

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

SAMSUNG ELECTRONICS CO., LTD.,  
AND SAMSUNG ELECTRONICS AMERICA, INC.,  
Petitioner,

V.

HANNIBAL IP LLC,  
Patent Owner.

---

Case IPR2025-01187  
Patent No. 11,057,896

---

**PATENT OWNER HANNIBAL IP LLC's PRELIMINARY RESPONSE**

**TABLE OF CONTENTS**

I. INTRODUCTION .....1

II. THE '896 PATENT DISCLOSES NOVEL TECHNIQUES FOR BEAM  
MANAGEMENT.....2

    A. The '896 Patent.....2

    B. Overview of the Petition .....4

    C. Licensing Discussions and the Litigation Between Hannibal and Samsung...4

    D. Schedule in this IPR Proceeding.....5

III. LEVEL OF ORDINARY SKILL IN THE ART .....5

IV. INSTITUTION OF INTER PARTES REVIEW SHOULD BE DENIED .....6

    A. Petitioner Fails to Establish *Intel* and *ZTE* as prior art.....6

        1. Mr. Rodermund has no personal knowledge regarding the Intel  
        or ZTE references or when these references were available through  
        the 3GPP website.....7

        2. Petitioner fails to show a reasonable likelihood that Intel and  
        ZTE were publicly accessible.....9

    B. The Combination of References Fail to Disclose or Render Obvious Any  
    Claim of the '896 Patent.....15

1. Grounds 1 and 2: <i>Intel</i> does not disclose or suggest “apply a first QCL Co-Location (QCL) assumption of a first CORESET of a set of one or more monitored CORESETs to receive an aperiodic Channel Status Information-Reference Signal (CSI-RS) .....	15
2. Ground 2: Guo fails to disclose or suggest “a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold” .....	17
3. Ground 4: TS 38.214 V15.3.0 fails to disclose or suggest “apply a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold” .....	19
C. Trial Will Likely Occur Before the Projected Final Written Decision .....	21
V. CONCLUSION .....	22

**TABLE OF AUTHORITIES**

	<b>Page(s)</b>
<b>Cases</b>	
<i>CIPLA Ltd. v. Gilead Sciences, Inc.</i> , IPR2025-00033, Paper 22 (P.T.A.B. May 15, 2025) .....	22
<i>Google LLC v. Cerence Operating Co.</i> , IPR2024-01464, Paper 15 (P.T.A.B. Apr. 23, 2025) .....	22
<i>Nokia of America v. IPCOM, GmbH &amp; Co. KG</i> , IPR2021-00533, Paper 10 (P.T.A.B. Aug. 12, 2021).....	11, 12, 13, 14, 15
<i>Orion IP, LLC v. Hyundai Motor America</i> , 605 F.3d 967 (Fed. Cir. 2010) .....	1, 10, 15
<i>Samsung Elecs. Co. v. Infobridge Pte. Ltd.</i> , 929 F.3d 1363 (Fed. Cir. 2019) .....	11
<i>SRI Int’l, Inc. v. Sec. Sys., Inc.</i> , 511 F.3d 1186 (Fed. Cir. 2008) .....	10
<i>Stellar LLC v. Motorola Solutions, Inc.</i> , No. 4:23-cv-750-SDJ, Dkt. 50 (E.D. Tex. Aug. 9, 2024).....	22
<i>The Hillman Grp., Inc. v. Hy-Ko Prods. Co. LLC</i> , IPR2022-00169, Paper 8 (P.T.A.B. May 9, 2022) .....	22
<i>TQ Delta, LLC v. CISCO Systems, Inc.</i> , 942 F.3d 1352 (Fed. Cir. 2019) .....	20
<b>Statutes</b>	
35 U.S.C. § 314.....	22
<b>Other Authorities</b>	
37 C.F.R. § 42.2 .....	24
37 C.F.R. § 42.62(a).....	1

37 C.F.R. § 42.104(b)(4).....2  
FED. R. EVID. 802 .....9  
FED. R. EVID. 901 .....1, 7, 9

**PATENT OWNER'S EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Description</b>
2007	<i>Nokia</i> , IPR2021-00533, Ex. 147-1011 (Declaration of Susanna Kallio)

