

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,

Petitioner,

v.

INTELLECTUAL VENTURES II LLC

Patent Owner.

Case No. IPR2025-00343
U.S. Patent No. 10,292,138

PATENT OWNER'S SUR-REPLY

TABLE OF CONTENTS

PATENT OWNER’S EXHIBIT LIST	iii
I. Introduction.....	1
II. The Petition Has Failed To Demonstrate That Eckert Discloses A Single Allocation Of Uplink Resources	1
III. The Petition Has Failed To Demonstrate That Eckert In Combination With Lohr-1 Discloses A Single Allocation Of Uplink Resources.....	5
IV. The “Single Allocation Of Radio Resources” Allegedly Disclosed In [0116] Of Eckert Is Inconsistent With Petitioner’s New Theory Based On Priorities.....	9
V. The Petition Did Not Articulate A Coherent Theory Where Data Was Retrieved From Eckert’s Radio Bearers Based On Priorities Of The Data	11
VI. The Petition Has Not Articulated A Coherent Motivation Why A POSITA Would Have Combined Bucknell With Eckert For The Purpose Of Removing Eckert’s Weightings.....	14
VII. The Petition Has Not Articulated A Plausible Motivation Why A POSITA Would Have Combined Bucknell With Eckert For The Purpose Of Reducing Calculations.....	17
VIII. The Reply Purports To Articulate A New Obviousness Theory That Must Be Rejected.....	18
IX. Combining Bucknell With Eckert As Proposed Would Have Resulted In Eckert Ceasing To Function For Its Intended Purpose	20
X. Conclusion	24

PATENT OWNER'S EXHIBIT LIST

Ex. 2001	Petitioner's Answer to Complaint and Counterclaim, dated June 20, 2024, in <i>Intellectual Ventures II LLC v. Tesla, Inc.</i> , C.A. 1:24-cv-00884-ADA (W.D. Tex.)
Ex. 2002	Docket from District Court Litigation, <i>Intellectual Ventures II LLC v. Tesla, Inc.</i> , C.A. 1:24-cv-00884-ADA (W.D. Tex.)
Ex. 2003	Scheduling Order from District Court Litigation, <i>Intellectual Ventures II LLC v. Tesla, Inc.</i> , C.A. 1:24-cv-00884-ADA (W.D. Tex.)
Ex. 2004	Defendant's Second Supplemental Preliminary Invalidity Contentions, dated January 9, 2025, in District Court Litigation, <i>Intellectual Ventures II LLC v. Tesla, Inc.</i> , C.A. 1:24-cv-00884-ADA (W.D. Tex.)
Ex. 2005	Webpage for Judge Albright http://www.txwd.uscourts.gov/for-attorneys/judge-albright-courtroom-faq/
Ex. 2006	Defendant's Final Invalidity Contentions, dated May 22, 2025, in District Court Litigation, <i>Intellectual Ventures II LLC v. Tesla, Inc.</i> , C.A. 1:24-cv-00884-ADA (W.D. Tex.)
Ex. 2007	Expert Declaration of Dr. Gary R. Lomp
Ex. 2008	CV of Dr. Gary R. Lomp

I. Introduction

The Petition failed to demonstrate that the proposed combination disclosed the claimed “single allocation of uplink resources,” or that a POSITA would have been motivated to combine Eckert and Bucknell as proposed. The Reply fails to cure these fundamental deficiencies.

II. The Petition Has Failed To Demonstrate That Eckert Discloses A Single Allocation Of Uplink Resources

In Claim 1, the UE “receiv[es] a single allocation of uplink resources,” and then “selects data from the plurality of radio bearers for transmission using the single allocation of uplink resources.” The ‘138 Patent explains that the single allocation of uplink resources corresponds to “a quantum” of physical “resource allocation units” (referred to as “FreeRAAU”) that the resource allocator can share out. Ex. 1001, 10:40 and 11:7-10 (emphasis added). In the disclosed embodiments, “user separation is obtained by allocating different spreading and scrambling codes to different users on the same carrier frequency and in the same time intervals.” *Id.*, 2:11-14 (emphasis added). In that context, “a quantum” of physical “resource allocation units” (“FreeRAAU”) is defined by the combination of “codes and timeslots” that can be shared out. *Id.*, 11:7-8 (emphasis added).

In purporting to map Eckert's E-DCH channel to "a single allocation of uplink resources" (Element [1.6]), the Petition clearly mapped the *totality* of Eckert's E-DCH transport channel to the claim limitation. From the Petition:

... Eckert relates to the issue of "how the data about **the new transport channel E-DCH** are to be transmitted via the UMTS air interface." Ex.1005, [0015]. Data from buffer storages are transmitted in "a defined time interval via the E-dedicated channel (E-DCH)." Ex.1005, [0116] ("The data which are transmitted within a defined time interval via the E-dedicated channel (E-DCH) are in this case made up proportionally from the data which are buffer-stored in the respective data buffer storages..."). The allocated E-DCH channel, which is a transport channel and also an uplink channel, Ex.1005, [0012], is an example of *a single allocation of uplink resources*. Ex.1003, ¶87.

