UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ONEPLUS TECHNOLOGY (SHENZHEN) CO., LTD.,
Petitioners,

v.

PANTECH CORPORATION,
Patent Owner

Case: IPR2025-00888

U.S. Patent No. 9,369,251

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Second Amended Docket Control Order, *Pantech Corporation and Pantech Wireless, LLC v. OnePlus Technology (Shenzhen) Co., Ltd.,* No. 5:24-CV-00038-RWS-JBB (E.D. Tex.) (Dkt. 58) (May 13, 2025)
2002	United States District Courts – National Judicial Caseload Profile
2003	Pantech Corporation's July 9, 2021 Notice Letter to OnePlus Technology Co., Ltd.
2004	Third Amended Docket Control Order, *Pantech Corporation and Pantech Wireless, LLC v. OnePlus Technology (Shenzhen) Co., Ltd.,* No. 5:24-CV-00038-RWS-JBB (E.D. Tex.) (Dkt. 86) (July 17, 2025)
2005	Order Modifying Dates in Docket Control Order, *Pantech Corporation and Pantech Wireless, LLC v. OnePlus Technology (Shenzhen) Co., Ltd.,* No. 5:24-CV-00038-RWS-JBB (E.D. Tex.) (Dkt. 85) (July 17, 2025)
2006	Jury Verdict, *Pantech Corp. v. OnePlus Technology (Shenzhen) Co., Ltd.*, No. 5:22-cv-00069-RWS (E.D. Tex.) (Dkt. 259) (April 1, 2024)
2007	Final Judgment, *Pantech Corp. v. OnePlus Technology (Shenzhen) Co., Ltd.*, No. 5:22-cv-00069-RWS (E.D. Tex.) (Dkt. 499) (Jan. 23, 2025)
2008	Kiri Gupta & Urska Petrovcic, *Evidence of Systematic "Patent Holdout"*, 38 Berkeley Tech. L. J. (2023)

2009	Richard A. Epstein & Kayvan B. Noroozi, *Why Incentives for "Patent Holdout" Threaten to Dismantle FRAND, and Why It Matters*, 32 Berkeley Tech. L.J. 1381 (2017)
2010	Kalyan Dasgupta & David J. Teece, *Protecting Innovation in the Mobile Wireless Ecosystem: Understanding & Addressing "Hold-Out"*, 38 Berkeley Tech. L.J. 313 (2023)
2011	*Markman* Order, *Pantech Corporation and Pantech Wireless, LLC v. OnePlus Technology (Shenzhen) Co., Ltd.,* No. 5:24-CV-00038-RWS-JBB (E.D. Tex.) (Dkt. 90) (July 30, 2025)
2012	Translation of Excerpts of Korean Patent Application KR 10-2010-0078536

I. INTRODUCTION

Patent Owner Pantech Corporation ("Pantech") respectfully requests that United States Patent and Trademark Office ("USPTO" or the "Office") Patent Trial and Appeal Board ("PTAB" or the "Board") deny institution of *inter partes* review of claims 7, 9-12, and 14-16 (the "challenged claims") of U.S. Patent No. 9,369,251 ("the '251 Patent"). Petitioner OnePlus Technology (Shenzhen) Co., Ltd.'s ("Petitioner" or "OnePlus") has failed to demonstrate a reasonable likelihood of prevailing with respect to at least one challenged claim.

More specifically, Petitioner's primary reference for all Grounds—Chandrasekhar-I—is not prior art and lacks critical elements of the independent challenged claims, and these critical deficiencies are not overcome by the secondary references relied upon under a theory of obviousness. Chandrasekhar-I, whether in combination with Chandrasekhar-II (which is also not prior art) or TI, fails to render obvious each challenged claim of the '251 Patent, which require "a first data field that indicates a cycle and an offset of muting subframes." *See* '251 Patent at independent claims 7 and 12.

Accordingly, Petitioner has failed to meet its burden of showing a reasonable likelihood of prevailing with respect to the invalidity of any of the challenged claims. The Board should deny Petitioner's request to institute *inter partes* review.

II. BACKGROUND

A. Background of the ’251 Patent

The ’251 Patent relates to the field of wireless communications. More particularly, the invention of the ’251 Patent relates to equipment and methods for performing muting for all or a partial resource region in a resource space for data transmission of a serving cell. ’251 Patent at 1:26-35. By implementing the invention of the ’251 Patent, interference from a neighboring cell at the time of allocating a resource of a channel state information-reference signal (CSI-RS) may be avoided. ’251 Patent at 2:16-54.

