

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ERICSSON INC.,  
Petitioner,

v.

KONINKLIJKE KPN N.V.,  
Patent Owner.

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IPR2023-00525  
Patent 10,924,500 B2

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Before ROBERT J. WEINSCHENK, NORMAN H. BEAMER, and  
SCOTT E. RAEVSKY, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

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

## I. INTRODUCTION

### *A. Background and Summary*

Ericsson Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–11 (“the challenged claims”) of U.S. Patent No. 10,924,500 B2 (Ex. 1001, “the ’500 patent”). Koninklijke KPN N.V. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”) to the Petition. With our authorization, Petitioner filed a Reply (Paper 7, “Reply”) to the Preliminary Response, and Patent Owner filed a Sur-reply (Paper 8, “Sur-reply”) to the Reply.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Further, a decision to institute may not institute on fewer than all claims challenged in the petition. 37 C.F.R. § 42.108(a). Here, Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one of the challenged claims is unpatentable. Thus, we institute an *inter partes* review of the challenged claims on all the grounds of unpatentability in the Petition.

### *B. Real Parties in Interest*

Petitioner identifies itself and Telefonaktiebolaget LM Ericsson as the real parties in interest. Pet. 4. Patent Owner identifies itself as the only real party in interest. Paper 4, 1.

### *C. Related Matters*

The parties indicate that the ’500 patent is the subject of the following district court case: *Koninklijke KPN N.V. v. Telefonaktiebolaget LM*

*Ericsson*, No. 2:22-cv-00282 (E.D. Tex.) (“District Court Litigation”).  
Pet. 4; Paper 4, 1.

*D. The ’500 Patent*

The ’500 patent relates to “a system for detecting behaviour of a mobile telecommunications device in a telecommunications network.” Ex. 1001, 1:17–21. The ’500 patent states that “[e]xisting methods to detect malicious mobile device behaviour are applied entirely within the mobile handset itself.” *Id.* at 1:49–51. “However a disadvantage of this method is that if the mobile device has been infected with malware there can be no real certainty that the detection method itself can be trusted.” *Id.* at 1:59–62. The ’500 patent “solves the problem by identifying malicious behaviour in a mobile device, but identifying it from within the telecommunications network itself.” *Id.* at 2:23–25. Specifically, “[t]his is done . . . by monitoring the data streams, or transfers of data, which occur in the network due to the interaction between the network and the mobile [device] . . . for excessive occurrences of particular signals.” *Id.* at 2:25–30.

*E. Illustrative Claim*

Of the challenged claims, claims 1 and 11 are independent. Claim 1 is reproduced below.

1. A system comprising:

a telecommunications network configured to identify mobile telecommunications device and comprising a core network and a base station, wherein the base station is configured to receive radio signals from the mobile telecommunications device and further process the radio signals into processed signals and to transmit the processed signals to the core network,

wherein the telecommunications network is arranged to count in the core network a number of occurrences of a certain

predetermined signal associated with the mobile telecommunications device, the certain predetermined signal representing an interaction between network devices in the core network for normal processing of signals,

and wherein the telecommunications network is further arranged to register when the number of occurrences of the certain predetermined signal exceeds a level indicating acceptable behaviour of the mobile telecommunications device in the telecommunications network,

wherein the certain predetermined signal indicates handover of the mobile telecommunications device.

Ex. 1001, 9:9–30.

*F. Evidence*

Petitioner submits the following evidence:

| <b>Evidence</b>                                           | <b>Exhibit No.</b> |
|-----------------------------------------------------------|--------------------|
| Declaration of Dr. James Olivier (“Olivier Declaration”)  | 1003               |
| Eisl, WO 2011/072719 A1, published June 23, 2011 (“Eisl”) | 1004               |

Patent Owner submits the Declaration of Zhi Ding, Ph.D. (Ex. 2001, “Ding Declaration”).