The '138 patent confirms that a transport channel is an example of "a single allocation of [] radio resources." Ex.1001, 9:36-43. Petition, 34-35 (bold in original, underlining added).

The Petition mapped the "allocated E-DCH channel" as a whole – not a specific time interval of that channel -- to the claimed "single allocation of uplink radio resources." The only reason for Petitioner to have alleged that "a transport channel is an example of 'a single allocation of uplink radio resources'" was because the Petition was mapping a transport channel (as a whole) to "a single allocation of uplink radio resources." Notably, in connection with Element [1.7] that refers back to "the single allocation of uplink resources," the Petition again simply refers to "the E-DCH" in general (rather than a defined time interval on that channel) as "the single

allocation of uplink resources.”¹ Had the Petition intended to map a specific time interval on the E-DCH to the claimed “single allocation,” the Petition should have expressly stated that an allocated “time interval” on the E-DCH channel – rather than the “allocated E-DCH channel” as a whole – “is an example of a single allocation of uplink resources,” and referred back to that construct in connection with Element [1.7]. But it did not and Petitioners cannot change that now.

Under 37 CFR §42.104(d), the Petition needed to clearly and expressly articulate “where each element of the claims is found in the prior art.” It would be prejudicial to the Patent Owner to allow this Petitioner, who failed at the outset to clearly and expressly explain its mappings, to first articulate its position in a Reply, because at that point in the proceedings, Patent Owner is precluded from introducing expert testimony rebutting that theory.

The Reply tries to pretend that the Petition mapped Eckert’s disclosure that data is “transmitted within a defined time interval via the E-dedicated channel (E-DCH)” to “a single allocation of uplink radio resources.” Reply, 2-3. The Petition never said that. But even it did, neither the Petition nor the Reply explains how the

¹ See Petition, 36 (“Bucknell describes a selection of data from each of the MAC-d flows for transmission in a MAC-e PDU over E-DCH (select data ... for transmission using the single allocation of uplink resources)”) (underlining added) and 41 (“... over the E-DCH (using the single allocation of uplink resources)”) (underlining added);

fact that data in Eckert is transmitted within a defined time interval translates to “a single allocation of uplink resources.” The fact that data is transmitted by the UE “within” a defined time interval at most indicates when a UE has access to the channel – but not the quantum or allocation of radio resource units that the UE is permitted to share out during that period. In this respect, the Reply conflates user “scheduling” with “allocation.” “Scheduling” is the process of deciding which user(s) have access to the channel in a given time slot or transmission time interval (TTI), while “allocation” involves assigning specific physical-layer resources—such as bandwidth, specific subcarriers (resource blocks), and transmission power—to each scheduled user. For example, scheduling involves determining which user or user(s) get to transmit while allocation involves determining how much power and which frequency blocks they each get to transmit with.

Significantly, Eckert’s time interval standing alone (or even a finite number of transmission time intervals² standing alone) is insufficient to define an allocation of radio resource units that can be shared out, such as the resources defined by a

² Contrary to the allegations in the Reply (at 4-5), Eckert does not equate the “defined time interval” in [0116] to a finite number of transmission time intervals (TTIs). Moreover, the fact that Dr. Lomp testified that the “defined time interval” in [0116] “could be” a TTI is not evidence that Eckert expressly or inherently disclosed that the “defined time interval” is a TTI or would have been understood as such by a POSITA.

combination of spreading codes and timeslots. Ex. 1001, 9:39-43 and 11:7-10; Ex. 2007, ¶101. Absent more information such as, for example, the number of spreading codes allocated to the UE³ during the time interval, the data rate/power level at which the UE is permitted to transmit during the time interval, and/or the frequency band(s) on which the UE is permitted to transmit during the time interval, the UE has not received sufficient information necessary to indicate a single allocation of radio resources, i.e., a quantum *of radio resource units that can be shared out*, as required by the ‘138 Patent.

III. The Petition Has Failed To Demonstrate That Eckert In Combination With Lohr-1 Discloses A Single Allocation Of Uplink Resources

The Petition’s purported mapping of Eckert and Lohr to the claimed “single allocation of uplink resources” was as follows:

Eckert explains that scheduling of the E-DCH in a UE is controlled by a base station. Ex.1005, [0012] (“[A] new dedicated transport channel called Enhanced Dedicated Channel (E-DCH) has been introduced for this purpose. The fundamental characteristics of this new transport channel include ... *scheduling* controlled by the base station, also called NodeB in UMTS...”). Based on Eckert, it would have been obvious that network elements (such as base station) *schedule times for a UE to transmit* and communicate those times to the UE, e.g., indicate to the UE a transmission time interval to the UE for transmission. Ex.1003, ¶90. Like Eckert, Lohr-1 also relates to the E-DCH of UMTS, including different MAC-d data flows. Ex.1007, 5-

³ The Reply (at 5) alleges that “there are only a finite number of spreading codes employed on Eckert’s E-DCH channel.” However, Eckert does not disclose which ones of those codes are allocated to a given UE during the “defined time interval.”

6 (section entitled “E-DCH MAC Architecture at the user equipment”). Lohr-1 confirms that a base station (called a Node B in UMTS) *specifies time intervals for transmission*. Ex.1007, 7:6-9 (“With a grant message sent in the downlink from the Node B to the UE, the Node B assigns the UE ... the time interval, the UE is allowed to send.”); Ex.1003, ¶91.