## I. INTRODUCTION

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.’s (collectively “Petitioner” or “Samsung”) Petition for inter partes review (“IPR”) of U.S. Patent No. 11,057,896 (“the ’896 Patent”) fails to establish a reasonable likelihood that any challenged claim is unpatentable. Specifically, the Petition relies on two 3GPP working group proposals (Exs. 1006 and 1011) that Petitioner failed to qualify as prior art. Indeed, Petitioner relies solely on the opinion of its expert—who has no personal knowledge—to attempt to establish the authenticity and accessibility of these references. But the expert’s testimony simply parrots inadmissible hearsay and presents no evidence sufficient to establish these documents as prior art as a matter of law. 37 C.F.R. § 42.62(a) (“the Federal Rules of Evidence shall apply to a proceeding.”); FED. R. EVID. 901(a)(1) (requiring testimony of a witness *with knowledge* to authenticate an item of evidence); *Orion IP, LLC v. Hyundai Motor America*, 605 F.3d 967, 974 (Fed. Cir. 2010) (To “qualify as a printed publication, the [reference] must have been disseminated or otherwise made accessible to persons interested and ordinarily skilled in the subject matter to which [the reference] relates prior to the critical date.”).

Even assuming Petitioner adequately qualified these references as prior art—it did not—the references fail to disclose the requirements of the independent claims of the ’896 Patent. Petitioner fails to address the deficiencies or relies solely

on the *ipse dixit* of its technical expert to improperly fill the void in the references.  
*See* 37 C.F.R. § 42.104(b)(4).

For all these reasons, Hannibal IP LLC (“Hannibal” or “Patent Owner”) respectfully requests that the Director decline to institute this inter partes review.

## **II. THE '896 PATENT DISCLOSES NOVEL TECHNIQUES FOR BEAM MANAGEMENT**

### **A. The '896 Patent**

The '896 Patent issued on July 6, 2021, and claims priority to U.S. Patent Application No. 62/754,165, filed on November 1, 2018. The '896 Patent is directed at solving the problem of unfavorable beam switching in 5G wireless communication when User Equipment (UE) is configured with multiple CORESETs. The '896 Patent provides a unique solution to this problem through the strategic application of Quasi-Co-Location (QCL) assumptions, among other things.

The inventions of Independent Claims 1 and 11 provide a novel and non-obvious equipment and method for managing beam operations. Specifically, both claims require the user equipment to: “monitor at least one of a plurality of Control Resource Sets (CORESETs) configured for the UE within an active Bandwidth Part (BWP) of a serving cell in a time slot;” and to “apply a first Quasi Co-Location (QCL) assumption of a first CORESET of a set of one or more monitored

CORESETs to receive an aperiodic Channel Status Information-Reference Signal (CSI-RS), wherein the first CORESET is associated with a monitored search space configured with a lowest CORESET Identity (ID) among the set of one or more monitored CORESETs.” Ex. 1001 at Claim 1, 11. Similarly, Independent Claim 10 requires user equipment to: “monitor at least one of a plurality of Control Resource Sets...;” and “apply a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold, wherein the PDCCH is transmitted in one of a set of one or more monitored CORESETs, and the one of the set of one or more monitored CORESETs is associated with a monitored search space configured with a lowest CORESET Identity (ID) among the set of one or more monitored CORESETs.” *Id.* at Claim 10.

The Examiner expressly found all claims of the '896 patentable because the references “taken individually or in combination fails to particularly disclose, fairly suggests, or render obvious” the limitations cited above. *See* Ex. 1002, p. 182. As discussed below, one or more of the required limitations are missing from the combination of references relied upon by the Petitioner. And the claims are not obvious.

## **B. Overview of the Petition**

Petitioner challenges all claims on four obviousness grounds. *See* Petition at 19. Specifically, in Ground 1, Petitioner challenges Claims 1-19 and 11-19 as obvious based on *Guo* (Ex. 1005) in view of *Intel* (Ex. 1006). In Ground 2, Petitioner challenges Claim 10 as obvious based *Guo* (Ex. 1005) in view of *ZTE* (Ex. 1011). In Ground 3, Petitioner challenges Claims 1-9 and 11-19 as obvious based on *5G-Standard* (Ex. 1012) in view of *Intel* (Ex. 1006). In Ground 4, Petitioner challenges Claims 1-9 and 11-19 as obvious based on *5G-Standard* (Ex. 1012) in view of *ZTE* (Ex. 1011). As discussed below, Petitioner fails to establish *Intel* and *ZTE* as prior art. Even if the references qualify as prior art—which they do not—none of the combinations disclose or render obvious the claims of the '896 Patent.

