPCC1]" to allow for faster power

control adjustments to a desired level:

In another embodiment, the first transmission power control information TPCC1 transmitted via the F-DPCH, and the second transmission power control information TPCC2 transmitted via the HS-SCCH may be arranged to represent different transmission power control levels. In such a case, **the second transmission power control information TPCC2 is arranged to be greater than the first transmission power control information TPCC1 (TPCC1<TPCC2).** According to the present embodiment, in transmitting the ACK/NACK signal, for example, the second transmission power control information TPCC2 that is previously received via the HS-SCCH may be used **to swiftly** control the transmission power to a desired level.

Ex.1005, 13:50-62.

32. A POSITA would have interpreted this sentence to mean that TPCC2 may offer greater incremental power adjustments (up or down) compared to TPCC1. In that regard, the only example of TPCC information that Dateki describes—which is consistent with standard CDMA power control procedures—is a bit (or bits) that instruct the UE to either increase or decrease the transmission power by a fixed increment. *See* Ex.1005, 11:4-11. Thus, according to a POSITA's understanding of this optional embodiment, a TPCC1 may correspond to an

instruction to adjust transmission power by +/- 1 dB, and a TPCC2 may correspond to an instruction to adjust transmission power by +/- 2 dB, for instance. With greater incremental adjustments, the UE could make large power adjustments more “swiftly” with a single TPCC2 than a single TPCC1. Ex.1005, 13:60-62. However, that does not translate to a more “accurate” or “reliable” transmission, as Dr. Lomp alleges. Ex.1069, 50:16-18, 51:9-16, 80:10-12, 81:1-2. If anything, because the incremental changes caused by each TPCC2 are larger, the UE has less flexibility to fine tune the transmission power.

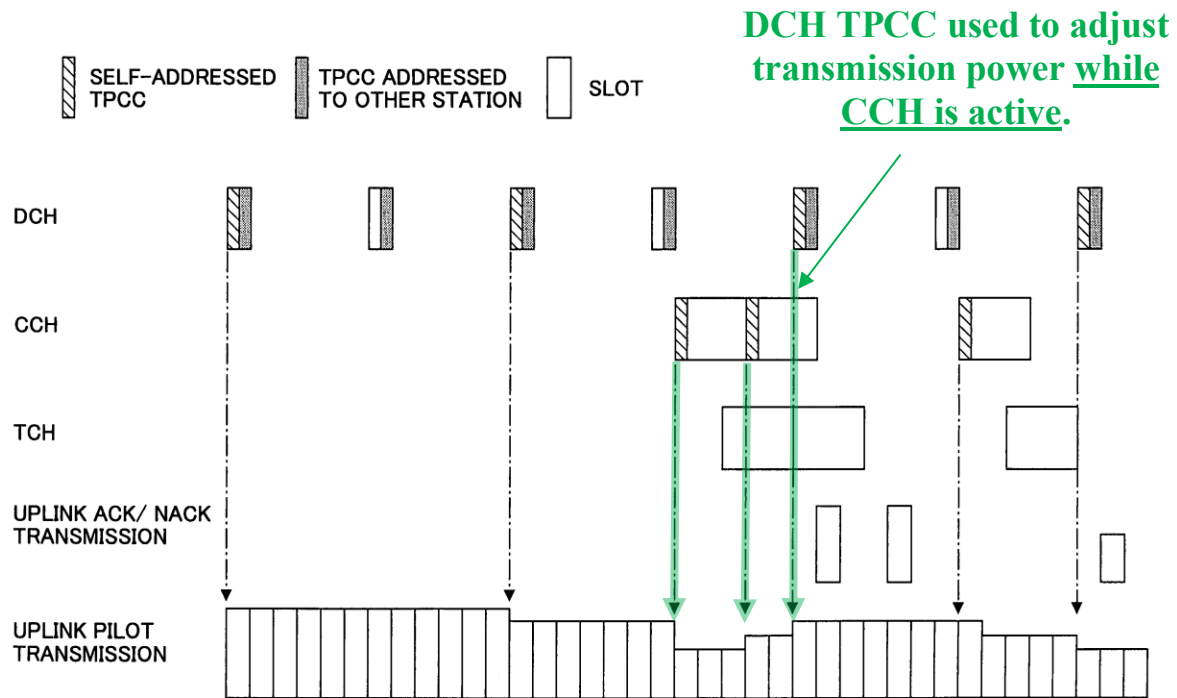
33. Similarly, Dateki’s description of TPCC2 being transmitted at “shorter intervals” than TPCC1 simply results in faster power adjustments, not necessarily more accurate or reliable. *See* Ex.1005, 14:45-57. To the extent that more frequent TPCC transmissions improves the responsiveness of transmission power control procedures, it would be contrary to that goal to *ignore* TPCC1 information simply because it is provided on another channel. Ex.2017, ¶105.