Like Eckert, Lohr-1 also relates to the E-DCH of UMTS, including different MAC-d data flows. Ex.1007, 5-6 (section entitled “E-DCH MAC Architecture at the user equipment”). Lohr-1 confirms that a base station (called a Node B in UMTS) *specifies time intervals for transmission*. Ex.1007, 7:6-9 (“With a grant message sent in the downlink from the Node B to the UE, the Node B assigns the UE ... the time interval, the UE is allowed to send.”); Ex.1003, ¶91. Petition, 35-36 (emphasis added).

The Reply says, “[t]he Petition relies on Lohr-1 simply to confirm that it was well known for Eckert’s base station to allocate to a mobile terminal specific time intervals on the E-DCH, thus confirming the obviousness of Eckert’s teachings.” Reply, 7 (emphasis added). But that is not what the Petition said. As shown in the quotes above, the Petition merely argued that both Eckert and Lohr-1 disclosed scheduling (which user or user(s) get to transmit in a time interval) – it said nothing about allocation (how much power and which frequency blocks each scheduled user or users gets to transmit with).

The Reply (at 7) states that “[t]he Petition did not attempt to ... import Lohr-1’s scheduling modes into Eckert.” Taking that at face value, the argument set forth in the Petition was limited to the following: since the combination of Eckert and Lohr-1 teach scheduling, the combination meets the claimed “single allocation of

uplink resources.” The Petition, however, never explained why or how scheduling which user or user(s) get to transmit in a time interval meets the claimed allocation of uplink resources, e.g., the frequency blocks, spreading codes and/or power level allocated to each scheduled user during that time interval.

In a belated (and improper) attempt to plug the gap left by the Petition between “scheduling” and “allocation,” the Reply argues:

... Because (i) Eckert’s base station also schedules the defined time interval during which the UE is to transmit, and (ii) Lohr-1’s base station-scheduled time interval on the E-DCH channel includes a finite number of spreading codes and time slots (TTIs), Eckert combined with Lohr-1 plainly renders obvious “a single allocation of uplink resources” ... Reply, 8 (emphasis added).

This is an improper new theory that was not set forth in the Petition and must be rejected on that basis alone. But even if it were considered, this new theory fails on the merits. The fact that the E-DCH channel includes a finite number of spreading codes and time slots (TTIs), is not equivalent to a disclosure specifying which one(s) of those “finite” codes and TTIs are allocated to a given UE during the “defined time interval.” The number of allocated codes will likely depend on many factors such as, e.g., the power level or available frequencies that the UE can use to transmit, which constantly shift as the traffic in a cell varies.

In explaining why Eckert and Lohr-1 failed to disclose the claimed “single allocation of uplink resources,” the POR (at 51-52) pointed out that the set of

transport formats provided to the UE in the proposed combination comprise multiple data quantities from which the UE autonomously selects, and that the Petition failed to explain how providing the UE with multiple data quantity options for transmitting data equates to providing the UE with “a single allocation of uplink resources.” The Reply does not dispute that providing the UE with multiple data quantity options for transmitting data fails to meet the limitation requiring that the UE be provided with “a single allocation of uplink resources.” Instead, the Reply (at 9) suggests that this distinction does not matter because it relates to how the single allocation *is used* rather than how the resources are allocated in the first place. That argument ignores the claim language, which, as explained next, specifies both that a single allocation is made in the first place and also how that single allocation is used.

Claim 1 recites that the UE “receiv[es] a single allocation of uplink resources” corresponding to a quantum of resource units that can be shared out, and then the UE “selects data from the plurality of radio bearers for transmission using the single allocation of uplink resources.” Thus, the claim requires that the UE use the “single allocation” in data selection. *See also*, Ex. 1001, 9:53-57 (the UE “takes the single physical allocation and splits it between different RBs using the weight, $S_{1, \dots, N}$, values”) and 10:23-28 (“within the UE 505 ... the overall resources allocated by the network are now split up based on the relative values of W' tier.”). The disclosed embodiment provides examples of how the single allocation (referred to as “FreeRAAU”) is used

in the data selection process. For example, in step 610, the UE determines a number of resource allocation units (RAAU) allocated to each queue using Equation [7] as set forth below:

$$RAAU_q = (FreeRAAU) * W_q$$

POR, 14-15, citing Ex. 1001, 11:1-10. Thus, the UE uses the single allocation (*FreeRAAU*) as an input to the equation used to initially select a data quantity from each queue. These initial *RAAU_q* values are then used to determine *RAAU_q*' values (in step 620), which in turn are used to order the queues (in step 625). POR, 15-18. Similarly, in step 645, the UE uses the single allocation (*FreeRAAU*) as an input to the equation used to re-select a data quantity from each queue, as follows:

$$RAAU_q'' = round[(FreeRAAU)W_q'']$$

POR, 20. In the proposed combination of Eckert and Lohr-1, the Petition fails to explain how the so-called “single allocation of radio resources” – which is mapped only to a time interval when one or more UEs is/are permitted to transmit rather than a quantum of resources allocated to each scheduled user -- is used to select data, as claimed.

