

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T SERVICES INC., T-MOBILE USA, INC.,
CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS,
ERICSSON INC., and NOKIA OF AMERICA CORPORATION,
Petitioner,

v.

ASUS TECHNOLOGY LICENSING INC.,
Patent Owner.

IPR2024-00992
Patent 10,951,359 B2

Before JOSIAH C. COCKS, THOMAS L. GIANNETTI, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

OGDEN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

AT&T Services Inc., T-Mobile USA, Inc., Cellco Partnership d/b/a Verizon Wireless, Ericsson Inc., and Nokia of America Corporation (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) under 35 U.S.C. §§ 311–319 requesting *inter partes* review of claims 1–4, 6–9, 11–14, 16–19, and 21–23 of U.S. Patent No. 10,951,359 B2 (Ex. 1001, “the ‘359 patent”). ASUS Technology Licensing Inc. (“Patent Owner”)¹ filed a Preliminary Response (Paper 10, “Prelim. Resp.”).² With our authorization, Petitioner also filed a Preliminary Reply (Paper 12, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply (Paper 13, “Prelim. Sur-reply”).

Under the authority delegated to us by the Director of the U.S. Patent and Trademark Office under 37 C.F.R. § 42.4(a), we may only institute an *inter partes* review when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the

¹ Patent Owner states that the Petition “incorrectly identified a previously assignee, Asustek Computer Inc., as the patent’s owner.” Paper 11, 2 n.1. We have updated the case caption accordingly compared to what appears in the Petition.

² Petitioner identifies “AT&T Enterprises, LLC,[□] AT&T Mobility LLC, AT&T Mobility II LLC, AT&T Services Inc., Cellco Partnership d/b/a Verizon Wireless, Verizon Corporate Resources Group LLC, T-Mobile USA, Inc., Ericsson Inc., Telefonaktiebolaget LM Ericsson, and Nokia of America Corporation,” as well as all current defendants in the related district court litigations (*see infra* Section II.D) as the real parties in interest. Pet. 69–70 & nn.7–8. Patent Owner identifies ASUS Technology Licensing Inc. as a real party in interest and also identifies Celerity IP, LLC as an entity who “assists ASUS Technology Licensing in the licensing of the [challenged] patent.” Paper 11, 2 & n.1.

petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.108(c). However, institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”). For the reasons below, we exercise our discretion not to institute an *inter partes* review.

II. BACKGROUND

A. THE ’359 PATENT (EX. 1001)

The ’359 patent describes a method “for providing a control resource set [“CORESET”] configuration in a wireless communication system.” Ex. 1001, code (57). A CORESET is a set of physical resources comprising Physical Downlink Control Channels (“PDCCHs”) sent from a base station which a user-equipment (“UE”) device monitors for during specified monitoring occasions. *See id.* at 5:36–12:22.

Under the applicable telecommunication standards, a base station configures a CORESET by transmitting a bitmap and a time duration. *Id.* at 15:41–42. For each timeslot, the bitmap contains a set of bits, each bit corresponding to a particular orthogonal frequency division multiplexing (“OFDM”) symbol for monitoring the CORESET. *Id.* at 15:42–46. “If a bit position in the bit map has a value of one, it represents a starting OFDM symbol for monitoring the CORESET.” *Id.* at 15:46–48. The UE monitors the CORESET from that starting OFDM symbol and continues with the following symbols until the specified time duration (i.e., number of bit steps) has been reached. *Id.* at 15:48–51. “For example, if the time duration of a CORESET is configured as 2 and the bit map indicates 10000000000000,

the UE may monitor the CORESET (receive at least a PDCCH) on OFDM symbol #0 and #1 in a slot.” *Id.* at 15:51–55.

But according to the ’359 patent, the UE may be confused about the configuration if the base station sends a duration so large that the UE reaches the next “1” in the bitmap before the duration ends. Ex. 1001, 15:56–63. The UE may also be confused if the bitmap’s starting OFDM symbol is among the last few OFDM symbols in a slot and the specified duration would require crossing a slot boundary. *Id.* at 15:63–16:3.