34. At deposition, Dr. Lomp also alleged that the UE would ignore TPCC1 even though the base station transmitted it because decoding and applying TPCC1 while HS-SCCH would be an unnecessary waste of power. Ex.1069, 53:2-15. In my opinion, there is no support for Dr. Lomp’s statement that the UE would conserve power by selectively ignoring TPCC1. A UE could potentially conserve power if it stopped *monitoring* a channel; but Dateki does not describe or suggest

that the UE stops monitoring the F-DPCH while HS-SCCH is active. Dateki's examples show, if anything, that the base station conserves power by refraining from transmitting TPCC messages, or transmitting them at longer intervals. *See* Ex.1005, 13:43-46, 14:35-44.

35. Further, FIG. 5, which is similar to FIG. 6, contradicts Dr. Lomp's arguments. *See* Ex.1003, ¶105 (FIG. 5 helps to interpret FIG. 6). FIG. 5 shows two downlink channels used for transmitting TPCC information: a dedicated channel (DCH) analogous to FIG. 6's F-DPCH, and a control channel (CCH) analogous to FIG. 6's HS-SCCH. Also, like FIG. 6, the DCH TPCC information is transmitted at relatively longer intervals, while the CCH TPCC information is transmitted at shorter intervals only when the CCH is active. *See* Ex.1005, 11:28-37 *compare with id.*, 13:4-11.

FIG.5



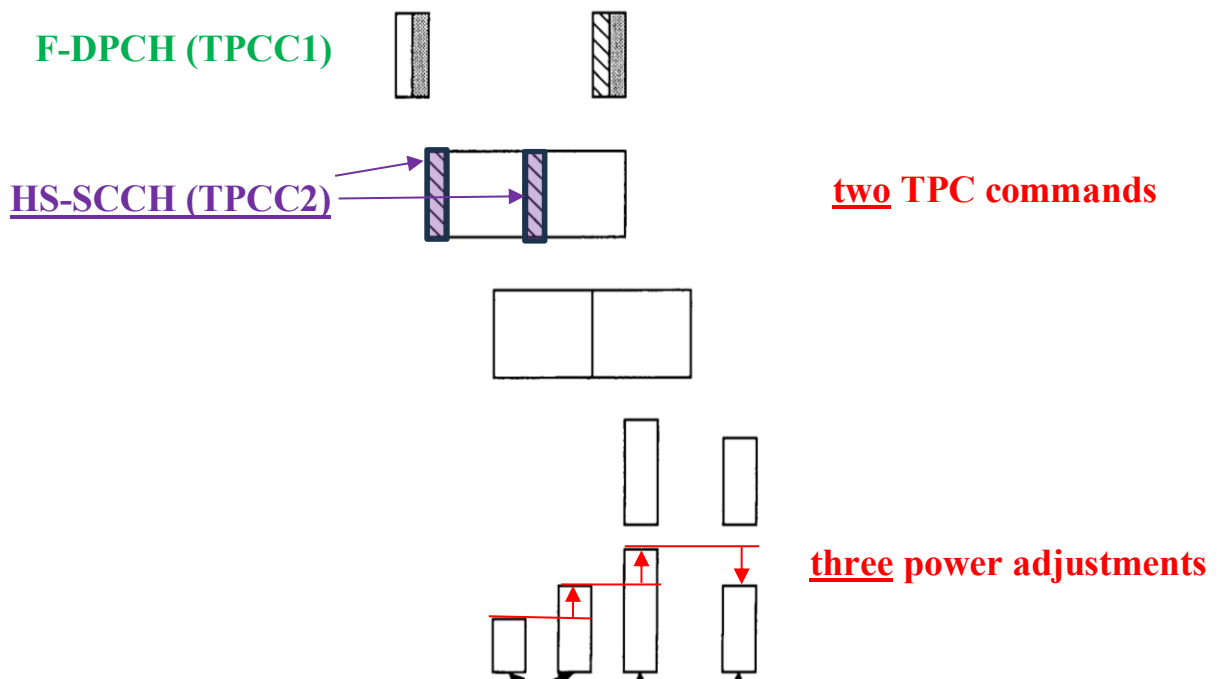
Ex.1005, FIG. 5 (annotated)