*G. Asserted Grounds*

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

| <b>Claim(s) Challenged</b> | <b>35 U.S.C. §</b> | <b>Reference(s)/Basis</b> |
|----------------------------|--------------------|---------------------------|
| 1–3, 5–7, 9–11             | 102                | Eisl                      |
| 1–11                       | 103                | Eisl                      |

## II. ANALYSIS

*A. 35 U.S.C. § 314(a)*

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition in light of the District Court Litigation. Prelim. Resp. 24–30; Sur-reply 1–5. Section 314(a) states that

[t]he Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

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.

*Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). We also consider “several clarifications” made by the Director of the United States Patent and Trademark Office (“USPTO”). See USPTO Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 2 (June 21, 2022), *available at* [https://www.uspto.gov/sites/default/files/documents/interim\\_proc\\_discretion](https://www.uspto.gov/sites/default/files/documents/interim_proc_discretion)

ary\_denials\_aia\_parallel\_district\_court\_litigation\_memo\_20220621\_.pdf  
 (“Director’s Memo”).

*1. Factor 1 – Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv*, Paper 11 at 6. Petitioner argues that the first factor is “neutral, because neither party has requested a stay of the parallel litigation.” Reply 1. Patent Owner agrees that the first factor is “neutral” because “[n]o motion to stay has been filed and there is no specific indication from [the District Court] that a stay is likely.” Prelim. Resp. 25.

Neither party identifies any statements by the District Court or other evidence that specifically address a stay of the District Court Litigation pending this proceeding. *See* Pet. 7–8; Prelim. Resp. 25; Reply 1; Sur-reply 4. We decline to speculate based on the record in this case whether the District Court would grant a stay of the District Court Litigation. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv II*”). As a result, we determine that the first *Fintiv* factor is neutral.

*2. Factor 2 – Proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. Petitioner argues that “[i]t is reasonable to expect” that the District Court’s trial date of April 1, 2024 “will be rescheduled” because “four other cases” also are scheduled for trial on the same day. Reply 1. Petitioner also argues that “there will almost

certainly be additional post-trial motions addressing the invalidity issue” in the District Court Litigation “that go unaddressed by the final written decision deadline” in this case. *Id.* at 2. Petitioner concludes that the second factor “favors institution.” *Id.* Patent Owner argues that the second factor “weighs heavily in favor of discretionary denial” because the District Court’s trial date of April 1, 2024 is “nearly six months” before “the statutory deadline for a final written decision in this proceeding.” Prelim. Resp. 25–26; Sur-reply 1–2. According to Patent Owner, Petitioner’s argument regarding possible post-trial motions is “irrelevant.” Sur-reply 2.

The current trial date in the District Court Litigation is April 1, 2024. Ex. 2005, 1. The projected statutory deadline for a final written decision in this case is in October 2024. Thus, the current trial date in the District Court Litigation is about six months before the projected statutory deadline for a final written decision in this case. As a result, we determine that the second *Fintiv* factor favors discretionary denial of institution.

3. *Factor 3 – Investment in the parallel proceeding by the court and the parties*

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Petitioner argues that “[t]he close of discovery, rulings on dispositive motions, *Daubert* motions, and motions *in limine* are all scheduled after the October 10, 2023 institution deadline.” Reply 3. Petitioner also argues that it “diligently filed its Petition less than seven weeks after it received Patent Owner’s infringement contentions . . . and well before serving initial invalidity contentions” in the District Court Litigation. *Id.* at 2–3 (emphasis omitted). Petitioner thus contends that the third factor weighs “strongly in

favor of institution.” *Id.* at 4. Patent Owner argues that the third factor “weighs heavily toward denial” because the parties 1) exchanged infringement and invalidity contentions; 2) exchanged preliminary claim constructions; 3) responded to discovery requests; 4) conducted a deposition; and 5) produced and reviewed “over 90,000 documents” and source code. Prelim. Resp. 26–27; Sur-reply 4. Patent Owner also argues that “[b]y the projected institution deadline, the parties will have completed claim construction briefing and the *Markman* hearing will have already been held.” Prelim. Resp. 27.