The ’359 patent teaches alternative solutions to dealing with the above two issues, including (1) the configuration is restricted so that the UE never expects to receive a CORESET configuration in which there are overlapping symbols or the specified duration would cross a slot boundary; or (2) “the UE is configured to or could deal with one of the above-possible scenarios.” Ex. 1001, 16:19–26.

For the first of these solutions, the ’359 patent presents an embodiment that restricts the set of CORESET configurations the base station can transmit: “[T]he network node is not allowed to transmit the signal such that an interval between two bit positions in the set in the bit map is smaller than a second duration.” Ex. 1001, 33:49–52; *accord id.*, Fig. 7 (step 710); *see also id.* at 17:8–12 (“[A] base station does not configure the UE with a bit map such that the interval (or distance) between two bit positions indicating value one in the bit map is smaller than the number (e.g., the bit map is 11000000000000 when the number is 1).”). The “second duration” in this example could be either the duration that the base station transmits (i.e., the “first duration”) or “the first duration minus one.” *Id.* at 33:53–56.

Similarly, in an embodiment addressing the issue of slot boundaries, “the network node is not allowed to transmit the signal such that [the] interval between a bit position in the set in the bit map and the least significant bit position in the bit map is smaller than a second duration.” Ex. 1001, 34:26–30; *accord id.*, Fig. 8 (step 810). Again, the “second duration” in this example could either be the duration that the base station transmits (i.e., the “first duration”) or “the first duration minus one.” *Id.* at 34:31–34.

B. CHALLENGED CLAIMS AND GROUNDS

Representative claim 1 is as follows:

1. A method of a network node, the method comprising:
 - transmitting a signal indicating at least a first duration and a bit map,
 - wherein the first duration is time duration of a control resource set (CORESET), and
 - wherein the bit map includes a set of bit positions, where each bit position has a value of one or zero and each bit position with the value of one indicates a starting Orthogonal Frequency Division Multiplexing (OFDM) symbol of a monitoring occasion of the CORESET within a slot; and
 - not allowing to transmit the signal such that an interval between any two bit positions with the value of one in the set of bit positions in the bit map is smaller than the first duration.

Ex. 1001, 17:9–21. Claim 12, the other independent claim, is nearly identical to claim 1 except that the final limitation reads: “not allowing to transmit the signal such that [an] interval between any bit position with the value of one

in the set of bit positions in the bit map and the least significant bit position in the bit map is smaller than the first duration minus one.” *Id.* at 37:47–38:5.

Petitioner asserts three grounds for *inter partes* review, as summarized in the following table:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–3, 6–9, 11, 22, 23	103 (2012)	Nogami ³
4, 12–14, 16–19, 21	103 (2012)	Nogami, Chatterjee, ⁴ NTT ⁵
1–4, 6–9, 11–14, 16–19, 21–23	103 (2012)	Nogami, 3GPP-Specification ⁶

Pet. 2.

C. DECLARATORY TESTIMONY

Petitioner submits a declaration by Dr. Zygmunt J. Haas. Ex. 1002. At this stage, Patent Owner does not submit expert rebuttal testimony.

D. RELATED PROCEEDINGS

As related matters, the parties identify the following district court proceedings: *ASUS Tech. Licensing Inc. v. AT&T Inc.*, No. 2:23-cv-00486 (E.D. Tex. filed Oct. 19, 2023); *ASUS Tech. Licensing Inc. v. T-Mobile USA*,

³ Nogami et al., US 10,945,251 B1 (issued Mar. 9, 2021) (Ex. 1004).

⁴ Chatterjee et al., US 11,025,456 B2 (issued June 1, 2021) (Ex. 1005).

⁵ NTT DOCOMO, Inc., *Summary of Key Aspects for Search Space*, 3GPP TSG RAN WG1 Meeting 90bis, No. R1-1718834 (Prague, CZ, Oct. 2017) (Ex. 1019).

⁶ 3GPP, *Physical Layer Procedures for Control* (v. 15.2.0), 3GPP TS 38.213 (June 2018) (Ex. 1006).