36. As shown above by the highlighted arrows, **both** sets of TPCC information are used to adjust the UE's transmission power level in the time frame when CCH is active—no TPCC information sent to the UE is ignored. *See* Ex.1005, 11:48-63 (“[W]hen packet transmission is not conducted, the first transmission power control information is transmitted at relatively long periodic intervals... [W]hen packet transmission is conducted, the first transmission power control information **and** the second transmission power control information are transmitted so that high-pace transmission power control may be conducted.”).

Dateki explains that the principal difference between the embodiment of FIG. 5 and the embodiment of FIG. 6 is that the embodiment of FIG. 6 has less frequent uplink pilot transmissions; not that FIG. 6 somehow includes plural-stage TPC commands from the base station. Ex.1005, 13:11-15. Dateki does not provide any basis to assume that FIG. 6 should be interpreted with the assumption that the UE ignores TPCC1, despite the fact that the UE in the embodiment of FIG. 5 does not ignore TPCC1.

2. IV's plural stage TPC theory of Dateki's FIG. 6 is nonsensical.

37. According to Dr. Lomp's theory in which the UE ignores TPCC1 messages, two TPCC2 messages would need to account for at least three uplink power adjustments.



Ex.1005, FIG. 6 (partial annotated)

38. Dr. Lomp speculates that the second TPCC2 instance must be a three-stage TPCC. Ex.2017, ¶¶94-99. However, Dateki does not disclose that any plural-stage TPC commands are used in FIG. 6. *See* Ex.1005, 7:44-46, 11:66-14:57 (Dateki’s description of FIG. 6). Dateki’s only mention of “plural stage[]” TPC commands is found in a separate portion of Dateki and described as a general optional feature, without providing any specific implementation details or suggesting any scenarios where a plural stage TPC command would be necessary or useful. Ex.1005, 11:15-18. That portion simply states:

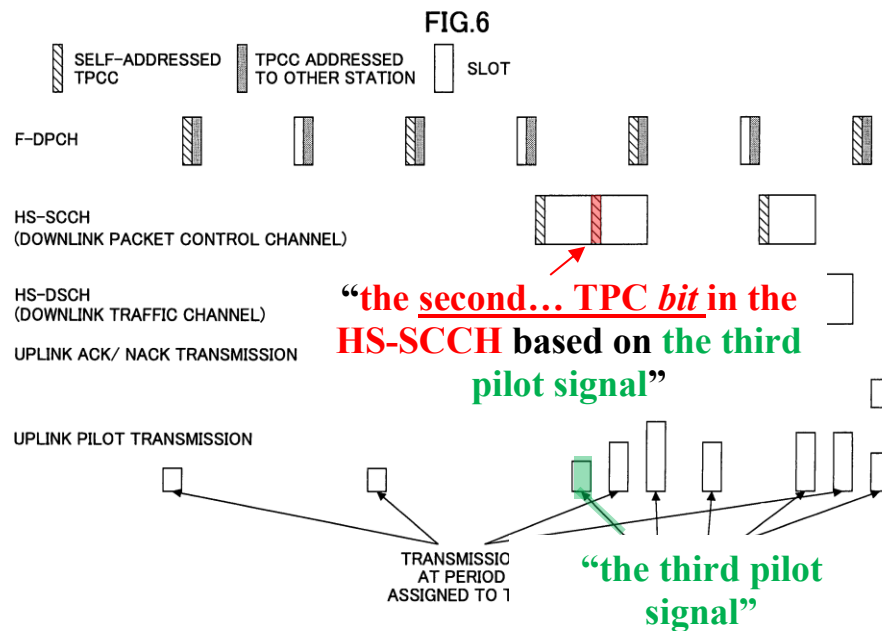
It is noted that the transmission power control information TPCC **may be arranged** to use **plural bits** so that transmission power control may be conducted in plural stages (i.e., so that transmission power may be increased or decreased in **plural stages**).

Ex.1005, 11:15-18.