The ’251 Patent is entitled “Apparatus and method for transmitting muting information, and apparatus and method for acquiring channel state using same,” issued on June 14, 2016, and claims priority to KR 10-2010-0077590, filed on August 11, 2010; KR 10-2010-0078536, filed on August 13, 2010; KR 10-2010-0098005, filed on October 7, 2010; and KR 10-2010-0098006, filed on October 7, 2010.

B. Relevant ’251 Patent Prosecution History

During the prosecution of the application that led to the ’251 Patent, the claims at issue were examined at length for their novelty, including in view of U.S. Patent Publication No. 2012/0039282 (“Kim”); U.S. Patent Publication No. 2012/0087299 (“Bhattad”); U.S. Patent Publication No. 2012/0188955 (“Zhang”); U.S. Patent

Publication No. 2013/0142156 ("Mazzarese"); U.S. Patent Publication No. 2013/0196675 ("Xiao"); and U.S. Patent Publication No. 2014/0003270 ("Maltsev"). *See* EX1002 at 63-66.

On October 8, 2015, the claims at issue were rejected based on double patenting and for claiming the same invention as U.S. Patent No. 9,088,396 to the same inventor. EX1002 at 99-103. Following this rejection, the claims at issue were amended on January 8, 2016 "solely for informality correction, better wording, and clarification"; a terminal disclaimer was filed; and new claims 12-16 were added. *Id.* at 79-87. The claims as amended were then allowed in a notice of allowance dated February 16, 2016. *Id.* at 63-66.

C. Summary of Petitioner's Proposed Grounds for Unpatentability

Petitioner contends that claims 7, 9-12, and 14-16 of the '251 Patent would have been invalid under pre-AIA 35 U.S.C. §§ 102 and 103. The Petition raises five grounds of alleged unpatentability based on the following references:

1. U.S. Patent Application Publication No. 2012/0264441 ("Chandrasekhar-I");
2. U.S. Provisional Application No. 61/365,174 ("Chandrasekhar-I-Prov");
3. U.S. Patent No. 8,514,738 ("Chandrasekhar-II");
4. U.S. Provisional Application No. 61/320,900 ("Chandrasekhar-II-Prov");

5. 3GPP Technical Document R1-103696 ("TI").

The specific grounds of alleged invalidity are summarized as follows:

Ground	Basis	Claims	References
1	§102 (pre-AIA)	7, 9-12, and 14-16	Chandrasekhar-I
2	§103 (pre-AIA)	7, 9-12, and 14-16	Chandrasekhar-I
3	§103 (pre-AIA)	7, 9-12, and 14-16	Chandrasekhar-I in view of Chandrasekhar-II
4	§103 (pre-AIA)	7, 9-12, and 14-16	Chandrasekhar-I in view of TI
5	§103 (pre-AIA)	7, 9-12, and 14-16	Chandrasekhar-I in view of Chandrasekhar-II and TI

D. Petitioner's Relied-Upon References

The three references relied upon by Petitioner are summarized as follows:

1. *Overview of Chandrasekhar-I (Ex. 1004)*

U.S. Patent Application Publication No. 2012/0264441 ("Chandrasekhar-I") is a patent application entitled "Multi-Cell Signaling of Channel State Information-Reference Signal and Physical Downlink Shared Channel Muting." Chandrasekhar-I was filed on July 18, 2011 and published on October 18, 2012. Chandrasekhar-I purports to disclose "signaling schemes for communicating the PDSCH muting

configuration from the eNodeB to its UEs so that they can measure inter-cell CSI if configured." EX1004 at ¶ [0004].

Chandrasekhar-I claims priority to, *inter alia*, U.S. Provisional Application No. 61/365,174 ("Chandrasekhar-I-Prov") (EX1005), filed July 16, 2010. Chandrasekhar-I-Prov has three distinct portions: a "innovation disclosure" (EX1005 at 1-5), a document entitled "Design and Signaling of PDSCH Muting for LTE-Advanced" (*id.* at 6-11), and a document entitled "Considerations on Muting and Interference Estimation" (*id.* at 12-14).