The evidence of record indicates that the District Court and the parties have invested only minimal resources in the District Court Litigation as to issues of unpatentability involving the ’500 patent. We recognize that Petitioner served invalidity contentions regarding the ’500 patent. Ex. 2010. But the evidence of record indicates that the claim construction process and fact discovery are ongoing, expert discovery has not begun, and the deadline for dispositive motions is not until December 2023. Ex. 2005, 3–4. Further, Petitioner exercised reasonable diligence in filing the Petition about seven weeks after receiving Patent Owner’s disclosure of asserted claims and infringement contentions in the District Court Litigation. Pet. 70; Ex. 2011, 5. Thus, we determine that the third *Fintiv* factor weighs against discretionary denial of institution.

4. *Factor 4 – Overlap between issues raised in the petition and in the parallel proceeding*

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Petitioner states that “if the Patent Trial and Appeal Board institutes an

IPR in this proceeding on the grounds presented in the Petition, Petitioner will not pursue an invalidity defense in the district court action (C.A. No. 2:22-cv-282-JRG) that the patent claims subject to the instituted IPR are invalid based on the same grounds as in the Petition or on the reference that is the bases for those grounds (*Eisl*).” Reply 4–5. Patent Owner argues that “Petitioner’s stipulation ‘falls far short of a *Sotera*-type stipulation,” and thus factor four “‘weighs somewhat against’ denial.”<sup>1</sup> Sur-reply 2–3.

The Petition challenges claims 1–11, and relies on *Eisl*. Pet. 7. Petitioner’s invalidity contentions in the District Court Litigation address claims 1, 5, 7, 9, and 10, and rely on *Eisl*. Ex. 2010, 1, 12. Nonetheless, Petitioner’s stipulation that it will not rely on the grounds or references asserted in the Petition in the District Court Litigation mitigates to at least some degree concerns of duplicative efforts and potentially conflicting decisions. Reply 4–5; *see Sand Revolution II, LLC v. Continental Intermodal Grp. – Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020) (informative). Thus, we determine that the fourth *Fintiv* factor weighs at least slightly against discretionary denial of institution.

5. *Factor 5 – Whether the petitioner and the defendant in the parallel proceeding are the same party*

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the District Court Litigation. Prelim. Resp. 28; Reply 5. Under these circumstances, we

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<sup>1</sup> Patent Owner argues that Petitioner did not file similar stipulations in related cases, namely, IPR2023-00524 and IPR2023-00581. Prelim. Resp. 29–30. Petitioner now has filed similar stipulations in both of those cases. IPR2023-00524, Paper 7, 4–5; IPR2023-00581, Paper 6, 4–5.

determine that the fifth *Fintiv* factor favors discretionary denial of institution.

6. *Factor 6 – Other circumstances that impact the Board’s exercise of discretion, including the merits*

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, Paper 11 at 6. “[W]here the PTAB determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” Director’s Memo at 4–5. Petitioner argues that the Petition “presents a compelling unpatentability challenge of the ’500 [p]atent, so the Board should not discretionarily deny institution.” Reply 5. Patent Owner argues that “Petitioner’s challenges here do not even rise to the lower standard for institution,” so Petitioner “fails to present compelling evidence of unpatentability.” Prelim. Resp. 29.

On balance, we determine that *Fintiv* factors 1–5 do not favor discretionary denial of institution. Specifically, we determine that Petitioner’s stipulation and reasonable diligence in filing the Petition as well as the parties’ minimal investment in the District Court Litigation outweigh the projected trial date. *See* Director’s Memo at 8 (“[W]hen analyzing the proximity of the court’s trial date under factor two of *Fintiv*, when other relevant factors weigh against exercising discretion to deny institution or are neutral, the proximity to trial should not alone outweigh all of those other factors.”). As a result, we need not decide whether Petitioner presents a compelling unpatentability challenge. *See CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (PTAB Feb. 27, 2023)

(decision on Director review) (precedential) (“[I]n circumstances where the Board determines that the other *Fintiv* factors 1–5 do not favor discretionary denial, the Board shall decline to discretionarily deny under *Fintiv* without reaching the compelling merits analysis.”).

7. *Summary*

Based on our holistic view of the *Fintiv* factors, we decline to exercise our discretion under § 314(a) to deny the Petition.

B. 35 U.S.C. § 325(d)

Patent Owner argues that the Petition should be denied under 35 U.S.C. § 325(d). Prelim. Resp. 3–9. In determining whether to deny institution under § 325(d), we use

the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

*Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential).