IV. The “Single Allocation Of Radio Resources” Allegedly Disclosed In [0116] Of Eckert Is Inconsistent With Petitioner’s New Theory Based On Priorities

The Reply (at 10-13) argues that the Petition included an alternative theory for combining Eckert and Bucknell based on priorities rather than weightings in

Eckert. The Petition did not clearly articulate that theory as explained in the next section. However, even if it had, that theory would be inconsistent with the Petitioner's exclusive reliance on Eckert's disclosure in paragraph [0116] of a "defined time interval" for the claimed "single allocation of uplink resources" because [0116] of Eckert (reproduced below) is inextricably tied to the use of Eckert's weightings rather than priorities:

The data which are transmitted within a defined time interval via the E-dedicated channel (E-DCH) are in this case made up proportionally from the data which are buffer-stored in the respective data buffer storages, in line with the signalled weighting (the signalled weighting values and the respective data buffer storages associated data transmission bandwidths which are linked thereto). Ex. 1005, [0116] (emphasis added).

The Petitioner cannot simultaneously rely on Eckert's disclosure that data is transmitted based on the signaled weighting values "within a defined time interval" for the claimed "single allocation of uplink resources," while at the same time advancing a combination of Eckert and Bucknell that excludes the use of such weights. The Petitioner has not provided any explanation why a POSITA would have mixed and matched aspects of different embodiments of Eckert in that manner.

V. The Petition Did Not Articulate A Coherent Theory Where Data Was Retrieved From Eckert's Radio Bearers Based On Priorities Of The Data

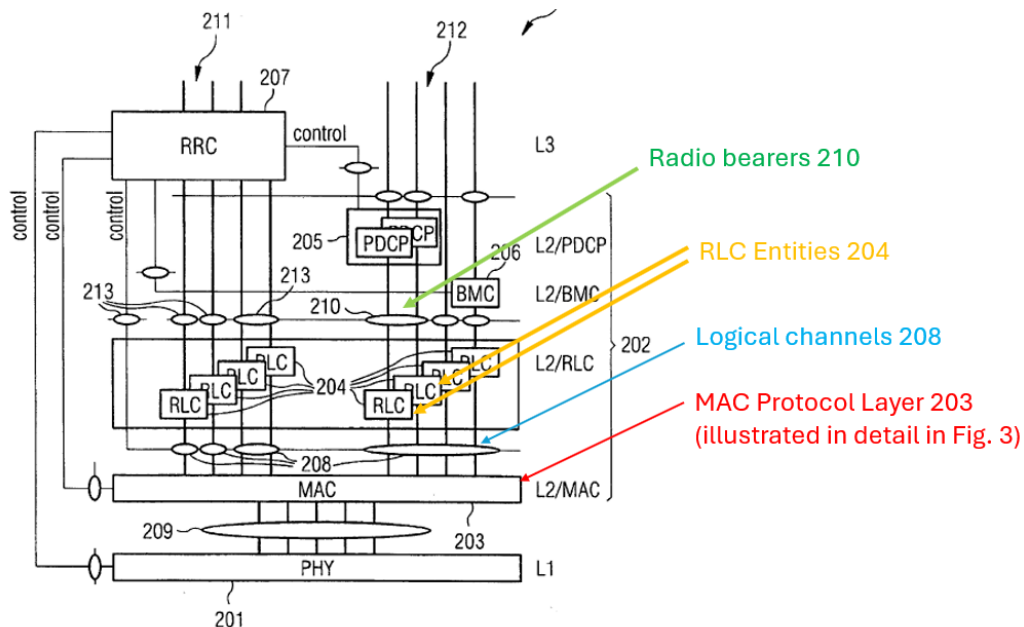
In connection with Elements [1.4]-[1.5], the Petition (at 31-33) mapped the claimed “plurality of radio bearers” to “each radio bearer” disclosed in the background section of Eckert at [0011]. In the Detailed Description, Eckert refers to such radio bearers as “radio bearers (RB) 210.” Ex. 1005, [0149], [0156], [0163]. However, in connection with Elements [1.7]-[1.8] – which recite steps where data is selected from “the plurality of radio bearers” -- the Petition (at 36-38, 41-43, 45) switched its mapping of the claimed radio bearers from Eckert's radio bearers to Eckert's “MAC-d flows” which are not the same. The Reply (at 10-13) argues that Patent Owner ignored an alternative theory espoused in the Petition which relied on Eckert's “priorities” (rather than weightings) to select data from the claimed radio bearers. However, the Petition never espoused a cohesive theory that Eckert used “priorities” to select data from Eckert's radio bearers 210 (mapped to the claimed “plurality of radio bearers” in Elements [1.4] and [1.5]). That is because the “priorities” disclosed in [0228] of Eckert and relied on by Petitioner for its “alternate theory” are used to select data from Eckert's “priority queues 306” which are not the same as Eckert's radio bearers 210. From Eckert:

To set up the MAC-e protocol data unit 607, the HARO unit 307 retrieves, i.e. reads, the data from the various priority queues 306 according to particular criteria, such as the priorities of the data or the