2. ***Overview of Chandrasekhar-II (Ex. 1006)***

U.S. Patent No. 8,514,738 ("Chandrasekhar-II") patent entitled "Physical downlink shared channel muting on cell-specific reference symbols locations for of non-serving cells." Chandrasekhar-II was filed on March 30, 2011, and issued on Aug. 20, 2013.

Chandrasekhar-II claims priority to, *inter alia*, U.S. Provisional Application No. 61/320,900 ("Chandrasekhar-II-Prov") (EX1007), filed April 5, 2010. Chandrasekhar-II-Prov is titled "PDSCH muting on CRS Locations for Intercell CSI Estimation."

3. ***Overview of TI (Ex. 1008)***

3GPP Technical Document R1-103696 ("TI") is a submission to 3GPP's servers on June 22, 2010 from Texas Instruments. EX1008. TI is associated with

3GPP TSG RAN WG1 #61 bis. *Id.* TI's title is "CSI-RS Patterns for LTE-Advanced." *Id.*

III. CLAIM CONSTRUCTION

For purposes of this Preliminary Response, Patent Owner also applies the plain and ordinary meaning of all terms.

IV. LEGAL STANDARDS FOR INVALIDITY

A. Anticipation under 35 U.S.C. § 102

Anticipation under 35 U.S.C. § 102 requires that a single prior art reference disclose each and every limitation of the claimed invention. *Schering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1379-80 (Fed. Cir. 2003).

B. Obviousness under 35 U.S.C. § 103

A claim is not patentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time of the invention. 35 U.S.C. § 103(a). Obviousness requires assessing (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the "differences between the prior art and the claims at issue," and (4) "secondary considerations" of non-obviousness such as "commercial success, long felt but unsolved needs, failure of others, etc." *KSR Int'l Co. v. Teleflex Inc.,* 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City,* 383 U.S. 1, 17-18 (1966)).

It is a petitioner's burden "to demonstrate both 'that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.,* 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (quotations and citations omitted). However, a petitioner must first show that all of the claimed elements are disclosed in the prior art. *See Medichem, S.A. v. Rolabo, S.L.,* 437 F.3d 1157, 1164 (Fed. Cir. 2006) (considering motivation to combine and reasonable expectation of success only "if all the elements of an invention are found in a combination of prior art references").

V. THE PETITION DOES NOT SHOW A REASONABLE LIKELIHOOD OF PREVAILING WITH RESPECT TO ANY CHALLENGED CLAIM

In addition to the grounds already presented in Patent Owner's Request for Discretionary Denial, institution should be denied because Petitioner does not establish a reasonable likelihood of prevailing against any challenged claim.

A. Grounds 1-5: Petitioner Fails To Establish that Either Chandrasekhar-I or Chandrasekhar-II is Prior Art

Each Ground of the Petition relies upon Chandrasekhar-I as a primary reference, and Grounds 3 and 5 of the Petition rely upon Chandrasekhar-II as a secondary reference. However, neither Chandrasekhar-I nor Chandrasekhar-II is prior art to the challenged claims, and accordingly Petitioner has not shown a

likelihood of success with regard to any of its asserted Grounds.

1. Priority Date of the Challenged Claims

To begin with, Petitioner reads its own cited authority incorrectly, and it is wrong that it "is Patent Owner's burden to establish that the claims are entitled to the priority dates of the earlier-filed application." *See* Pet. at 18 n. 6. It is Petitioner that bears the ultimate burden of proving invalidity, and this burden includes showing that the challenged claims are **not** entitled to a priority date antecedent to its proposed prior art: if a Patent Owner provides evidence and argument supporting a claim of priority, "the burden [] shifts to the proponent of the invalidity defense [] to convince the court that [the patent claim] is not entitled to the benefit of the earlier filing date." *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)).

Petitioner does not cite to or discuss any priority application for the '251 Patent; **for this reason alone, it cannot carry its burden, and it has not sufficiently set forth any claim of invalidity**. *See Dynamic Drinkware*, 800 F.3d at 1379–80. Instead, Petitioner alleges a lack of written description in the specification

of the ’251 Patent itself (*see* Pet. at 17-18),[1] but these arguments are misplaced and wrong. *See* Pet. at 17-18.