1. *Whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office*

Under the first part of the *Advanced Bionics* framework, we consider “whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office.” *Id.* “Previously presented art includes art made of record by the Examiner, and art provided to the Office

by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent.” *Id.* at 7–8.

The only prior art in the asserted grounds of unpatentability is Eisl. Pet. 7. There is no dispute that Eisl was previously presented to the Office during prosecution of the ’500 patent. *Id.* at 10 (“*Eisl* was cited in an IDS during prosecution of the ’500 [p]atent.”); Prelim. Resp. 3–4; Ex. 1001, code (56) (citing “WO 2011072719 A1”); Ex. 1005, 772–773. Thus, on this record, we determine that the art in Petitioner’s asserted grounds of unpatentability is the same as the art previously presented to the Office.

2. *Whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims*

Because the first part of the *Advanced Bionics* framework is satisfied, we consider the second part of the framework, namely, “whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.” *Advanced Bionics*, Paper 6 at 8. “An example of a material error may include misapprehending or overlooking specific teachings of the relevant prior art where those teachings impact patentability of the challenged claims.” *Id.* at 8 n.9.

Petitioner argues that “the Office erred in failing to consider [Eisl] in a manner ‘material to the patentability of the [c]hallenged [c]laims’ by overlooking ‘specific teachings of the relevant prior art’ that ‘impact patentability of the [c]hallenged [c]laims.’” Pet. 10. In particular, Petitioner contends that “the Examiner’s proposed amendment to advance prosecution . . . included amending the claims to specify that ‘the certain predetermined signal’ being counted ‘indicates handover of the mobile telecommunications device.’” *Id.* According to Petitioner, “[t]he Examiner overlooked that *Eisl*

teaches that exact concept, along with the other elements of the independent claims.” *Id.*

Patent Owner argues that Petitioner “fails to demonstrate that Eisl discloses two key elements, including those added in the final amendment.” Prelim. Resp. 6–7. Specifically, Patent Owner contends that Petitioner fails to show that “Eisl teaches counting ***certain predetermined signals*** that ***indicates handover*** and represents an interaction between network devices for ***normal processing of signals***” and that “the alleged ‘certain predetermined signals’ of Eisl represent an interaction between ***network devices in the core network***.” *Id.* at 7.

During examination of the ’500 patent, the Examiner rejected the pending independent claims as anticipated by U.S. Patent Publication No. 2006/0230450 A1 (“Bu”). Ex. 1005, 723. In response, the applicant amended the pending independent claims to recite counting “in the core network a number of occurrences of a certain predetermined signal . . . , the certain predetermined signal representing an interaction between network devices in the core network for normal processing of signals.” *Id.* at 717, 722. The applicant argued that the amendment distinguished the pending independent claims from Bu. *Id.* at 727–731. The Examiner subsequently allowed the pending independent claims, and indicated that “[t]he amendments and/or arguments submitted by Applicant have been considered and are persuasive, in particular those found on pages 9–16 of the Arguments/Remarks filed on 7/28/2020,” which address the amended claim limitations quoted above. *Id.* at 746.

Petitioner demonstrates that the Examiner overlooked specific teachings of Eisl with respect to the claim limitations that the applicant

added to obtain allowance of the challenged claims. In particular, as discussed in detail below, Petitioner presents evidence that Eisl teaches counting “in the core network a number of occurrences of a certain predetermined signal associated with the mobile telecommunications device, the certain predetermined signal representing an interaction between network devices in the core network.” *See* Section II.E.1. As a result, on this record, we determine that Petitioner demonstrates that the Office erred in a manner material to the patentability of challenged claims.

### 3. *Summary*

For the reasons discussed above, we decline to exercise our discretion under § 325(d) to deny the Petition.

#### *C. Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had “a degree in electrical engineering or a similar discipline, with at least two years of relevant industry or research experience, including designing or implementing network systems,” as well as “familiarity with the wireless standards and protocols relating to subscriber management.” Pet. 17.