Inc., No. 2:23-cv-00487 (E.D. Tex. filed Oct. 19, 2023); *ASUS Tech. Licensing Inc. v. Verizon Commc 'ns, Inc.*, No. 2:23-cv-00488 (E.D. Tex. filed Oct. 19, 2023); *Innovative Sonic Ltd. v. AT&T Inc.*, No. 2:23-cv-00489 (E.D. Tex. filed Oct. 19, 2023); *Innovative Sonic Ltd. v. T-Mobile USA, Inc.*, No. 2:23-cv-00490 (E.D. Tex. filed Oct. 19, 2023); and *Innovative Sonic Ltd. v. Verizon Commc 'ns, Inc.*, No. 2:23-cv-00491 (E.D. Tex. filed Oct. 19, 2023). Pet. 70; Paper 11, 1–2. We refer to these cases as the “parallel district court proceedings.”

Patent Owner also identifies *Samsung Electronics Co. v. ASUS Technology Licensing Inc.*, IPR2024-00614, Paper 10 (PTAB Sept. 24, 2024) (institution denied), as a related PTAB proceeding.

III. DISCRETION TO DENY INSTITUTION UNDER § 314(a)

In light of the parallel district court proceedings, Patent Owner argues that “[t]he Board should deny institution under 35 U.S.C. § 314(a) because all six *Fintiv* factors favor discretionary denial.” Prelim. Resp. 70–71 (citing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)). For the reasons below, we agree with Patent Owner, and we disagree with Petitioner that the Petition presents a compelling, meritorious challenge.

Institution of an *inter partes* review is discretionary. *See Harmonic v. Avid Tech.*, 815 F.3d at 1367; *see also* 35 U.S.C. § 314(a). The Board has held that the advanced state of a parallel district court action is a factor weighing in favor of denying a petition under § 314(a). *See NHK Spring Co., Ltd. v. Intri-Plex Techs. Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential); Patent Trial and Appeal Board, Consolidated Trial

Practice Guide, 58 & n.2 (Nov. 2019), <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. (“Trial Practice Guide”).

In *Fintiv*, the Board explained that “cases addressing earlier trial dates as a basis for denial under *NHK* have sought to balance considerations such as system efficiency, fairness, and patent quality.” *Fintiv*, Paper 11 at 5.

Fintiv sets forth six non-exclusive factors for determining “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* at 6.

These factors consider the following:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Id. at 5–6. In evaluating these factors, we “take[] a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* at 6.

The Director has issued additional guidance on the application of *Fintiv*. See Katherine K. Vidal, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022) 9, <https://www.uspto.gov/sites/default/files/documents/>

interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf (“*Fintiv* Memo,” Ex. 2011).

We address each of the above *Fintiv* factors below.

A. *FINTIV* FACTOR 1: WHETHER THE COURT GRANTED A STAY OR EVIDENCE EXISTS THAT ONE MAY BE GRANTED IF A PROCEEDING IS INSTITUTED

Petitioner argues that the first *Fintiv* factor is neutral “because Petitioners have not yet moved for a stay.” Pet. 64 (citing *Hulu, LLC v. SITO Mobile R&D IP, LLC*, IPR2021-00298, Paper 11 at 10–11 (PTAB May 19, 2021)). Patent Owner argues that this factor “weighs in favor of denial” because the Eastern District of Texas “has an established practice not to stay litigations pending resolution of *inter partes* review prior to institution.” Prelim. Resp. 73 (emphasis added) (citing *Viavi Sols. Inc. v. Zhejiang Crystal-Optech Co.*, No. 2:21-cv-00378, 2022 WL 16856099, at *5 (E.D. Tex. Nov. 10, 2022)). Patent Owner also argues that there is only a 15% win rate in the Eastern District of Texas for contested motions to stay pending an *inter partes* review. *Id.* (citing Ex. 2005 (a *LegalMetric* report)).

We decline to speculate on whether the district court might rule on a motion that has not been filed. On this record, we agree with Petitioner that the first factor is neutral. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“We decline to infer . . . how the District Court would rule should a stay be requested by the parties in the parallel case here.”).