39. In fact, Dr. Lomp’s theory that the TPCC2 message sent on the HS-SCCH is a plural stage TPC command having “plural bits” is contrary to Dateki’s description of FIG. 6, which explicitly states that the TPCC2 message is a single “**bit**”:

It is noted that in the illustrated example of FIG. 6...[w]hen a mobile station receives the third (from the left) pilot signal, the mobile station may generate **the second (from the left) TPC bit in the HS-SCCH** based on the third pilot signal...

Ex.1005, 13:66-14:4.

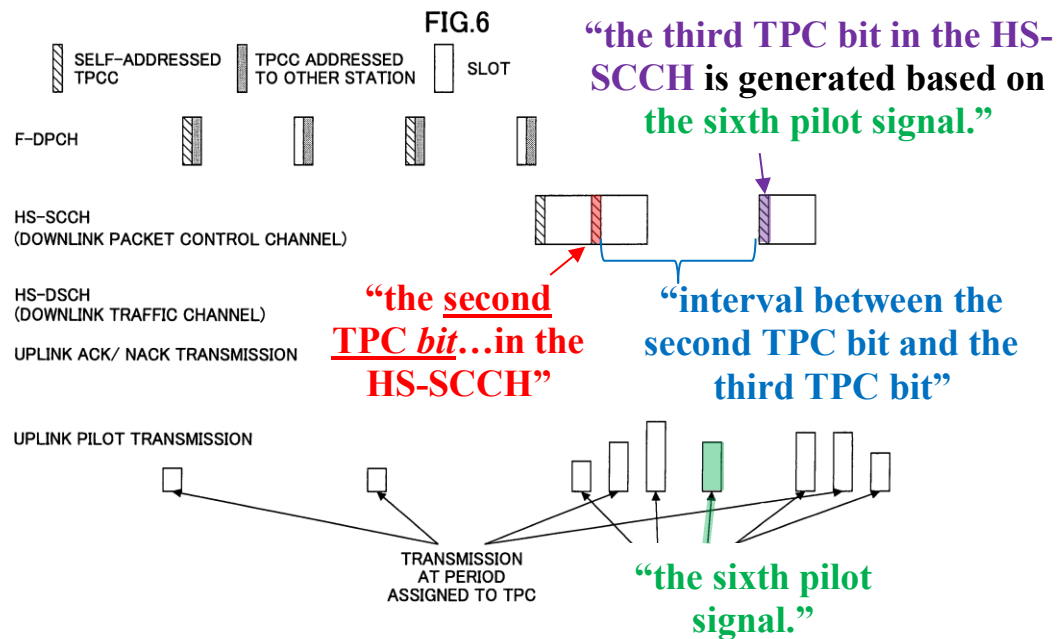


Ex.1005, FIG. 6 (partial annotated)

40. Dateki’s following description confirms the same thing: the second TPCC2 message on HS-SCCH, like the first and the third, is a “TPC **bit**”:

Also, **in the illustrated example of FIG. 6**, there is an interval between **the second TPC bit** and **the third TPC bit in the HS-SCCH**; ... **the TPC bit** may be generated based on a pilot signal being transmitted at a shorter period compared to the transmission period of the first transmission power control information (e.g., **the third TPC bit** in the HS-SCCH is generated based on **the sixth pilot signal**).

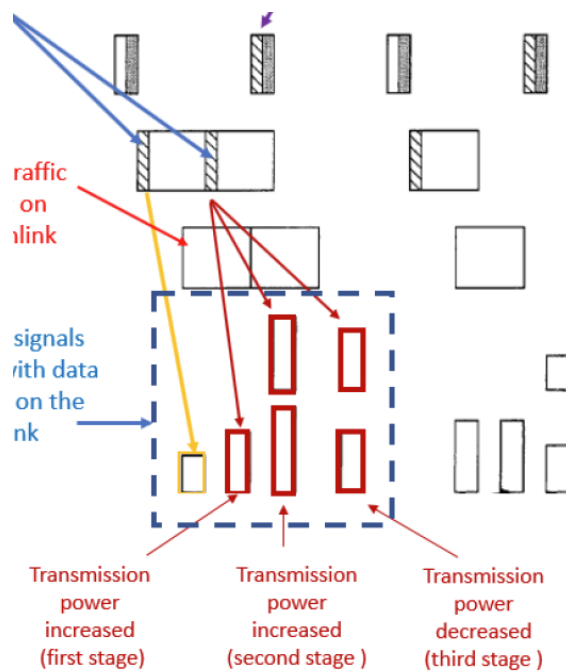
Ex.1005, 14:5-15.