Petitioner’s description of the level of ordinary skill in the art is supported by the testimony of Petitioner’s declarant, Dr. James Olivier. Ex. 1003 ¶¶ 34–43. Patent Owner does not dispute Petitioner’s description at this stage of the proceeding. Prelim. Resp. 3. We adopt Petitioner’s description for purposes of this Decision.

#### *D. Claim Construction*

In an *inter partes* review proceeding, a patent claim is construed using the same standard used in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary

meaning of the claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b).

*1. certain predetermined signal*

Patent Owner contends that the term “certain predetermined signal” in claims 1 and 11 means “a waveform that carries data in a format specified in a technical specification, such as the 3GPP protocol.” Prelim. Resp. 10 (citing Ex. 2001 ¶ 52; Ex. 2003, 32; Ex. 2004, 3). Patent Owner further contends that claims 1 and 11 “are directed toward embodiments that count a ***certain predetermined signal*** that are subject to the ***normal processing of signals***,” not to “embodiments where the number of handover events for a mobile station is determined based on *data* generally.” *Id.* at 11–12. In other words, Patent Owner proposes construing claims 1 and 11 to exclude counting the occurrences of a certain predetermined signal based on data. *Id.* According to Patent Owner, the specification and prosecution history of the ’500 patent support its position. *Id.* at 10–13 (citing Ex. 1001, 2:14–30, 4:29–34, 7:24–30, 8:25–30; Ex. 1005, 155, 157, 170–181, 192–197, 356–368, 382–387, 413–425, 435–440, 451–463, 471–476, 507–517, 535–541, 557–568, 587–593, 610–623, 717–722, 740–748). Petitioner does not propose an express construction for any claim terms at this stage of the proceeding. Pet. 22.

On this record, we do not adopt Patent Owner’s proposed construction. Claim 1 recites that “the telecommunications network is arranged to count in the core network a number of occurrences of a certain predetermined signal,” and claim 11 recites “the telecommunications network counting, in the core network, a number of occurrences of a certain predetermined signal.” Ex. 1001, 9:17–19, 10:58–60. Although the claims

require counting the occurrences of a certain predetermined signal, the claim language, on its face, does not preclude doing so based on data. *See id.*

Further, the written description of the '500 patent indicates that the telecommunications network may count the occurrences of a signal based on data. Ex. 1001, 2:23–30. For example, the '500 patent states:

The system as claimed solves the problem by identifying malicious behaviour in a mobile device, but identifying it from within the telecommunications network itself. This is done according to the arrangement of the invention by monitoring the data streams, or transfers of data, which occur in the network due to the interaction between the network and the mobile. *This data is monitored for excessive occurrences of particular signals.*

*Id.* (emphasis added). Thus, the '500 patent contemplates using “data” to count the number of “occurrences of particular signals.”<sup>2</sup> *Id.*

As a result, on this record, we are not persuaded that claims 1 and 11 should be construed to exclude counting the occurrences of a certain predetermined signal based on data. No further construction is necessary to resolve the parties' disputes at this stage of the proceeding. *See* Section II.E.1; *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

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<sup>2</sup> Patent Owner points out that the applicant amended the independent claims during prosecution to recite counting the occurrences of a “certain predetermined signal” instead of monitoring for an occurrence of a “predetermined data type.” Prelim. Resp. 12–13; Ex. 1005, 717. Nonetheless, as discussed above, the '500 patent indicates that the telecommunications network may count the occurrences of a signal based on data. Ex. 1001, 2:23–30.

*E. Anticipation of Claims 1–3, 5–7, and 9–11 by Eisl*

Petitioner argues that claims 1–3, 5–7, and 9–11 are anticipated by Eisl. Pet. 22–70. For the reasons discussed below, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 1–3, 5–7, and 9–11 are anticipated by Eisl.