B. *FINTIV* FACTOR 2: PROXIMITY OF THE COURT’S TRIAL DATE TO THE BOARD’S PROJECTED STATUTORY DEADLINE FOR A FINAL WRITTEN DECISION

Petitioner argues that the second factor is neutral because “[j]ury selection is scheduled to begin on July 21, 2025,” and “a final written decision may be expected by around November 2025, not long after the trial date (and likely before any appealable post-trial decision).” Pet. 65 (citing Ex. 1016, 1). Petitioner also argues that the parallel district court proceedings are only consolidated for pretrial, and “[i]t is reasonable to expect that all trials will not be complete or through post-trial motion practice before the final written decision.” *Id.* (citing Ex. 1017; *CrowdStrike, Inc. v. Open Text Inc.*, IPR2023-00556, Paper 9 at 8 (PTAB Sept. 12, 2023)).

Patent Owner argues that the second factor weighs in favor of denial because jury selection begins on July 21, 2025, and the final written decision will be due by December 18, 2025, so “a final written decision will issue roughly five months after the trial.” Prelim. Resp. 74. Patent Owner also argues that the current median time to trial for the Eastern District of Texas is 21.6 months, so based on the filing date of October 19, 2023, “trial would be expected July or August 2025.” *Id.* According to Patent Owner, the second factor weighs heavily in favor of denial under these circumstances. *Id.* at 75–76.

Based on the preliminary record, we can reasonably expect trial in the parallel district court proceedings to begin four to five months prior to the deadline for our final written decision, based on the scheduled trial date and the median time-to-trial statistics. *See Fintiv* Memo 8–9 & n.12 (approving the use of median time-to-trial statistics). Even if the proceedings are staggered, at least one of the proceedings would likely begin and conclude

well before our decision, making it highly likely that there will be duplicate efforts in evaluating the challenged claims based on the prior art. Thus, we agree with Patent Owner that the second factor weighs substantially in favor of discretionary denial.

C. *FINTIV* FACTOR 3: INVESTMENT IN THE PARALLEL PROCEEDING BY THE COURT AND THE PARTIES

Petitioner argues that the third *Fintiv* factor weighs against denial of institution because “[t]he district court litigation is in its early stages,” and in particular, the parties have not engaged in expert discovery, the parties have not identified terms for claim construction, and there have been no substantive orders in the case. Pet. 65–66 (citing Ex. 1016, 3, 5). Petitioner also argues that “Petitioners diligently filed th[e] Petition after they received Patent Owner’s infringement contentions that confirmed Petitioners’ technology is at the center of the district court litigation.” Pet. 66.

Patent Owner argues that the third *Fintiv* factor weighs in favor of denial because the parties have completed their infringement contention disclosures, and by the time of our institution decision, “the parties will have exchanged proposed claim constructions, submitted their opening claim construction briefs, completed claim construction discovery, and submitted technical tutorials.” Prelim. Resp. 76–77 (citing Ex. 1016, 4–5). According to Patent Owner, claim construction proceedings are scheduled to begin about a month after the institution decision, so by the time of this decision, the parties will have needed to complete significant claim-construction work. *Id.* at 77 (citing Ex. 1016, 3).

Patent Owner also argues that Petitioner “waited approximately five months from receiving infringement contentions to file the Petition,” and

waited six weeks after filing invalidity contentions. Prelim. Resp. 78 (citing Ex. 1016, 5–6 (indicating that infringement contentions were due January 4, 2024)); *see also* Pet. 65 (acknowledging a delay in the “approximate timeframe” of four months).

Although the parties have engaged in some preliminary work in the parallel district court proceedings, the court has not issued any substantive orders. This weighs against discretionary denial. *Fintiv*, IPR2020-00019, Paper 11 at 10 (“If, at the time of the institution decision, the district court has not issued orders related to the patent at issue in the petition, this fact weighs against exercising discretion to deny institution . . .”). On the other hand, the record shows that Petitioner waited five months to file the Petition after receiving Patent Owner’s infringement contentions, and Petitioner has not presented any factual evidence to justify this delay. *See id.* at 11–12 (“[T]he parties should explain facts relevant to timing,” and “if the petitioner cannot explain the delay in filing its petition, [this fact has] favored denial.”).

Under these circumstances, the third factor weighs against discretionary denial, but only marginally so because Petitioner has failed to explain its substantial delay in filing the Petition after receiving Patent Owner’s infringement contentions.