Regarding the Petitioner’s argument at page 17, the ’251 Patent’s specification discloses that “[t]he performance method of the first step may be determined based on a location of the muting subframe in which the muting is required and a relation between CSI-RS transmission cycles and CSI-RS transmission offset of the specific cell or the neighboring cell.” ’251 Patent at 12:12-16. Further details are provided across much of the remaining specification. Petitioner does not cite to this portion of the specification **at all**, and it is entirely unclear how this language could possibly differ from the nearly **verbatim** claim requirement pointed to by Petitioner of “the first data field is configured based on … a relation between CSI-RS transmission cycles and CSI-RS transmission offset of the serving cell or the neighboring cell.” *See* Pet. at 16-17. Petitioner’s arguments about a separate passage, while wrong, are also inapposite.

Petitioner also provides no argument whatsoever for its contention that the claim limitation of “CSI-RS muting information including … a second data field

[1] This appears to be an improper attempt to raise a written description challenge, which is outside the scope of an *inter partes* review.

having n-bit bitmap, the n being an integer among 12 to 28" is missing from the specification of the '251 Patent. *See* Pet. at 16. But support for this limitation exists, *inter alia*, at '251 Patent at 23:11-15 ("C. Method 3 of Directly Indicating a Muting Pattern: Configuration is Made with a Bitmap of 12 to 28. In Type C of Type 2-1, a figure of information bit configuring a second data field may be one bit value of '12 to 28 bits in total'.").

In any event, the challenged claims are entitled to a priority date of at least August 13, 2010, corresponding to Korean priority application KR 10-2010-0078536, a machine translation of which is attached as EX2012.[2] Petitioner has pointed to two limitations allegedly missing from the priority applications, but each are present in KR 10-2010-0078536.

Regarding "*CSI-RS muting information including ... a second data field having n-bit bitmap, the n being an integer among 12 to 28*" (claims 7 and 12), support for this limitation can be found the following passage of KR 10-2010-0078536:

> C. Method 3 of Directly Indicating a Muting Pattern: Configuration is made with a Bitmap of 12 to 28 Bits.

[2] The original Korean priority application KR 10-2010-0078536 can be found in the '251 Patent's prosecution history at EX1002 at 205-97.

> In Type C of Type 2-1, a number of information bits configuring a second data field may be one bit value of '12 to 28 bits' in total.

EX2012 at ¶¶ 218-19. This passage plainly shows that the inventors had possession of the concept of an n-bit bitmap with 12 to 28 bits at the time of the provisional application.

Regarding "the first data field is configured based on … a relation between CSI-RS transmission cycles and CSI-RS transmission offset of the serving cell or the neighboring cell" (claims 9 and 14), support for this limitation can also be found in KR 10-2010-0078536:

> The performance method of the first step may be determined based on a location of the muting subframe in which the muting is required and a relation between CSI-RS transmission cycles and CSI-RS transmission offset of the specific cell or the neighboring cell, and this will be described in detail below.

Id. at ¶ 101 (emphasis added).

Accordingly, there is written description support for the claims of the '251 Patent, and they are entitled to a priority date of at least August 13, 2010.

2. Chandrasekhar-I is not Prior Art to the Challenged Claims (Grounds 1-5)

Petitioner does not dispute that, as a matter of law, "a prior art patent or published application cannot be accorded the benefit of its provisional application's

filing date absent a showing that the provisional application provides support for the claims of the patent or published application." *See In re Riggs*, 131 F.4th 1377, 1384 (Fed. Cir. 2025); Pet. at 4-5.

However, Petitioner has not met its burden to show that Chandrasekhar-I-Prov provides written description support and enabling support for any claim of Chandrasekhar-I (*see Riggs*, 131 F.4th at 1384), and in fact it does not.

Petitioner's only contentions regarding support in Chandrasekhar-I-Prov for Chandrasekhar-I concern claim 30,[3] and Petitioner has failed to show that Chandrasekhar-I-Prov provides support for claim 30.

First, Chandrasekhar-I-Prov provides no support for claim 30's requirements that the user equipment receive a "muting enable/disable signal indicating each muting configuration is enabled or disabled," as required by claim element [30.a],

[3] Petitioner also alleges that support for claim 13 is provided by Chandrasekhar-I-Prov, but then does not address claim 13 and merely alleges that "Claims 13 and 30 of Chandrasekar-I are substantially the same. Thus, claim 13 can be supported by the same disclosures of Chandrasekhar-I-Prov in substantially the same manner shown in the table for claim 30." *See* Pet. at 4 n. 3. Accordingly, there is no separate basis of support for claim 13.

or a "a measurement enable/disable signal indicating each measurement configuration is enabled or disabled," as required by claim element [30.b].