## **C. Licensing Discussions and the Litigation Between Hannibal and Samsung**

Petitioner received notice of the of '896 Patent three years before Hannibal filed its Complaint. On June 8, 2022, Hannibal's counsel sent a letter to Samsung. Ex. 2005. In that letter, Hannibal informed Samsung of its infringement of the '896 Patent. Shortly thereafter, Hannibal and Samsung entered into a Non-Disclosure Agreement and conducted licensing discussions.

After almost three years of licensing discussions, Hannibal filed its Complaint seeking relief for Samsung’s infringement of four patents, including the ’896 Patent, in the U.S. District Court for the Eastern District of Texas, Case 4:25-cv-00200-SDJ (the “Litigation”),<sup>1</sup> on February 27, 2025.

#### **D. Schedule in this IPR Proceeding**

Samsung filed its Petition on July 29, 2025, which was accorded that filing date by the Notice of Filing Date Accorded mailed August 6, 2025. Hannibal’s Preliminary Response is due November 6, 2025. The Director’s decision on institution must be made by February 6, 2026. The Board’s Final Written Decision (“FWD”) must be issued before February 6, 2027. Notably, the FWD will most likely issue after the jury trial in the Litigation. *See* Section IV (C) below.

### **III. LEVEL OF ORDINARY SKILL IN THE ART**

Petitioner provides no analysis regarding its assertion of the level of ordinary skill in the art and relies solely on the conclusory opinion of its technical expert. Petition at 15. For purposes of this Preliminary Response only, Patent Owner does not challenge the definition of the Person of Ordinary Skill in the Art (“POSITA”) provided by Petitioner because the combination of references, if they even qualify

---

<sup>1</sup> Samsung has filed three other Petitions for *inter partes* review against Hannibal of U.S. Patent Nos. 11,057,896, 11,272,535, and 11,641,661 (IPR2025-01187, IPR2025-01188, and IPR2025-01190, respectively).

as prior art, fail to disclose or render obvious all the requirements of the challenged claims even under Petitioner's assertion of a POSITA.

#### **IV. INSTITUTION OF INTER PARTES REVIEW SHOULD BE DENIED**

##### **A. Petitioner Fails to Establish *Intel* and *ZTE* as prior art**

Petitioner failed to provide competent evidence establishing the publication date and public accessibility of 3GPP working group proposals, *Intel* (Ex. 1006) and *ZTE* (Ex. 1011). These two references form the basis of each Ground asserted in the Petition.

Samsung relies solely on the testimony of Mr. Friedhelm Rodermund to prove up the authenticity and public accessibility of the *Intel* and *ZTE* references. *See e.g.*, Petition at 16-17; Ex. 1029 at ¶ 2, 20, 25. But Mr. Rodermund's Declaration (Ex. 1029) does not reveal any personal knowledge of the documents, the date the purported prior art was available through the 3GPP website, or 3GPP's publication practices after he left ETSI in 2004—and especially not in the relevant time frame of 2018. Further, Mr. Rodermund's declaration fails to establish that the working group proposals were disseminated or otherwise made accessible to skilled artisans before the priority date of the '896 Patent.

**1. Mr. Rodermund has no personal knowledge regarding the Intel or ZTE references or when these references were available through the 3GPP website**

Mr. Rodermund purports to attest to the authenticity and availability of the *Intel* and *ZTE* references. Ex. 1029 at ¶¶ 20, 25. But with no relevant personal knowledge, Mr. Rodermund cannot attest to the authenticity of any information from the 3GPP website. FED. R. EVID. 901(a)(1) (requiring testimony of a witness *with knowledge* to authenticate an item of evidence).

Mr. Rodermund does not assert that he has personal knowledge of the references, the submission of the references to 3GPP, or the posting of these references to 3GPP's website. Mr. Rodermund is not an author or contributor to either reference. Nor does Mr. Rodermund testify that he received, reviewed, or even knew of either reference before November 1, 2018, the priority date of the '896 Patent.<sup>2</sup> *See* Ex. 1029. Indeed, Mr. Rodermund makes no contention that he has any personal knowledge of these documents. *See id.*

Further, Mr. Rodermund has no personal knowledge of the creation of date stamps, metadata, and other information associated with the *Intel* and *ZTE* references from 3GPP's FTP server. Mr. Rodermund does not testify that he uploaded the information to the 3GPP's FTP server, nor does he identify any

---

<sup>2</sup> Petitioner does not challenge the priority date of the '896 Patent.