D. FINTIV FACTOR 4: OVERLAP BETWEEN ISSUES RAISED IN THE PETITION AND IN THE PARALLEL PROCEEDING

Petitioner initially stipulated that it “will not pursue this IPR’s Grounds in the district court litigation.” Pet. 66–67. This stipulation is similar to that in *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020)

(informative), and is often called a “*Sand Revolution* stipulation,” which the Board often considers to weigh only marginally against denying institution. *See, e.g., id.; Nokia of Am. Corp. v. Soto*, IPR2023-00680, Paper 30 at 13 (PTAB Dir. Review Dec. 3, 2024).

Petitioner later stipulated that if we institute an *inter partes* review, Petitioner “will not pursue invalidity challenges in the [parallel district court proceedings] based on the grounds or the primary prior art references asserted in that Petition.” Ex. 1021; Prelim. Reply 1. Petitioner contends that this stipulation is broader than a *Sand Revolution* stipulation and that it would minimize overlap between an *inter partes* review and the parallel district court proceedings. *Id.* at 1–3.

Patent Owner argues that the new stipulation amounts to a commitment not to pursue Nogami in the parallel district court proceedings, which “adds little to the previous stipulation.” Prelim. Sur-reply 1. According to Patent Owner, Nogami teaches the CORESET functionality that existed under the prior-art 3GPP standards prior to the claimed invention and “Petitioners can simply replace Nogami with another 3GPP reference discussing the same existing CORESET functionality that Petitioners rely on Nogami for in this IPR.” *Id.* at 1–2.

We agree with Patent Owner that Petitioner’s new stipulation is not substantially broader than its original *Sand Revolution* stipulation.

We also note that there is complete overlap between the claims asserted in the Petition and the claims that Petitioner asserted in its invalidity contentions. *See* Ex. 2007, 2 (asserting claims 1–4, 6–9, 11–14, 16–19, and 21–23 of the ’359 patent).

Based on the preliminary record, we find that the fourth *Fintiv* factor weighs only marginally against discretionary denial. Although Nogami would be unavailable to Petitioner in the parallel district court proceedings, Petitioner can still assert Chatterjee and NTT (*see* Ex. 2007, 9) and possibly references similar to Nogami if any exist, and the district court would likely address many of the same patentability issues that we would address in an *inter partes* review.

E. *FINTIV* FACTOR 5: WHETHER THE PETITIONER AND THE
DEFENDANT IN THE PARALLEL PROCEEDING ARE THE SAME PARTY

It is uncontested that the parties in this proceeding are, or may through motions to intervene become, the same as the parties in the parallel district court proceeding. *See* Pet. 67; Prelim. Resp. 81. Petitioner argues that this weighs in favor of institution. Pet. 67. Patent Owner argues that this weighs in favor of discretionary denial. Prelim. Resp. 81.

Our precedent takes varying approaches on how to weigh the fifth *Fintiv* factor when the parties in the two proceedings are the same. In *Snap, Inc. v. SRK Tech. LLC*, IPR2020-00820, Paper 15 (PTAB Oct. 21, 2020) (precedential as to Section II.A), the panel held that “we regard the consideration of the fifth *Fintiv* factor as neutral or, at most, weighing slightly in favor of exercising discretion to deny institution.” *Id.* at 16. In *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential as to Section II.A), the panel held that the fifth *Fintiv* factor “supports denying institution.” *Id.* at 19; *see also*

Nokia v. Soto, IPR2023-00680, Paper 30 at 13 (in which the Director held that “I agree with the parties that *Fintiv* factor 5 is neutral.”⁷).

Under these circumstances, the fifth *Fintiv* factor is either neutral or weighs in favor of denying institution, but we need not decide which, because based on a holistic view of the factors, we would reach the same conclusion even if we were to weight the fifth factor as neutral. *See infra* Section III.G.