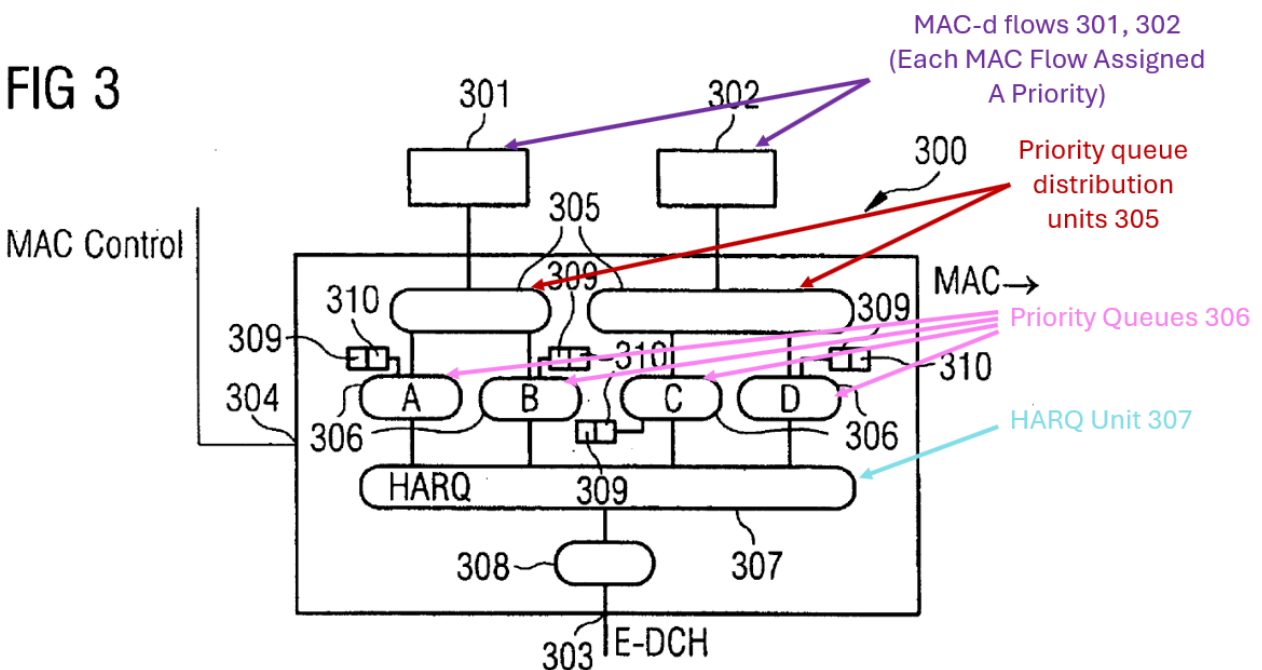
weightings or weighting value ranges transmitted using an RRC message, as explained in more detail below, for the individual priority queues 306. *Id.*, [0228] (emphasis added).

As the discussion which follows explains, Eckert’s “priority queues 306” (from which Eckert’s HARQ unit 307 reads data according to “priorities” of the data) are materially different from the radio bearers in Eckert that the Petition mapped to the claimed “plurality of radio bearers” in Elements [1.4] and [1.5].

As shown in Figure 2 of Eckert (reproduced below with colored annotations added by Patent Owner), radio bearers 210 (green) are provided to the RLC entities 204 (orange), where there is an independent RLC entity 204 for each radio bearer 210. *Id.*, [0149], [0160]. The RLC entities 204 in turn generate logical channels 208 (blue) that are provided to the MAC protocol layer 203 (red). *Id.*, [0149], [0154]-[0155], [0160].



The operation of MAC protocol layer 203 (red in diagram above), is depicted in expanded form in Figure 3 of Eckert, which is reproduced below with colored annotations added by Patent Owner. In MAC protocol layer 203, one or more logical channels 208 (blue in diagram above) “are multiplexed onto an MAC-d flow 301, 302, [purple in diagram below] with each MAC-d flow 301, 302 in the MAC-d sub protocol layer being assigned a priority.” *Id.*, [0170] (emphasis added). The MAC-d flows 301, 302 are in turn provided to priority queue distribution units 305 (brown) which “split the data over the data buffer storages 306 with the different priorities, i.e. for processing using data of different priorities in a respective data buffer storage, with a data buffer storage respectively buffer-storing data of one priority.” *Id.*, [0170] (emphasis added).



Referring still to the annotated version of Figure 3 above, Eckert refers to the “data buffer storages 306” as “the priority queues 306.” *Id.*, [0172]. The HARQ unit 307 (aqua) then “takes a number of packet data units (PDUs) according to their priority from the data buffer storages of the priority queues 306 and forwards them via the E-DCH transport channel 303.” *Id.*

As is evident from the above, Eckert’s priority queues 306 are not one and the same as Eckert’s radio bearers 210, which the Petition mapped to the claimed radio bearers in Elements [1.4]-[1.5]. In fact, they are many steps removed from each other as shown in Figures 2 and 3 of Eckert. The arguments in the Reply (at 10-13) alleging that Patent Owner ignored an alternative theory espoused in the Petition which relied on Eckert’s “priorities” rather weightings to select data from the claimed “plurality of radio bearers” is meritless because the Petition *never* espoused a theory that Eckert used “priorities” to select data from Eckert’s radio bearers 210 (mapped to the claimed “plurality of radio bearers” in Elements [1.4] and [1.5]).