individuals who did. Similarly, Mr. Rodermund does not have personal knowledge of whether the documents were available for download before the critical date. He does not testify that he, nor any other individual, downloaded or otherwise accessed the *Intel* and *ZTE* references via 3GPP's FTP server before November 1, 2018. At best, Mr. Rodermund merely parrots inadmissible hearsay from the 3GPP website. *See e.g., id.* at ¶ 63 (“Based on my personal knowledge *and my review of 3GPP's business records*”) (emphasis added);<sup>3</sup> ¶ 64 (“*On its face*, R1-1808197 refers to the RAN WG1 meeting #94 held on August 20<sup>th</sup>-24<sup>th</sup>, 2018...*this information tells me* that R1-1808197 was available either prior to or during or shortly after that meeting to at least all attending 3GPP members”) (emphasis added); ¶ 65 (“public availability of the document is confirmed by the date stamp [on the 3GPP FTP server]”). Mr. Rodermund is not the custodian of these records and has not even been employed by 3GPP or ETSI for over twenty years. *See e.g., Ex. 1029* at ¶ 3 (confirming employment only between 1998 to 2004), ¶¶ 63-71 (basing entire opinion on information from 3GPP website); and ¶¶ 109-117 (same). Mr. Rodermund has no ability to confirm the accuracy or reliability of the date

---

<sup>3</sup> Mr. Rodermund's personal knowledge is limited to “3GPP's standard business and records keeping practices” from June 1998 through December 2004. *See Ex. 1029* at ¶ 3.

information provided by the 3GPP website, let alone as of the priority date for the '896 Patent.

Moreover, Mr. Rodermund's assertions are directly contradicted by 3GPP and ETSI's own official statements. Indeed, 3GPP and ETSI expressly disclaim the accuracy or reliability of any information contained on the 3GPP Website. *See* Ex. 2004 (3GPP Terms of Use) at 3. In its Terms of Use for the 3GPP website, ETSI provides an express disclaimer and states that it "makes no representations or warranties as to the accuracy, reliability or completeness of any information incorporated thereto and contained on the 3GPP Website." *Id.* Mr. Rodermund purports to attest to the accuracy of information that even the company providing the information would not do.

As set forth above, Mr. Rodermund's testimony is speculative and merely parrots inadmissible hearsay. Accordingly, Petitioner fails to provide sufficient evidence to reasonably show that *Intel* and *ZTE* qualify as prior art. *See e.g.*, FED. R. EVID. 901, 802. Without these references as prior art, Petitioner cannot reasonably prevail under any Ground in the Petition.

**2. Petitioner fails to show a reasonable likelihood that *Intel* and *ZTE* were publicly accessible**

To "qualify as a printed publication, the [reference] must have been disseminated or otherwise made accessible to persons interested and ordinarily

skilled in the subject matter to which [the reference] relates prior to the critical date.” *Orion IP*, 605 F.3d at 974. And “[a] given reference is ‘publicly accessible’ upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.” *SRI Int’l, Inc. v. Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (quoting reference omitted). For electronic documents, whether such documents were indexed or catalogued, or if there were other tools for customary and meaningful research are factors relevant to the determination of public accessibility. *See id.* at 1196.

Mr. Rodermund opines that the *Intel* and *ZTE* references were publicly available based on their alleged inclusion on the 3GPP ftp server. Ex. 1029 at ¶¶ 71, 117. But Mr. Rodermund fails to provide any evidence that the references on 3GPP’s ftp server were indexed, catalogued or included other tools for customary and meaningful research to show public accessibility. *SRI Int’l*, 511 F.3d at 1196. Mr. Rodermund’s testimony is that these working group proposals are maintained on the 3GPP FTP server by their temporary document (TDoc) number (*e.g.*, R1-1808197 and R1-1810751). *See e.g.*, Ex. 1029 at ¶¶ 65 and 102. But there is no evidence that before the critical date the 3GPP ftp server included any mechanism to meaningfully search for relevant documents. Even now, a skilled artisan without prior knowledge of 3GPP’s practices and nomenclature would have to comb

through thousands of unindexed and uncatalogued documents to locate allegedly relevant working group proposals such as *Intel* and *ZTE*. It would be unlikely that a person of skill in the art exercising reasonable diligence would locate these references. Importantly, there is no evidence to the contrary and, therefore, there is no evidence that the references were publicly accessible. *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1372 (Fed. Cir. 2019) (“A work is not publicly accessible if the only people who know how to find it are the ones who created it.”).