F. *FINTIV* FACTOR 6: OTHER CIRCUMSTANCES THAT IMPACT THE BOARD’S EXERCISE OF DISCRETION, INCLUDING THE MERITS

Petitioner argues that we should not deny institution under *Fintiv* because the Petition presents compelling merits. Pet. 68 (*CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 5 (PTAB Feb. 27, 2023) (precedential)). According to Petitioner, the Examiner found, during prosecution, that the prior art taught most of the limitations in the challenged claims, and was “likely not aware of the prior art identified in th[e] Petition,” which discloses or suggests *precisely* what the Examiner found lacking in the prior art.” Pet. 68.

Patent Owner contends that Petitioner’s argument that the Examiner erred during prosecution is insufficient to show compelling merits. Prelim. Resp. 82 (citing *CommScope v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 5 (“Merely pointing to . . . analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling

⁷ Unlike in *Nokia v. Soto*, the parties in this proceeding do not agree on how we should weigh the fifth *Fintiv* factor.

unpatentability challenge.”)). According to Patent Owner, “every IPR Petition necessarily alleges, as Petitioners do here, that the asserted prior art teaches limitations that were missing from the prior art examined during prosecution.” *Id.* at 83.

The *Fintiv* Memo directs that “compelling, meritorious challenges will be allowed to proceed at the PTAB even where district court litigation is proceeding in parallel.” Ex. 2011, 4. The Director defines “[c]ompelling, meritorious challenges [as] those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* We therefore consider whether there are compelling merits when, as here (*see infra* Section III.G), our analysis of the first five *Fintiv* factors favors denial of institution. *See CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 5 (PTAB Feb. 27, 2023) (precedential). As we explain below, the Petition and the preliminary evidence do not present a compelling, meritorious challenge because there are genuinely disputed issues as to whether Nogami teaches the final limitations of independent claims 1 and 12, and the remaining references do not appear to address the contested issues in a compelling way.

1. Level of Ordinary Skill and Claim Construction

As part of our compelling-merits analysis, we consider the level of ordinary skill in the art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–1313 (Fed. Cir. 2005) (en banc) (the level of ordinary skill is pertinent to claim construction); *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966) (the level of ordinary skill is one of the factors to consider when determining obviousness). For this decision, we adopt Petitioner’s

proposed level of ordinary skill, which is “the equivalent of an undergraduate degree in Electrical Engineering, Computer Science, or Computer Engineering; familiarity with the relevant 3GPP standards as of this time; and at least two years of experience in research, design, development, and/or testing of cellular networks.” Pet. 12 (citing Ex. 1003 ¶¶ 44–45). Although Patent Owner argues for a higher level of ordinary skill (*see* Prelim. Resp. 7–8), our determination that the Petition lacks compelling merits would be the same under Patent Owner’s proposal.

We need not address any explicit claim-construction issues for our analysis. Petitioner contends that we should construe the term *interval* to mean “the difference between two bit positions or the number of bits between two bit positions.” Pet. 10 (citing Ex. 1002 ¶¶ 48–51). However, Patent Owner does not contest Petitioner’s proposed construction except for the purpose of for addressing whether 3GPP-Specification antedates the challenged claims—which we need not address in our compelling-merits analysis. *See* Prelim. Resp. 15–48, 54; *see also Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

2. Overview of *Nogami*

Nogami, the primary reference in all three grounds of the Petition, describes a UE that receives information for monitoring a CORESET that includes a bitmap and a duration greater than 1. Ex. 1004, code (57). In particular, “[t]he bitmap information is set such that any two adjacent PDCCH monitoring occasions do not overlap with each other.” *Id.*

Nogami states that there are several ways to deal with such overlap, the first of which “is that the UE . . . is not expected to be configured with the CORESET[p]attern which causes overlapping between adjacent PDCCH monitoring occasions for a same search space set.” Ex. 1004, 30:66–31:2.

3. *Obviousness Ground Based on Nogami*

Petitioner argues that Nogami, in view of background knowledge in the art, teaches “not allowing to transmit the signal such that an interval between any two bit positions with the value of one in the set of bit positions in the bit map is smaller than the first duration,” according to the last limitation of claim 1. Ex. 1001, 37:13–16. According to Petitioner, Nogami teaches that a bitmap and duration that results in overlapping monitoring occasions is a potential problem to be avoided. *See* Pet. 22 (citing Ex. 1002 ¶ 84). Nogami’s primary solution to this, Petitioner argues, is to ensure that a UE is not expected to be configured using CORESET patterns that cause overlap. Pet. 26–27.