VI. The Petition Has Not Articulated A Coherent Motivation Why A POSITA Would Have Combined Bucknell With Eckert For The Purpose Of Removing Eckert’s Weightings

The Petition advanced two purported motivations why a POSITA would have combined Eckert and Bucknell. First, the Petition argued that a POSITA would have been motivated to make the proposed combination in order to eliminate the need for “sending weighting values from a base station to a UE, as is done in Eckert, ... thus

beneficially achieving reducing control signaling overhead compared to Eckert's techniques." Petition, 52. According to the Reply (at 13-14), "Petitioner's combination is built on specific embodiments of Eckert in which MAC-d queue weighting values are explicitly signaled from a base station to a mobile terminal" and "[b]ecause these embodiments require the base station to transmit weighting values to the mobile terminal, the motivation to modify them is straightforward: replacing Eckert's weight-based data selection method with Bucknell's priority-based multiplexing scheme eliminates that signaling requirement, thereby reducing control signaling overhead."

However, a POSITA who was motivated to eliminate the requirement of signaling weighting values from the base station to a UE in Eckert would not have needed to look beyond the four corners of Eckert to satisfy that goal. That is because Eckert itself disclosed options where the weightings "are not explicitly signalled." *Id.*, [0107], [0115] and [0118] (emphasis added). For example, instead of explicitly sending the weightings, Eckert discloses that the "weighting values can be assigned to the priority queues" a priori on the basis of, e.g., the four known traffic classes provided in UMTS, i.e., "conversational, streaming, interactive, background." *Id.*, [0118]- [0121]. POR, 38, 60-61. Neither the Petition nor the Reply explains why a POSITA seeking to eliminate the sending of weighting values from the base station to a UE in Eckert would have looked beyond the four corners of Eckert to accomplish

that goal. The Petition's theory that a POSITA would have combined Bucknell with Eckert to solve a problem that Eckert already solved defies credulity.

The Reply (at 15) argues that Patent Owner's arguments are not "directed to the embodiments that Petitioner actually relies upon." That is not the case. The Reply (at 13-14) explains that "Petitioner's combination is built on specific embodiments of Eckert in which MAC-d queue weighting values are explicitly signaled from a base station to a mobile terminal." Petitioner posits that a POSITA who started with that embodiment would have been motivated to eliminate the explicit signaling of weighting values from the base station to a UE. Reply, 14; Petition, 52. Starting from that framework, Petitioner's argument that a POSITA would have been motivated to look to Bucknell to eliminate the explicit signaling of the weighting values in Eckert is nonsensical, because Eckert already disclosed options where the weightings "are not explicitly signalled." POR, 38, 60-61.

The Reply failed to address – let alone rebut – the point made repeatedly by in the POR that a POSITA motivated to eliminate the sending of weighting values from the base station to a UE would not have needed to look beyond Eckert itself to accomplish that goal.

VII. The Petition Has Not Articulated A Plausible Motivation Why A POSITA Would Have Combined Bucknell With Eckert For The Purpose Of Reducing Calculations

The Petition's second alleged reason why a POSITA would be motivated to do away with Eckert's weightings is to "reduce complexity ... by avoiding the use of calculations that involve selecting data from queues in proportion to weighting values." Petition, 52. This purported motivation presumably involves eliminating a simple multiplication operation where a weight value (e.g., 40%) is multiplied by the available bandwidth in Eckert, and is flawed for multiple reasons. First, the Reply fails to address – let alone rebut – the point made by Patent Owner in the POR that there is no need for the UE in Eckert to do any "calculations" to determine the amount of data associated with each weighting value because, in Eckert, the results of such calculations are already "baked into" the predefined transport formats provided by the base station to the UE. *See*, POR, 62. Since Eckert has not been shown to even perform the "calculations" that Petitioner's obviousness theory purports to eliminate, the Petitioner has no basis for arguing that a POSITA would have been motivated to eliminate any such nonexistent "calculations."

Second, even if it had been shown that Eckert actually performed the calculations in question, the fraction of a clock cycle of processing required to multiply an available bandwidth quantity by an allocation percentage is so trivial that it would not motivate a POSITA to substantially redesign Eckert to use

Bucknell's techniques in place of Eckert's weightings. It strains credulity that a POSITA would engage in a substantial redesign of Eckert to substitute a priority-based allocation methodology for Eckert's weighting-based system, in order to save a fraction of a clock cycle. POR, 62. The Reply does not dispute the trivial nature of eliminating a fraction of a clock cycle, nor provide any rationale why a POSITA would engage in a substantial redesign of Eckert to save a fraction of a clock cycle.