Ex.1005, FIG. 6 (partial annotated)

41. Dateki does not provide any reason to assume that its explicit description of this TPCC2 messages as a “TPC bit” should somehow be interpreted to mean “plural bits.”

42. Moreover, Dr. Lomp’s three-stage TPC theory makes no practical sense. As shown in the annotated figure below from Dr. Lomp’s Declaration, Dr. Lomp’s interpretation of Dateki’s FIG. 6 would require, in a single TPCC message, a first instruction to increase power, a second instruction to increase power again, and then a third instruction to *decrease* power. See Ex.2017, ¶¶94-99.



Ex.2017, ¶94 (partial)

43. Dr. Lomp's arguments gloss over this point, failing to explain why the base station would predict and recommend two uplink power increases followed by one decrease. *See* Ex.2017, ¶¶97-99. Whatever transmission power adjustments those stages represent, Dateki describes no reason that the base station would instruct a UE to increase its transmission power twice and then decrease its transmission power **once**. Assuming the plural-stage TPC command functions analogously to Dateki's conventional up/down instruction (which is the only TPC power adjustment pattern Dateki describes), the third stage decreasing power would inexplicably nullify one of the first two stages increasing power. *See* Ex.1005, 11:4-11. The net effect of such a plural-stage TPC would thus be the

same as a single-stage TPC command increasing transmission power.

44. Dr. Lomp does not provide any reasoning why the base station would send a TPC command to a UE with an increase-increase-decrease pattern. TPC commands, as Dateki explains, are based on a relatively simple comparison of pilot signal measurements (e.g., Signal to Interference Ratio (SIR)) from the UE to a threshold:

The TPCC generating unit 26 compares the input SIR value with a threshold value, and sets the TPCC according to the comparison result. For example, when the SIR value is greater than the threshold value, the TPCC may be set to $TPCC=-1$, and when the SIR value is less than the threshold value, the TPCC may be set to $TPCC=+1$.

Ex.1005, 9:33-38.

45. In other words, if the pilot signal measurements are below the threshold, the base station sends a TPC command to the UE to increase its transmission power. If those measurements are above the threshold, the base station sends a TPC command to the UE to decrease its power. Dateki does not describe any practice of predicting future power control adjustments or any other power control mechanisms other than the conventional practice of incremental up/down TPC commands as described above. There is no reason to speculate that Dr. Lomp's "plural stage" TPC command would have been determined in any

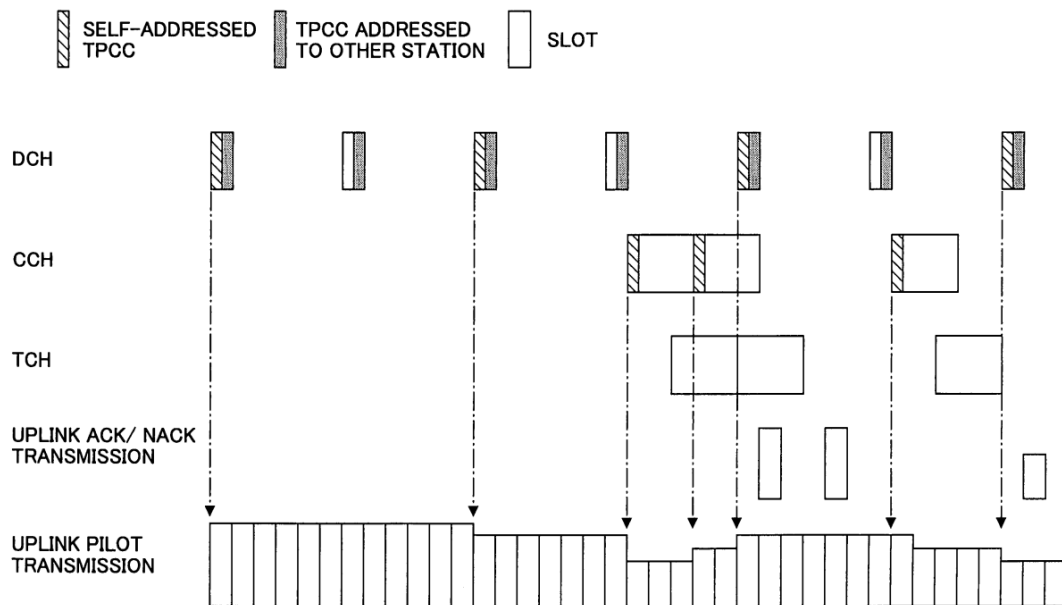
other than what Dateki describes: based on the previous pilot signal measurements. *See* Ex.1005, 9:33-38. Indeed, I agree with Dr. Lomp that Dateki does not describe how a multi-stage TPC command would be applied in the example of FIG. 6. Ex.1069, 45:16-46:5, 46:8-16, 47:6-48:21, 49:4-13 (Dr. Lomp explaining that he does not “have an understanding” of how Dateki’s multi-stage TPC commands would adjust power in FIG. 6).