To the extent that Nogami does not explicitly teach that this solution involves “*not allowing to transmit* the signal,” Petitioner argues that a person of ordinary skill in the art would have understood that transmitting such overlapping bitmap–duration combinations “(1) would not be accepted by UE and would waste the transmission bandwidth, (2) would waste UE processing time, and (3) depending on UE design, might confuse the UE.” Pet. 27 (citing Ex. 1002 ¶ 92). Thus, a person of ordinary skill in the art “would have found that *not allowing the base station to transmit* a signal indicating a bitmap corresponding to an overlap situation would have been a predictable and simple way to avoid the problem (noted in Nogami) of the

UE having to deal with overlapping monitoring occasions.” Pet. 27–28 (citing Ex. 1004, 2:49–55; Ex. 1012 ¶ 137; Ex. 1008 ¶ 266; Ex. 1020 ¶ 251; Ex. 1002 ¶ 92).

“In other words,” according to Petitioner, “if the base station never transmits (due to not being allowed to transmit) a signal that corresponds to an overlap situation, then the UE (which performs blind decoding of PDCCH candidates based on the received signal) will never have to deal with the above-discussed problem of overlap.” Pet. 28 (citing Ex. 1002 ¶ 92).

Patent Owner responds that, “[w]hile Nogami discloses that overlap can occur, it does not teach that the claimed overlap is ‘not allowed,’” let alone disallowed specifically by the base node. Prelim. Resp. 55. Rather, according to Patent Owner, Nogami only teaches that the UE is not expecting there to be overlap, or that overlapping is expressly allowed but the UE ignores it, or that the UE makes assumptions that would deal with overlap when it occurs. *Id.* at 56 (citing Ex. 1004, 30:34–38, 30:65–31:25).

Patent Owner also contends that Petitioner’s argument based on the background knowledge of a person of ordinary skill is improper hindsight based on the ’359 patent’s disclosure. Prelim. Resp. 56–61.

Although we need not decide which side would likely prevail on these issues, Patent Owner raises sufficiently substantial arguments that the preliminary evidence, if unrebutted in trial, does not plainly lead to a conclusion that claim 1 is unpatentable by a preponderance of the evidence. The ground based on Nogami does not simply rely on Nogami’s plain disclosure, but also relies on expert testimony as to how a person of ordinary skill in the art would have understood Nogami’s disclosure based on the

background knowledge in the art. Thus, Petitioner has not, on the preliminary record, presented a compelling meritorious challenge to claim 1 and its related claims.

4. *Obviousness Ground Based on Nogami in View of Chatterjee and NTT.*

In its second ground, Petitioner argues that independent claim 12 and other similar claims are obvious over Nogami in view of Chatterjee and NTT. Pet. 2, 43–53. In particular, Petitioner contends that Nogami in view of Chatterjee teaches the final limitation of independent claim 12: “not allowing to transmit the signal such that interval between any bit position with the value of one in the set of bit positions in the bit map and the least significant bit position in the bit map is smaller than the first duration minus one” (*Id.* at 37:47–38:5). Pet. 43–49.

Petitioner argues that “Chaterjee discloses that ‘the allocated symbols do not cross the slot-boundary’”; discloses “making any symbol the start symbol for a physical downlink control shared channel (PDSCH) subject to the constraint that ‘the allocation does not cross the slot boundary’”; and explains that “in a situation where a slot boundary would be crossed by a certain group of symbols, ‘such a transmission may need to be postponed.’” Pet. 44–45 (citing Ex. 1005, 17:47–58, col. 19 (Table 15), 22:29–46, col. 65 (Table 29); Ex. 1013, 6, 8, 50; Ex. 1002 ¶ 116).