Taking the "muting enable/disable signal" first, the cited portions of Chandrasekhar-I-Prov at most discuss and provide support for a muting enable signal (such as *PDSCHmutingenabled*), but there is no support for a "disable" signal. Thus, unlike in Chandrasekhar-I itself, a disable signal is not supported by Chandrasekhar-I-Prov.

Dr. Akl's declaration provides no help, does not discuss a disable signal, and in fact provides no more analysis or argument than the petition and merely cites the exact same portions of Chandrasekhar-I-Prov after stating the words "these claim elements are clearly supported by at least…". *See* EX1003 at ¶ 73. This is insufficient. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 12 (PTAB Feb. 10, 2023) (precedential) (according "little weight" to declaration testimony that contains a verbatim restatement of a petition's conclusory assertions); *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1340–41 (Fed. Cir. 2020) (affirming Board decision giving no weight to expert testimony that "merely repeated Petitioner's argument, nearly verbatim, without citation to the basis for his testimony").

Regarding the "measurement enable/disable signal," the cited portions of

Chandrasekhar-I-Prov are again insufficient. At most, Chandrasekhar-I-Prov discloses that "CSI-RS pattern for intra and inter-cell CSI measurement is signaled by higher-layer parameters *CSIRSpattern*," but there is no disclosure of a measurement *disable* signal. This deficit is entirely unexplained. Dr. Akl's declaration is again insufficient, because he merely states that "these claim elements are clearly supported by at least:" before an unexplained string cite to the exact same passages in the specification that lack a measurement enable/disable signal.

Second, Petitioner cites to all three of the documents contained Chandrasekhar-I-Prov without any clear basis for switching between them. *See* Pet. at 5-7. Given that the documents have been collected into a single disclosure, it is appropriate to consider them as (at least) separate embodiments, but there is no reason provided by Petitioner or its expert to combine these references into a single teaching such as could be used in combination. *See Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 1459 (Fed. Cir. 1984) (claims cannot be "treated . . . as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning"). Accordingly, citations across separate embodiments within the Chandrasekhar-I-Prov do not establish written description support for any claim.

3. Chandrasekhar-II is not Prior Art to the Challenged Claims (Grounds 3 and 5)

Petitioner's only contentions regarding support in Chandrasekhar-II-Prov for Chandrasekhar-II concern claim 1, and Petitioner has failed to show that Chandrasekhar-II-Prov provides support for claim 1. Accordingly, for this reasons as well, Grounds 3 and 5, which rely on Chandrasekhar-II, must fail.

Chandrasekhar-II-Prov provides no discussion of, or support for, "inter-cell CSR pilot locations of the muted PDSCH," as required by claim element [1.b]. With regard to this limitation, Petitioner cites to only Claim 1, FN 1, which provides that "The eNodeB shall perform rate-matching around the muted PDSCH RE locations, which will be already known to the advanced UE that is benefiting from CoMP operation. Therefore, there is no performance degradation as seen at the advanced UE arising from the PDSCH RE muting procedure." *See* EX1007 at 2. But there is no reason that "muted PDSCH RE locations" (in Chandrasekhar-II-Prov) are "inter-cell CSR *pilot locations* of the muted PDSCH" (as required by claim element [1.b] of Chandrasekhar-II). Claim 1 in Chandrasekhar-II-Prov similarly provides no discussion of inter-cell CSR pilot locations.

Dr. Akl's conclusory declaration is again entirely unhelpful in this regard: he states only that "For [1.b], this claim element is clearly supported by at least Claim 1 and Footnote 1 on page 2 of Chandrasekhar-II-Prov." *See* EX1003 at ¶ 91. This is

the entirety of Dr. Akl's opinion, and it is entitled to no weight. *See Facebook*, 973 F.3d at 1340–41.

Accordingly, Grounds 1-5 have no likelihood of success because they rely on references (Chandrasekhar-I and Chandrasekhar-II) that are not prior art to the challenged claims.

B. Grounds 1-2: Chandrasekhar-I does not Anticipate or Render Obvious the Challenged Claims.

Chandrasekhar-I, even if considered as prior art, does not anticipate or render obvious any challenged claim because it lacks any disclosure or suggestion of "a first data field that indicates a cycle and an offset of muting subframes," as required by independent claims 7 and 12, and this key limitation would not have been obvious.