46. Dr. Lomp’s theory also assumes that the staged TPC commands in the TPCC2 would be delayed, and not applied all at once on receipt of the TPCC2. *See* Ex.2017, ¶64. According to this assumption, as shown in the above partial view of Dr. Lomp’s annotated version of Dateki’s FIG. 6, the second “stage” of the TPC command would not be applied until a few slots after the first ACK/NACK transmission, and the third “stage” of the TPC command would not be applied until a few slots after that. I see no support for this assumption in Dateki. There is no disclosure in Dateki suggesting that a UE would delay applying sequential instructions of a “plural stage” TPC, rather than applying them immediately. Delaying TPC commands would be contradictory to Dateki’s goal of conducting transmission power control “at a faster pace.” Ex.1005, 11:55-56.

47. Moreover, as I similarly explain above, Dateki provides no reason to assume that FIG. 6’s use of both TPCC1 and TPCC2 should be understood any differently than FIG. 5, which shows that each TPCC1 and TPCC2 message effect

a single power control adjustment, rather than a delayed sequence of multiple power adjustments.

FIG.5



Ex.1005, FIG. 5

3. Dr. Lomp's testimony misstates CDMA principles.

48. At deposition, Dr. Lomp speculated that TPCC1 would be ignored for the additional reason that transmissions on two different channels (e.g., F-DPCH and HS-SCCH) cannot be sent in the same time slot because “they’re on different codes,” and that the two transmissions “would have to be on the same code in order to share the time slot.” Ex.1069, 62:1-63:2. Dr. Lomp was asked multiple follow-up questions about this; each time he reaffirmed his opinion that, in CDMA

systems, two transmissions “would have to be on the **same** code in order to share the time slot.” Ex.1069, 63:7-65:14.

49. Dr. Lomp’s deposition testimony confuses CDMA channelization principles. In CDMA communications, a base station does not transmit two downlink transmissions to a UE at the same time *unless* the transmissions use different codes. As explained above at Section V.A, using different codes in code division multiple access (CDMA) systems is what allows two communications to share a time slot. The ’889 patent confirms this:

The PLCCCH can **share a timeslot with other physical channels** by exploiting the **CDMA** aspect of the system.

Ex.1001, 2:62-64.

50. Dateki, which is also based on CDMA protocols, likewise shows that multiple downlink channels (e.g., CCH and TCH, HS-SCCH and HS-PDSCH) are transmitted *in overlapping time slots*. See Ex.1005, FIGS. 5 & 6. Dateki’s background also notes that using different codes for a dedicated physical channel (DPCH) and a high-speed physical downlink shared channel (HS-PDSCH) allows them to be used at the same time. See Ex.1005, 4:28-35.

E. Dateki in view of Mate renders obvious “*the transmitter and the processor are further configured to not transmit the signal over the physical control channel at a same time that data over a physical*

shared channel is transmitted.”

1. Dr. Lomp’s testimony incorrectly assumes traffic channel requirements for all of Dateki’s “uplink traffic data.”

51. Dr. Lomp opines that a POSITA would not be motivated to combine Dateki with Mate because Dateki’s “uplink traffic data”—which my Prior Declaration maps to the claimed “*data*”—must be transmitted on a specific traffic channel (TCH) having specific transmission requirements. Ex.2017, ¶¶118-119; Ex.1003, ¶¶130-131; Ex.1005, 10:60-64. Dr. Lomp’s testimony incorrectly assumes that Dateki’s “uplink traffic data” requires use of one of the specific “traffic channels” (TCHs) listed in a 3GPP standards document. *See* Ex.2017, ¶¶118-119; Ex.2016. However, Dateki does not describe, nor would a POSITA assume, that Dateki’s “uplink traffic data” must be transmitted on the TCHs specified in the 3GPP standards document, or that they must be transmitted at the “2-9 kbit/s” rate. *See* Ex.1005, 10:60-64. For instance, Dateki only uses the term “traffic channel” to describe *downlink* channels. *See* Ex.1005, 4:23-24, 4:48-51, 5:24-26; 8:6-8, 8:50-51, 11:22, 12:6-7.