*1. Claim 1*

Claim 1 recites “[a] system.” Ex. 1001, 9:9. Petitioner presents evidence that Eisl discloses “a system for detecting and mitigating malicious activity from a mobile device.” Pet. 23–25 (citing Ex. 1004 ¶ 7). Patent Owner does not dispute that Eisl discloses the preamble of claim 1. On this record, Petitioner shows sufficiently that Eisl discloses the preamble of claim 1.<sup>3</sup>

Claim 1 recites “a telecommunications network configured to identify mobile telecommunications device and comprising a core network and a base station, wherein the base station is configured to receive radio signals from the mobile telecommunications device and further process the radio signals into processed signals and to transmit the processed signals to the core network.” Ex. 1001, 9:10–16. Petitioner presents evidence that Eisl discloses a telecommunications network including a base station and a core network. Pet. 25–30 (citing Ex. 1004 ¶¶ 2, 36–37, 41, 50–51, 56, 90, 101–102). Petitioner also presents evidence that Eisl discloses a mobile device connected to the core network via a radio interface, and that a person of ordinary skill in the art would have known that “when the mobile device

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<sup>3</sup> Because Petitioner presents evidence that the prior art discloses the recitations in the preamble of claim 1, at this stage of the proceeding, we need not decide whether the preamble is limiting.

transmits signals to the telecommunications network they are received in a base station and processed into data streams internal to the telecommunications network.” *Id.* at 30–32 (citing Ex. 1001, 3:19–22; Ex. 1003 ¶ 107; Ex. 1004 ¶¶ 36–37, 42, 50–51) (emphases omitted). Patent Owner does not dispute that Eisl discloses this limitation of claim 1. On this record, Petitioner shows sufficiently that Eisl discloses this limitation of claim 1.

Claim 1 recites “wherein the telecommunications network is arranged to count in the core network a number of occurrences of a certain predetermined signal associated with the mobile telecommunications device, the certain predetermined signal representing an interaction between network devices in the core network for normal processing of signals.” Ex. 1001, 9:17–23. Petitioner presents evidence that Eisl’s telecommunications network counts instances of “connection changes and/or handover actions (*i.e.*, predetermined signals) associated with the mobile device.” Pet. 32–38 (citing Ex. 1004 ¶¶ 38, 47, 76–77, 79–80, 83–84, 86–87, 89–91). Petitioner also presents evidence that a handover represents an interaction between network elements in the core network for normal processing of signals. *Id.* at 39–42 (citing Ex. 1004 ¶¶ 21, 47, 58, 79).

Patent Owner argues that Petitioner does not show sufficiently that Eisl discloses counting the occurrences of a certain predetermined signal. Prelim. Resp. 9–20. Specifically, Patent Owner argues that “Eisl teaches only (and vaguely) counting ‘handover actions’ based on collected **data** from the mobile device and/or network elements,” but “does not disclose counting **certain predetermined signals** as claimed.” *Id.* at 9–10 (citing Ex. 1004 ¶¶ 48, 58–59, 62; Ex. 2001 ¶ 51). According to Patent Owner,

Petitioner “mistakenly conflates *data* (in this case ‘network device *data*’) with the claimed ***predetermined signals***.” *Id.* at 14 (citing Ex. 2001 ¶ 59).

On this record, Patent Owner’s argument is unavailing. As discussed above, we do not construe claims 1 and 11 to exclude counting the occurrences of a certain predetermined signal based on data. *See* Section II.D.1. Further, as Patent Owner acknowledges, Eisl discloses counting the number of handovers based on network data. Prelim. Resp. 14 (“It is of course true that Eisl teaches determining the number of handover actions ‘from *data*.’”); Ex. 1004 ¶ 79. Eisl’s disclosure is consistent with the ’500 patent’s description of using “data” to count the number of “occurrences of particular signals.” Ex. 1001, 2:29–30.

Patent Owner also argues that Petitioner does not show sufficiently that the certain predetermined signal represents an interaction between network devices in the core network. Prelim. Resp. 20–24. Specifically, Patent Owner contends that even if Petitioner is correct that Eisl discloses “counting in the core network,” “that says nothing about whether the alleged predetermined signals represent an interaction between ***multiple*** network devices ***in the core network***.” *Id.* at 21–22 (citing Pet. 40–42; Ex. 2001 ¶ 68). According to Patent Owner, “a ‘handover’ refers to the transferring of a mobile device from one base station (or cell) to another base station (or cell),” but “neither the mobile device nor the base stations are ‘in the core network.’” *Id.* at 22–23 (citing Ex. 1001, 2:52–64, 6:61–7:4; Ex. 2001 ¶ 68). Patent Owner concludes that “thus it is unclear based on the Petition how the interaction between the mobile device and base stations can represent interactions between ***multiple*** network devices ***in the core network***.” *Id.*