To begin with, Petitioner's arguments about "the indefinite article 'a'" in the claim language (Pet. at 27) is misplaced, both grammatically and on the basis of the authority cited. To be sure, the claim language theoretically does not exclude additional data fields that also indicate both a cycle and an offset of muting subframes (even if the reason for including such fields would be unclear), but this does not mean that the particular data field required to satisfy the claim language does not itself need to indicate both a cycle and an offset of muting subframes—this much is abundantly clear from the claim language. If a data field only indicates a

cycle and another only indicates an offset of muting subframes, there is no "first data field that indicates a cycle and an offset of muting subframes" that meets the claim requirements.

In *Concolve* and *Baldwin Graphic Sys.*, cited by Petitioner, the issue was whether the article "a" excludes more than one of the subject noun (for example, more than one processor in *Concolve* or more than one pre-soaked fabric roll in *Baldwin Graphic Sys.*). *See Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016); *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008). In neither case did the use of "a" allow the requirements for the subject noun to be split up.

In other words, Petitioner cites no authority or basis for why "a first data field that indicates a cycle and an offset of muting subframes" does not need to correspond to a single data field that indicates both a cycle and an offset of muting subframes, as is plainly required by the claim language.[4]

Chandrasekhar-I does not disclose "a first data field that indicates a cycle and an offset of muting subframes." Grounds 1 and 2 rely on two fields from

[4] Petitioner proposes no claim construction in this regard, and none contrary to the plain and ordinary meaning would be justified.

Chandrasekhar-I instead: a *PDSCHmutingdutycycle* that "signals [] the muting duty cycle" and a *CSIRSoffset* that is "is identical to the subframe offset on which muting is carried out." *See* Pet. at 25-32. But neither field is a "first field" that meets the claim requirements.

Citations to certain examples in the '251 Patent in which the offset information is supposedly "omitted" (*see* Pet. at 28-29) and alleging that these disclosures "align[] precisely with the approach disclosed in Chandrasekhar-I" is beside the point. In citing to just "Case 3" of the '251 Patent (addressing a scenario in which the muting offset is already known to be the same as a CSI-RS transmission offset) as well as similar disclosures regarding Fig. 19 (*see* Pet. at 28-29), petitioner ignores the clear cases discussed elsewhere in the '251 Patent that describe "generating a first data field for determining a muting duty cycle and a muting offset and indicating the muting duty cycle and the muting offset." *See* '251 Patent at 13:63-19:63. The clear claim language of the claims at issue require "a first data field that indicates a cycle and an offset of muting subframes"—Petitioner should not be able to sidestep this requirement by alleging that *other* embodiments of the

'251 Patent do not have this requirement.[5]

Vague and conclusory allegations that it would have been obvious to combine the *PDSCHmutingdutycycle* nor *CSIRSoffset* fields are unavailing.

First, as Petitioner implicitly concedes, any disclosures about "a jointly encoded muting duty cycle and subframe offset" made in Chandrasekhar-I are not supported by Chandrasekhar-I-Prov, and are therefore not prior art. *See* Pet. at 30 (making this argument only "[t]o the extent that the '251 patent is not entitled to a priority date earlier than August 11, 2011, *i.e.*, where Chandrasekhar-I constitutes prior art without relying on the filing date of Chandrasekhar-I-Prov"). As shown above, the challenged claims are entitled to a priority date earlier than August 11, 2011.

Second, unrelated disclosures in Chandrasekhar-I-Prov about "joint signalling" which set forth that "[a] UE may assume that PDSCH muting/rate-matching pattern and CSI-RS pattern for intra/inter-cell measurement are equivalent, and hence they are signaled jointly. In such a case, only *CSIRSpattern* is needed."

[5] Again, Petitioner has proposed no claim construction in this regard, as would have been its burden to do, and none contrary to the plain and ordinary meaning would be appropriate.

(*see* EX1005 at 8, § 2.2) concern cases where "only *CSIRSpattern* is needed," and do not disclose any combination of the fields of *PDSCHmutingdutycycle* nor *CSIRSoffset*. In the case described by Chandrasekhar-I-Prov, the *CSIRSpattern* does not indicate a muting cycle and thus does not satisfy the claim language.