52. The 3GPP specification likewise has no disclosure that, for instance, defines “uplink traffic data” as data that must be transmitted on one of the listed TCHs. Indeed, the 3GPP specification **contradicts** the alleged “2-9 kbits/s” requirement in Dr. Lomp’s Declaration; two of the listed “traffic channels”

(“TCH/F2,4” and “TCH/H2,4”) support data rates of less than 2 kbits/s. Ex.2016, 48 (“TCH/F2,4...A full rate data TCH ($\leq 2,4$ kbit/s),” “TCH/H2,4 A half rate data TCH ($\leq 2,4$ kbit/s)”; Ex.2017, ¶119.

F. Dateki in view of Chitrapu renders obvious “*transmitting, by the first UE, the signal over the physical control channel when time synchronized; and transmitting a signal over a random access channel when not time synchronized.*”

1. Chitrapu discloses the same relationship between time synchronization and channel selection that the ’889 patent contemplates.

53. As I explained in my Prior Declaration, the combination of Dateki and Chitrapu renders obvious “*transmitting, by the first UE, the signal over the physical control channel when time synchronized; and transmitting a signal over a random access channel when not time synchronized.*” Ex.1003, ¶¶164-174. Dr. Lomp does not dispute that Chitrapu and Dateki render the challenged claims of Ground 3 obvious based on the claim as written. Ex.2017, ¶¶125-130. Because Dr. Lomp’s arguments are based on a fundamentally flawed construction of the claims, I maintain my opinion that Dateki in view of Chitrapu renders the challenged claims of Ground 3 obvious.

54. Additionally, I disagree with Dr. Lomp that Chitrapu and Dateki would not render obvious the challenged claims under Dr. Lomp’s construction of the limitation quoted above. Ex.2017, ¶¶129-130. Dr. Lomp asserts that Chitrapu

only shows a UE moving to, or remaining on, a connected mode (and therefore transmitting on a “*physical shared channel*”) based on keeping time synchronization with the base station. Ex.2017, ¶129. Dr. Lomp alleges that Chitrapu fails, however, to show the UE moving to an Idle mode (and therefore transmitting on “*a random access channel*”) in response to losing time synchronization. ¶130. But this is incorrect. My Prior Declaration explained that Chitrapu, consistent with CDMA procedures at the time, disclosed or rendered obvious moving “between Idle and connected states” for a variety of reasons. Ex.1003, ¶¶150, 161. For instance, my Prior Declaration explains:

For instance, the mobile device enters an Idle mode if (1) a mobile device does not have data to transmit or receive, or (2) **the mobile device moves out of range of the cell** to which it was previously connected.

Ex.1003, ¶161.

55. As further explained above at Section V.B, “moving out of range” is one aspect of a connection failure, which often includes losing time synchronization, and which may be detected or inferred in the same way (e.g., based on signal-to-interference (SIR) measurements.) My Prior Declaration also explains that “the UE moving out of an RRC connected state **when it loses synchronization** is consistent with 3G cellular technologies at the time.” Ex.1003, ¶48.

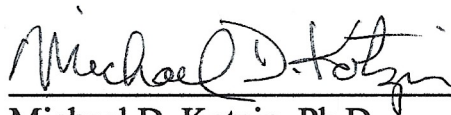
56. Accordingly, my Prior Declaration also demonstrates that Chitrapu discloses or renders obvious the UE entering the Idle mode, and therefore transmitting on the “*random access channel*,” “in response to” losing time synchronization. Ex.1003, ¶¶164-174; *see above*, §V.B. Thus, I also disagree with Dr. Lomp’s assertion that Dateki and Chitrapu do not render the challenged claims of Ground 3 obvious under Dr. Lomp’s proposed construction.

VI. CONCLUSION

This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 or Title 18 of the United States Code.

Date:

Jan 23, 2026



Michael D. Kotzin, Ph.D.