Mr. Rodermund does not testify otherwise. Indeed, while Mr. Rodermund testifies that for Technical Specifications “a person without prior knowledge of 3GPP and/or the technical specification (TS) number would have been able to easily find the TS for download via internet search,” he makes no such claim for the working group proposals such as *Intel* and *ZTE*. Compare Ex. 1029 at ¶¶ 169-173 (for Technical Specifications) with ¶¶ 63-71 (for *ZTE*) or ¶¶ 109-117 (for *Intel*). Nor does his testimony discuss search capabilities before the critical date. Accordingly, there is no evidence that a skilled artisan exercising reasonable diligence, could have located *Intel* or *ZTE* through the 3GPP FTP server before November 1, 2018.

The Board, in a nearly identical circumstance, found that a working group proposal “was not publicly accessible through the 3GPP ftp server.” *Nokia of*

*America v. IPCOM, GmbH & Co. KG*, IPR2021-00533, Paper 10 at 30 (P.T.A.B. Aug. 12, 2021).<sup>4</sup> In *Nokia*, petitioner, in a challenge brought in 2021, sought to rely on a working group proposal purportedly submitted to a 3GPP working group in 1999. *Id.* at 6, fn. 5. Petitioner relied on the declaration of Ms. Susanna Kallio in support of its contention that the working group proposal was publicly accessible in late May 1999. *Id.* at 22-23. Ms. Kallio purported to have had years of experience with working groups, and allegedly had knowledge regarding how such working group proposals are “drafted, distributed, stored and made available to the public.” Ex. 2007 at ¶ 3. (*Nokia*, IPR2021-00533, Ex. 147-1011). Ms. Kallio’s declaration discussed the general practices of 3GPP relating to its working groups, 3GPP documents, and purported to describe how proposals were allegedly published to 3GPP’s ftp server. *See id.* at ¶¶ 6-24. She relied on a final meeting report and date stamp from the 3GPP ftp server to support her contention that the working group proposal was publicly available. *Id.* at ¶¶ 26-28, 30.

The Board first determined that the relevant working group proposal could have been publicly accessible in two ways: (1) if it was sufficiently disseminated at or around the time of the 3GPP meeting; or (2) “made available to the extent that

---

<sup>4</sup> Compare Ex. 2007 (*Nokia*, IPR2021-00533, Ex. 147-1011 (Declaration of Susanna Kallio)) with Ex. 1029 (Declaration of Mr. Rodermund).

persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.” *Nokia*, IPR2021-00533, Paper 10 at 27.

In addressing dissemination at the 3GPP meeting, the petitioner, there, asserted that the working group proposal was provided to attendees of the relevant meeting based on an email attaching the final meeting report. *See id.* at 24. But the Board in *Nokia* found that the “final meeting report [was] not disseminated because there is no persuasive evidence that [it was] provided to those of ordinary skill in the art.” *Id.* at 28. Importantly, the Board found no evidence showing to whom, if anyone, the final meeting report was sent to. *Id.*

With respect to whether the working group proposal was “available to the extent persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it,” petitioner, in *Nokia*, asserted that the proposal was available because it was on the 3GPP ftp server. *Id.* at 30. The Board, however, determined that the working group proposal was not publicly accessible. *Id.* The Board determined that there was no evidence that the 3GPP ftp server included the necessary “index, catalog, or other tools for meaningful search” to sufficiently show that the reference was publicly accessible through the ftp server. *Id.* at 30-31. For the above reasons, the Board determined that Petitioner

failed to show the working group proposal was publicly accessible under either analysis.<sup>5</sup> *Id.* at 31.

Here, like petitioner in *Nokia*, Samsung fails to show that the *ZTE* and *Intel* references were publicly accessible. First, there is no evidence that these references were disseminated to anyone during a 3GPP meeting. Just like in *Nokia*, Samsung's expert, Mr. Rodermund, cannot identify any individuals who purportedly were provided with these references during the alleged 3GPP meeting. *See* Ex. 1029 at ¶¶ 70, 116. There is no evidence that *ZTE* or *Intel* was disseminated to any attendees during the meeting.