On this record, Patent Owner’s argument is unavailing. Eisl discloses that “[o]ne network element . . . collects information . . . from other network elements which are aware about changes to the connection of a mobile device to a network (for example aware of . . . handover . . . actions),” and that the network elements are “in the core network.” Ex. 1004 ¶ 58. Patent Owner does not dispute this disclosure. *See* Prelim. Resp. 22 (“assuming that Petitioner’s characterization of Eisl . . . is correct”). Patent Owner instead argues that the claimed predetermined signal cannot be a handover because a handover does not represent an interaction between network devices in the core network. *Id.* at 22–23. We disagree. Patent Owner’s argument is inconsistent with the language of claim 1. *See* Ex. 1001, 9:29–30. In particular, claim 1 expressly states that “the certain predetermined signal indicates *handover* of the mobile telecommunications device.” *Id.* (emphasis added).

Claim 1 recites “wherein the telecommunications network is further arranged to register when the number of occurrences of the certain predetermined signal exceeds a level indicating acceptable behaviour of the mobile telecommunications device in the telecommunications network.” Ex. 1001, 9:24–28. Petitioner presents evidence that Eisl teaches registering a policy violation when the number of handovers exceeds a threshold indicating normal behavior for the mobile device. Pet. 42–47 (citing Ex. 1004 ¶¶ 19, 47, 85–87, 90–91, 101). Other than the arguments discussed above, Patent Owner does not dispute that Eisl discloses this limitation of claim 1. On this record, Petitioner shows sufficiently that Eisl discloses this limitation of claim 1.

Claim 1 recites “wherein the certain predetermined signal indicates handover of the mobile telecommunications device.” Ex. 1001, 9:29–30. Petitioner presents evidence that Eisl’s telecommunications network counts the number of handovers. Pet. 47–48 (citing Ex. 1004 ¶¶ 78–79). Other than the arguments discussed above, Patent Owner does not dispute that Eisl discloses this limitation of claim 1. On this record, Petitioner shows sufficiently that Eisl discloses this limitation of claim 1.

For the foregoing reasons, on this record, Petitioner shows sufficiently that Eisl discloses the limitations of claim 1.

## *2. Claims 2, 3, 5–7, and 9–11*

Independent claim 11 recites limitations similar to those discussed above for claim 1. Ex. 1001, 10:47–11:2. Dependent claims 2, 3, 5–7, 9, and 10 depend, directly or indirectly, from claim 1. *Id.* at 9:31–45, 9:54–10:3, 10:11–46. Petitioner presents evidence that Eisl discloses the limitations of claims 2, 3, 5–7, and 9–11. Pet. 48–53, 56–60, 64–70. Other than the arguments discussed above for claim 1, Patent Owner does not dispute that Eisl discloses the limitations of claims 2, 3, 5–7, and 9–11. On this record, Petitioner shows sufficiently that Eisl discloses the limitations of claims 2, 3, 5–7, and 9–11.

## *3. Summary*

For the foregoing reasons, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 1–3, 5–7, and 9–11 are anticipated by Eisl.

## *F. Obviousness of Claims 1–11 over Eisl*

Petitioner argues that claims 1–11 would have been obvious over Eisl. Pet. 22–70. Petitioner presents evidence that Eisl teaches or renders obvious

the limitations of claims 1–11. *Id.* Other than the arguments discussed above, Patent Owner does not raise any additional arguments relating to this asserted ground. Prelim. Resp. 9–24. On this record, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 1–11 would have been obvious over Eisl.

### III. CONCLUSION

Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one of the challenged claims is unpatentable. Accordingly, we institute an *inter partes* review on all grounds of unpatentability in the Petition. At this stage of the proceeding, we have not made a final determination with respect to the patentability of any of the challenged claims.

### IV. ORDER

It is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–11 of the '500 patent is instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '500 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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