Petitioner recognizes that, although Chatterjee’s disclosures “are in the context of physical downlink shared channel (PDSCH) and not CORESET, “the underlying concern regarding not transmitting symbols that would cross a slot boundary are applicable to CORESET monitoring for PDCCH candidates, too.” Pet. 45. For this, Petitioner relies on NTT, which

according to Petitioner expresses that “the need of some restrictions on particular cases (e.g., whether a CORESET can span a slot boundary) should be” a topic for future study by a 3GPP working group. Pet. 45–46 (emphasis omitted) (quoting Ex. 1019, 2).

Petitioner contends that a person of ordinary skill in the art “would have recognized, based on NTT’s explicit mention of a restriction in the situation of CORESET spanning a slot boundary, that it would have been undesirable to use symbols that cross a slot boundary for CORESET monitoring of PDCCH candidates.” Pet. 46 (citing Ex. 1002 ¶ 119). And according to Petitioner, the ordinarily skilled artisan would have arrived at the solution of disallowing the base station to transmit bitmap–duration combinations that would involve spanning a slot boundary. Pet. 46–48 (citing Ex. 1002 ¶¶ 119–121).

Patent Owner argues that NTT does not actually present a solution for the problem of spanning slot boundaries, but merely identifies the issue as a subject for further study. Prelim. Resp. 65.

Patent Owner makes a reasonable point. Petitioner’s argument based on NTT relies extensively on expert testimony as to how a person of ordinary skill in the art would have understood Nogami and Chatterjee in light of NTT. It is not plainly apparent, based on the preliminary record, that this analysis is free from the influence of improper hindsight. Thus, Petitioner has not, at this stage, presented a compelling meritorious challenge to claim 12 and its related claims.

5. *Obviousness Ground Based on Nogami in View of 3GPP-Specification*

For the ground based on Nogami in view of 3GPP-Specification, Petitioner relies on Nogami for the final limitation of claim 1 and relies on 3GPP-Specification for a different limitation. *See* Pet. 54–57. Thus, this ground does not make Petitioner’s challenge with respect to Nogami more compelling than it would be without 3GPP-Specification.

For the final limitation of claim 12, Petitioner relies on a statement in 3GPP-Specification that a UE “*does not expect* to be provided a first symbol and a number of consecutive symbols for a control resource set that results to a *PDCCH candidate mapping to symbols of different slots.*” Pet. 60 (quoting Ex. 1006, 69). In light of this disclosure, Petitioner contends that a person of ordinary skill in the art “would have found it obvious to configure Nogami’s base station (“network node”) so that it is not allowed to transmit the signal” in the situation recited in the final limitation of claim 12. Pet. 60–62 (citing Ex. 1002 ¶¶ 147–148).

As with the ground based on the combination of Nogami, Chatterjee, and NTT, Petitioner’s proposed combination of Nogami with 3GPP-Specification relies extensively on expert testimony as to how a person of ordinary skill in the art would have understood Nogami in light of 3GPP-Specification. It is not plainly apparent, based on the preliminary record, that this analysis is free from the influence of improper hindsight. Thus, Petitioner has not, at this stage, presented compelling meritorious challenge to claim 12 and its related claims.

6. *Conclusion for Factor 6*

For all the above reasons, we determine that Petitioner has not shown a compelling meritorious challenge in its Petition or any other circumstances that impact the Board's exercise of discretion. Therefore, under the preliminary record, the sixth *Fintiv* factor is neutral.

G. BALANCING THE *FINTIV* FACTORS

A holistic balancing of the *Fintiv* factors weighs in favor of discretionary denial. As discussed above, Factor 2 weighs substantially in favor of discretionary denial because district court is very likely to address patentability issues at trial before we would issue a final written decision. Factors 3 and 4 weigh marginally against discretionary denial, and factors 1 and 6 are neutral. Factor 5 either weighs in favor of discretionary denial or is neutral, but even if it were neutral, factor 2 alone outweighs the marginal weight of factors 3 and 4. Thus, the evidence of record favors exercising our discretion to deny institution of an *inter partes* review.

IV. CONCLUSION

For the above reasons, we exercise our discretion under 35 U.S.C. § 314(a) to deny institution of an *inter partes* review challenging claims 1–4, 6–9, 11–14, 16–19, and 21–23 of the '359 patent.

V. ORDER

It is

ORDERED that the Petition is *denied*, and no trial is instituted.

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Patent 10,951,359 B2

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