Further, Petitioner fails to show that these references were publicly accessible through the 3GPP ftp server. Just like in *Nokia*, there is no evidence, here, that *Intel* or *ZTE* were indexed or catalogued on the ftp server or that the ftp server included tools for customary and meaningful search such that a person of ordinary skill could locate these references. Indeed, the proposals, here, are identified on the 3GPP ftp servers only through their respective file names, R1-1808197 and R1-1810751. *See id.*; Ex. 1029 at ¶¶ 65 and 102. And just like the

---

<sup>5</sup> The Board further determined that petitioner failed to show a reasonable likelihood that the challenged claims were unpatentable over this working group proposal. But the Board instituted because petitioner had shown a reasonable likelihood of prevailing on another ground. Here, all grounds are based on working group proposals.

witness' declaration in *Nokia*, here, Mr. Rodermund presents no testimony that a person of ordinary skill in the art was aware of 3GPP's nomenclature or would have understood the contents of the working group proposals based on the filename. *Nokia*, IPR2021-00533, Paper 10 at 30. Accordingly, Petitioner fails to show that *Intel* and *ZTE* were "sufficiently accessible to the public interested in the art," which is fatal to the Petition. *Orion IP*, 605 F.3d at 974.

For the reasons above, Petition fails to show that the *Intel* and *ZTE* references qualify as prior art. *See id.*; *Nokia*, IPR2021-00533, Paper 10 at 31. And without these references as prior art, Petitioner cannot show a reasonable likelihood that Petitioner would prevail on any claim challenged in the Petition.

**B. The Combination of References Fail to Disclose or Render Obvious Any Claim of the '896 Patent**

- 1. Grounds 1 and 2: *Intel* does not disclose or suggest "apply a first QCL Co-Location (QCL) assumption of a first CORESET of a set of one or more monitored CORESETs to receive an aperiodic Channel Status Information-Reference Signal (CSI-RS)"**

The challenged independent claims of the '896 Patent for Grounds 1 and 2, claims 1 and 11, both require "apply[ing] a first Quasi Co-Location (QCL) assumption of a first CORESET of a set of one or more monitored CORESETs to receive an *aperiodic* Channel Status Information-Reference Signal (CSI-RS)." Ex. 1001 at claims 1, 11 (emphasis added). Petitioner relies solely on *Intel* as

purportedly disclosing this limitation. Petition at 28, 56. But contrary to the Petition's assertion, *Intel* does not disclose this limitation. Both Petitioner and its technical expert, Dr. Bims, rely on the language from proposal 3 from *Intel* as allegedly disclosing this requirement. See Petition at 28, 56; Ex. 1003 at ¶¶ 126, 198. But proposal 3 does not discuss an *aperiodic* CSI-RS. Indeed, the relevant portion of *Intel* relied on by Petitioner states “[t]he default beam for CSI-RS for CSI acquisition...” Ex. 1006 at 1. Notably “aperiodic” is missing from this statement. But further, *Intel* distinguishes between “aperiodic CSI-RS” and “CSI-RS.” Compare *id.* at 1 (“Proposal 1: For *aperiodic* CSI-RS...”) with *id.* at 1 (“Proposal 3: The default beam for CSI-RS...”). Neither Petitioner nor Dr. Bims explain the basis for their contention that Proposal 3 of *Intel* relates to receiving an *aperiodic* CSI-RS when it omits the word “aperiodic.” See Petition at 28; Ex. 1003 at ¶ 126. Indeed, both improperly gloss over this distinction.

Because *Intel* fails to disclose “apply[ing] a first QCL Co-Location (QCL) assumption of a first CORESET of a set of one or more monitored CORESETs to receive an aperiodic Channel Status Information-Reference Signal (CSI-RS),” Petitioner fails to establish a reasonable likelihood it will prevail as to any challenged claim on Grounds 1 and 3.

**2. Ground 2: *Guo* fails to disclose or suggest “a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold”**

In Ground 2, Petitioner asserts that claim 10 of the '896 Patent is obvious based on the combination of *Guo* and *ZTE*. Petition at 43. Among other things, claim 10 of the '896 Patent requires “apply[ing] a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold.” Ex. 1001 at claim 10. Petitioner relies on paragraphs 134 and 135 of *Guo* as disclosing or rendering this limitation obvious. Petition at 47-48; Ex. 1003 at ¶¶ 176-178. Petitioner is wrong. First, paragraph 134 of *Guo* fails to disclose the specific offset required by the claims, namely the offset “between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH.” Rather, the offset disclosed by *Guo* is “between *reception* of the DL DCI and the corresponding PDSCH.” Ex. 1005 at ¶ 134 (emphasis added). Accordingly, *Guo* does not disclose an offset between “an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH” as required by claim 10.