VIII. The Reply Purports To Articulate A New Obviousness Theory That Must Be Rejected

Recognizing the weaknesses of the purported motivations for combining Eckert and Bucknell set forth in the Petition, the Reply (at 24-25) advances for the first time a new obviousness theory that "Bucknell and Eckert both address the problem of how to fill a MAC-e PDU from various MAC-d queues" and "Petitioner has demonstrated that Bucknell teaches a suitable option for addressing the same problem as in Eckert, which demonstrates obviousness" under *Intel Corp. v. Qualcomm Inc.*, 21 F. 4th 784, 800 (Fed. Cir. 2021). This is a new theory which must be rejected because it was not set forth in the Petition and it would be prejudicial to Patent Owner to allow the Petitioner to wait to advance a new theory until the point in the proceedings where the Patent Owner is precluded from responding with testimony from Patent Owner's own expert.

Even if it were to be considered, the new theory must be rejected because it fails to align with the other mappings set forth in Petition. As mentioned above, in connection with Elements [1.4]-[1.5], the Petition (at 31-33) mapped the claimed “plurality of radio bearers” exclusively to the radio bearers mentioned in the background section of Eckert at [0011] and referred to in Eckert’s Detailed Description as “radio bearers (RB) 210.” Ex. 1005, [0149], [0156], [0163]. In Elements [1.7]-[1.8], the claim language goes on to require that data be selected from “the plurality of radio bearers,” and thus the Petitioner was required to demonstrate that, in the proposed combination, data from those same radio bearers were selected as required by Elements [1.7]-[1.8]. Even if “Bucknell and Eckert both address the problem of how to fill a MAC-e PDU from various MAC-d queues,” that fact does not meet Petitioner’s burden of demonstrating that the proposed combination would have selected data from the same radio bearers identified by the Petition in connection with Elements [1.4]-[1.5], because the “various MAC-d queues” that both Eckert and Bucknell purportedly use to fill a MAC-e PDU are not one and the same as Eckert’s radio bearers 210.

Finally, for the reasons explained next, the new theory must be rejected because the Petitioner has failed to demonstrate that Bucknell “teaches a suitable option for address[ing] the same problem as in Eckert.” Reply, 24-25 (emphasis added). On the contrary, rather than being suitable for Eckert, replacing Eckert’s

weightings with the relied-on techniques from Bucknell would have rendered Eckert inoperable for its intended purpose.

IX. Combining Bucknell With Eckert As Proposed Would Have Resulted In Eckert Ceasing To Function For Its Intended Purpose

Eckert recognized that, when transmitting data from multiple queues, signaling the makeup of the transmitted data has the potential to add an “enormous volume of additional signaling data in the control data header” in order to inform the network the specifics of the queue(s) from which the transmitted data originated. POR, 54-55. In order to reduce the signaling overhead, Eckert used “predefined weights” for proportionally mapping data from queues to the transport channels, and then tied a limited set of transport format combinations (from which the UE selects one) to the proportional allocations dictated by the weights. POR, 55-59. Proportionally allocating transmission resources among queues based on the weights disclosed in Eckert will always result in a combination of data from the queues which corresponds to one of the transport formats available for the mobile terminal to select. The Reply (at 16-17) argues that Eckert’s solution for reducing the signaling data is separable from Eckert’s solution of using predefined weights to proportionally allocate transmission resources among various queues. That is incorrect: the two are inextricably tied. It is the linkage between the predefined weights and the limited

number of predefined transport formats that allows Eckert to use a single index value to signal the makeup of the transmitted data. POR, 55.

The Reply (at 18-19) next suggests that Eckert's use of weights to proportionally select data from various queues can be replaced with Bucknell's Examples 1-3 while retaining Eckert's solution in which a single index value is used to signal the makeup of the transmitted data. That too is incorrect, because Bucknell's techniques do not populate its first and second portions in a way where the makeup of the transmitted data will normally match one of the limited number of transport format combinations from which Eckert's UE must select. On the contrary, given the vast number of potential combinations in which the first and second portions in Bucknell's Examples 1-3 could be populated, it would be impractical to link one of a limited set of predefined transport format combinations to each one of the many possible allocation outcomes that could be produced. POR, 56-59.

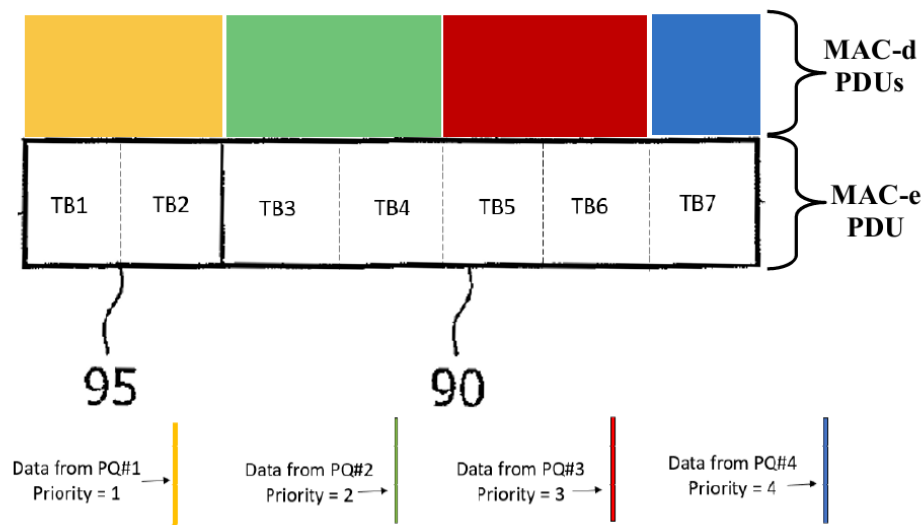
Absent from the Reply is any explanation of how a POSITA could link each of a limited set of predefined transport format combinations (as taught in Eckert) to one of the vast number of potential combinations in which the first and second portions in Bucknell could be filled with data from the different queues. The Reply (at 19) makes only the conclusory allegation that "Eckert's solution of using a single index to a row in a table of transport format combinations applies to signal the

resulting PDU contents [of Bucknell's selection methods] to the base station.” That conclusory allegation is insufficient to explain how such a result could be accomplished.