Third, the conclusory opinions of Dr. Akl that nearly verbatim copy the assertions of the Petition (*compare* Pet. at 30-32 *to* EX1003 at ¶¶ 113-15) should be afforded no weight and cannot cure the deficiencies of Chandrasekhar-I. *See Facebook*, 973 F.3d at 1340–41. Neither Petitioner nor Dr. Akl proposes any obvious way for *how* the *PDSCHmutingdutycycle* nor *CSIRSoffset* fields could be combined.

Ultimately, Chandrasekhar-I discloses one field *PDSCHmutingdutycycle* for a muting cycle and another field *CSIRSoffset* for an offset. Neither *PDSCHmutingdutycycle* nor *CSIRSoffset* is "a first data field that indicates a cycle and an offset of muting subframes," as required by independent claims 7 and 12. There is no rational or obvious reason for how these two particular fields could be made into one, and Petitioner provides none. Accordingly, Grounds 1 and 2, which rely upon only Chandrasekhar-I, have no likelihood of success.

C. Grounds 3-5: Neither Chandrasekhar-II nor TI Cure the Deficiencies of Chandrasekhar-I.

Grounds 3, 4, and 5 rely on Chandrasekhar-II and TI to supposedly cure deficiencies of Chandrasekhar-I through a theory of obviousness, but the

combinations proposed by Petitioner are unavailing.

Regarding Chandrasekhar-II (Grounds 3 and 5), this reference proposes transmitting signals S_1 (concerning the "subframe offset" and requiring "four bits") and S_2 (concerning the "time domain periodicity of PDSCH muting enabled subframes" and requiring "two bits") on a jointly encoded signal S, but in no regards are signals S_1 or S_2 (or a jointly encoded signal S) a single "field." *See* EX1007 at 3-4, § Claims 3a-b.[6] Indeed, the '251 Patent discusses signals with multiple fields conveyed by different bits; signals and fields are not the same thing. *See* '251 Patent at 27:62-65 ("In this circumstance, muting information includes a bit value of a first data field with 6 bits and a bit value of a second data field with 6 bits. This is configured as illustrated in FIG. 19.").

The proposals of Chandrasekhar-II in this respect are not substantively different from sending both the *PDSCHmutingdutycycle* and *CSIRSoffset* fields from Chandrasekhar-I in a single signal—the fields being transmitted remain distinct. Thus, even if Chandrasekhar-II would make it obvious to a POSITA to transmit the

[6] Any disclosures of Chandrasekhar-II not supported by Chandrasekhar-II-Prov are not prior art, and therefore the deficiencies of Chandrasekhar-II-Prov may be used to show the deficiencies of Chandrasekhar-II. *See Riggs*, 131 F.4th at 1384.

PDSCHmutingdutycycle and *CSIRSoffset* fields from Chandrasekhar-I in a single signal, there would still be no "first data field" in this combination "that indicates a cycle and an offset of muting subframes," as required by independent claims 7 and 12.

Accordingly Ground 3 does not cure the deficiencies of Ground 2, and fails for the same reasons. Ground 5 does not differ from Ground 3 with respect to the "first data field" limitation, and therefore also fails for the same reasons.

Regarding TI (Grounds 4 and 5), Petitioner does not allege that TI cures the deficiency of Chandrasekhar-I with regard to "a first data field that indicates a cycle and an offset of muting subframes." *See* Pet. at 57-65. Instead, Petitioner discusses TI only with regard to the "second data field having n-bit bitmap" limitation. *Id.* Therefore, Ground 4 fails to show obviousness for the same reasons as Ground 2 (Chandrasekhar-I), and Ground 5 fails to show obviousness for the same reasons as Ground 3 (Chandrasekhar-I in view of Chandrasekhar-II).

Thus, Petitioner has not shown any likelihood of success with regard to any of Grounds 3-5.

VI. CONCLUSION

For at least the foregoing reasons, the Board should deny institution.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 12th day of September, 2025, a copy of the attached **PATENT OWNER'S PRELIMINARY RESPONSE** was served by electronic mail to the attorneys of record, at the following addresses:

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CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant 37 CFR 42.24(d), the undersigned certifies that this Preliminary Response complies with the type-volume limitation of 37 CFR §42.24(a). The word count application of the word processing program used to prepare this Preliminary Response indicates that the Preliminary Response contains 4,542 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

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