Dr. Bims appears to recognize the flaws of *Guo* and ellipses out relevant claim language in support of his opinion. *See* Ex. 1003 at ¶ 176. To fill this significant gap in *Guo*, Dr. Bims wrongly contends that *Guo* “further discloses that the scheduling offset ‘is the minimum time duration this UE needs between scheduling PDCCH and PDSCH...’.” Ex. 1003 at ¶ 178 *citing* *Guo* at ¶ 135. *Guo* makes no such assertion. Indeed, paragraph 135 of *Guo* does not discuss a scheduling offset or even use the word “offset” at all. Ex. 1005 at ¶ 135. Rather, it describes how to calculate threshold “T.” Ex. 1005 at ¶ 135 (“the threshold T can be calculated by the following procedure...”). Further, it discloses that one of the variables used in the algorithm to determine the threshold is  $T_0$ , which is described as “the minimum time duration this UE needs between PDCCH and PSSCH....” *Id.* Contrary to Dr. Bims assertions, *Guo* does not define this minimum as the “threshold,” nor does it describe it as an offset to compare to a threshold. Dr. Bims’ opinion is completely unsupported by *Guo*.

Because *Guo* fails to disclose or suggest “apply a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold,” Petitioner fails to establish a reasonable likelihood of prevailing on Ground 2.

**3. Ground 4: TS 38.214 V15.3.0 fails to disclose or suggest “apply a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold”**

In Ground 4, Petitioner asserts that claim 10 of the '896 Patent is obvious based on the combination of TS 38.214 v15.3.0 (Ex. 1012; referred to herein as *5G-Standard*)<sup>6</sup> and *ZTE*. Petition at 61. As discussed above, claim 10 requires, among other things, “apply[ing] a Quasi Co-Location (QCL) assumption for reception of the PDCCH to receive the PDSCH, when a scheduling offset between an end of a last symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH is less than a threshold.” While Petitioner contends that *5G-Standard* discloses this limitation, it does not. *Id.* at 65.

Petitioner and Dr. Bims rely on page 40 of *5G-Standard* to support their contentions that it discloses the required limitation. *See id.* at 65 (citing to Ex. 1003 at ¶ 224 and referring to page 31 even though claim requirements are different); *see also* Ex. 1003 at ¶ 224 (referring to ¶ 133 even though claim requirements are different). But *5G-Standard* does not support Petitioner’s contention. For example, *5G-Standard* does not disclose “a scheduling offset between an end of a last

---

<sup>6</sup>The Petition refers to this reference as *5G-Standard*. For ease of reference, this POPR will use the same nomenclature, but this reference is merely one version of a Technical Specification describing parts of an overall standard.

symbol of the PDCCH carrying the DCI and a beginning of a first symbol of the PDSCH.” Indeed, the relevant portion of *5G-Standard* states:

[i]f the scheduling offset between the last symbol of the PDCCH carrying the triggering DCI and the first symbol of the *aperiodic CSI-RS resources* in a NZP-CSI-RS-ResourceSet...is smaller than the UE reported threshold the UE applies a *default QCL assumption*.

Ex. 1012 at 40 (emphasis added). As shown, *5G-Standard* discloses an offset between the last symbol of the PDCCH carrying the triggering DCI and the first symbol of the aperiodic CSI-RS resource, not the *PDSCH* as claim 10 requires.

While Petitioner contends that the “Standard’s ‘scheduling offset’ is the same for both CSI-RS and PDSCH” there is no competent evidence supporting such a contention. *See* Petition at 65 (citing only to ¶¶ 109-111 of Dr. Bims’ declaration).

The paragraphs of Dr. Bims’ Declaration the Petition cites to relates to the motivation to combine *Guo* and *Intel*. But regardless, Dr. Bims’s opinion that “*Guo* describes the above problem and solution in connection with PDSCH, but a POSITA would have appreciated that the same would apply to the reception of CSI-RS, due to the similarity between the ways used by the UE to receive the PDSCH and CSI-RS” is completely unsupported. And none of the discussion in *Guo* teaches that PDSCH and CSI-RS resources are the same. *See e.g.*, Ex. 1005 at ¶¶ 124, 134, 189. Dr. Bims’ *ipse dixit* is insufficient to establish a reasonable likelihood that claim 10 is obvious. *See TQ Delta, LLC v. CISCO Systems, Inc.*,

942 F.3d 1352, 1359 (Fed. Cir. 2019) (“This court’s opinions have repeatedly recognized that conclusory expert testimony is inadequate to support an obviousness determination on substantial evidence review.”).