The Reply (at 20) criticizes Patent Owner's example (at 56-58 of the POR) depicting data from different queues interleaved in fragmented fashion across transport blocks. But the Reply fails to rebut that such interleaving and fragmentation is exactly what Bucknell teaches. In the combination of Bucknell's Examples 1-3, Bucknell (at [0027]-[0028]) discloses that “the second portion 95 is populated by taking one data packet in turn from each of the subset of queues” (which results in interleaving of data from the subset of queues) followed by making the unused resource from the first portion 90 “available for the second portion 95” (which results in fragmentation).

The Reply (at 21-23) suggests a POSITA would have rearranged the interleaved and fragmented data resulting from Bucknell's techniques into a more simple arrangement. That argument is not only outside the scope of the instituted grounds (which lack any reference that teaches how such rearrangement would be done), but also misses the point that, even if the data were rearranged, the respective quantities of data from each queue would still fail to map neatly to one of a limited set of transport formats as required by Eckert. The Reply merely posits without explanation or support that the interleaved and fragmented data resulting from

Bucknell's Examples 1-3 could be rearranged as follows such that the quantities of data from Queues 1, 2 and 3 each occupy exactly two transport blocks, while the data from Queue 4 occupies exactly one transport block, as shown below.



Reply, 23. However, the Reply fails to explain how Bucknell's process of populating "the second portion 95 ... by taking one data packet in turn from each of the subset of queues," followed by making the unused resource from the first portion 90 available for the second portion 95," followed by "rearrangement," would magically result in quantities of data from each queue that align perfectly with the transport block boundaries as illustrated in the Reply. Unless the unused resource in the first portion 90 plus the resource in the second portion 95 perfectly summed to the equivalent of 6 transport blocks and the used resource in the first portion perfectly summed to the equivalent of 1 transport block, the example depicted in the Reply would never occur. The illustration in the Reply is thus completely

inapplicable to the vast number of times when the quantities of data resulting from Bucknell's Examples 1-3 do not magically align with the transport block format depicted in the Reply. For those vast number of other times when the quantities of data resulting from Bucknell's Examples 1-3 do not magically align as shown, Petitioner fails to explain how an index linked to a limited number of transport format combinations (as taught in Eckert) could be used to signal a particular one of the many potential combinations in which Bucknell's first and second portions could be filled.

In summary, the proposed combination would suffer from the very problem that Eckert first identified, namely, the need for an "enormous volume of additional signaling data in the control data header" to convey the specifics of the transmitted data, and cause Eckert to cease to function for its intended purpose of reducing the amount of such signaling data.

X. Conclusion

Patent Owner respectfully requests that the Board find that the Challenged Claims are not unpatentable.

Respectfully submitted,

Dated: April 1, 2026

By: /Daniel H. Golub /
Daniel H. Golub
Registration No. 33,701
Counsel for Patent Owner
Intellectual Ventures II LLC

CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Patent Owner's Sur-Reply complies with the type-volume limits of 37 C.F.R. § 42.24(b)(1) because it contains 5,594 words, excluding the parts of this Patent Owner's Sur-Reply that are exempted by 37 C.F.R. § 42.24(a), according to the word processing system used to prepare this Patent Owner's Sur-Reply.

Respectfully submitted,

Dated: April 1, 2026

By: /Daniel H. Golub /
Daniel H. Golub
Registration No. 33,701

Counsel for Patent Owner
Intellectual Ventures II LLC

CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing **PATENT OWNER'S SUR-REPLY** was served via email (as consented to by counsel) on April 1, 2026 to lead and backup counsel of record for Petitioners as follows:

Scott T. Jarratt
scott.jarratt.ipr@haynesboone.com
HAYNES AND BOONE, LLP
2801 N. Harwood Street, Suite 2300
Dallas, TX 75201

Jonathan Bowser
jon.bowser.ipr@haynesboone.com
HAYNES AND BOONE, LLP
2801 N. Harwood Street, Suite 2300
Dallas, TX 75201

Clint Wilkins
clint.wilkins.ipr@haynesboone.com
HAYNES AND BOONE, LLP
2801 N. Harwood Street, Suite 2300
Dallas, TX 75201

Paul Margulies
pmargulies@tesla.com
TESLA, INC.
1 Tesla Road
Austin, Texas 78725

Dated: April 1, 2026

By: /Daniel H. Golub /
Daniel H. Golub
Registration No. 33,701
Counsel for Patent Owner
Intellectual Ventures II LLC