Further, *5G-Standard* also fails to disclose “apply[ing] a Quasi Co-Location (QCL) assumption for reception of the PDCCH” as required by claim 10. Again, as shown above, *5G-Standard* discloses applying a “default QCL assumption.” *Id.* Nowhere does the Petition or Dr. Bims explain how this disclosed “default QCL assumption” meets the requirement of “a Quasi Co-Location (QCL) assumption for reception of the PDCCH.” *See e.g.*, Petition at 65; Ex. 1003 at ¶ 224. Indeed, Dr. Bims admits that *5G-Standard* does not specify what “default QCL assumption” is. Ex. 1003 at ¶ 116.

For these reasons, Petitioner fails to show a reasonable likelihood that it would prevail on Ground 4.

Even assuming *Intel* and *ZTE* were sufficiently shown to qualify as prior art, the combination of references fails to disclose or render the claims of the ’896 Patent obvious under any stated Grounds. Accordingly, the Petition should be denied.

### **C. Trial Will Likely Occur Before the Projected Final Written Decision**

The Director’s decision on institution must be made by February 6, 2026. The Board’s Final Written Decision (“FWD”) must be issued on or before

February 6, 2027.

In the Litigation, the Court previously set the final pretrial conference for November 18, 2026. Ex. 2003, Order. While the District Court did not set a trial date, the Court typically sets jury trials for shortly after the final pretrial conference. *See Stellar LLC v. Motorola Solutions, Inc.*, No. 4:23-cv-750-SDJ, Dkt. 50 (E.D. Tex. Aug. 9, 2024) (setting trial for 10 days after final pretrial conference), Ex. 2006, p. 4. Based on the District Court's usual practice, the jury trial will likely take place in late November or early December of 2026. And the Board has routinely denied institution when the jury trial is at or near the time of the final written decision. *See, e.g., CIPLA Ltd. v. Gilead Sciences, Inc.*, IPR2025-00033, Paper 22 at 9-10, 13 (P.T.A.B. May 15, 2025) (denying institution under 35 U.S.C. § 314 in part because the trial would occur before the FWD); *Google LLC v. Cerence Operating Co.*, IPR2024-01464, Paper 15 at 7-8, 15 (P.T.A.B. Apr. 23, 2025) (similar); *The Hillman Grp., Inc. v. Hy-Ko Prods. Co. LLC*, IPR2022-00169, Paper 8, at 9 (P.T.A.B. May 9, 2022) (similar).

Thus, the fact that trial will likely occur near the time of the FWD favors denial of institution.

## **V. CONCLUSION**

For the reasons set forth above, Hannibal requests that the Director deny institution in this IPR proceeding on the '896 Patent.

Dated: November 6, 2025

/s/ Brian A. Carpenter  
Brian A. Carpenter  
USPTO Reg. No. 37,109  
Vishal Patel  
*Admitted Pro Hac Vice*  
Cole Schotz P.C.  
901 Main Street, Suite 4120  
Dallas, TX 75202  
469.557.9390  
bcarpenter@coleschotz.com  
vpatel@coleschotz.com

**CERTIFICATE UNDER 37 C.F.R. SECTION 42.24**

Hannibal certifies that the word count in this Request, as determined by the Microsoft Word word-processing system is 5,110 words. This Request is in compliance with the 14,000-word limit, excluding the parts exempted by 37 C.F.R. §§ 42.24(a)-(b).

**CERTIFICATE OF SERVICE**

I, Brian A. Carpenter, hereby certify that on the 6th day of November, 2025,  
the foregoing document was served on the following by email:

Joshua L. Goldberg  
Timothy J. May  
Nicholas A. Cerulli  
Chen Zang  
Kevin D. Rodkey  
Finnegan, Henderson, Farabow, Garrett & Dunner, LLP  
joshua.goldberg@finnegan.com  
timothy.may@finnegan.com  
nicholas.cerulli@finnegan.com  
chen.zang@finnegan.com  
kevin.rodkey@finnegan.com

/s/ Brian A. Carpenter  
Brian A. Carpenter  
USPTO Reg. No. 37,109  
Vishal Patel  
Admitted *Pro Hac Vice*  
Cole Schotz P.C.  
901 Main Street, Suite 4120  
Dallas, TX 75202  
469.557.9390  
bcarpenter@coleschotz.com  
vpatel@coleschotz.com

***Attorneys for Patent Owner  
Hannibal IP LLC***