

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T MOBILITY LLC, AT&T SERVICES INC., ERICSSON INC.,
NOKIA OF AMERICA CORPORATION, and T-MOBILE USA, INC.,
Petitioner,

v.

DAINGEAN TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-00402
Patent 10,841,958 B2

Before CHRISTOPHER L. OGDEN, JOHN R. KENNY, and
MARY C. HOFFMAN, *Administrative Patent Judges*.

HOFFMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

AT&T Mobility LLC, AT&T Services Inc., Ericsson Inc., Nokia of America Corporation, and T-Mobile USA, Inc. (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–4 of U.S. Patent No. 10,841,958 (Ex. 1001, “the ’958 patent”). Daingean Technologies Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 10, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), 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.” Based on the current record and for the reasons explained below, Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one of the challenged claims of the ’958 patent. Thus, we institute this *inter partes* review.

A. REAL PARTIES IN INTEREST

Petitioner identifies AT&T Corp., AT&T Mobility LLC, AT&T Mobility II LLC, AT&T Services Inc., Ericsson Inc., Nokia of America Corporation, and T-Mobile USA, Inc. as the real parties in interest. Pet. 1. Patent Owner identifies itself, Daingean Technologies Ltd., as the real party in interest. Paper 6, 2.

B. RELATED PROCEEDINGS

The parties identify *Daingean Tech. Ltd. v. AT&T Inc. et al.*, 2:23-cv-00123-JRG (E.D. Tex.) as challenging the ’958 patent in federal district court. Pet. 1; Paper 6, 2. Patent Owner also identifies *Daingean Tech. Ltd.*

v. T-Mobile USA, Inc. et al., No. 2:23-cv-00347 (E.D. Tex.) and *Daingean Tech. Ltd. v. Apple Inc.*, No. 2:23-cv-00347 (S.D. Cal.) (dismissed)¹.
Paper 6, 2.

II. BACKGROUND

A. THE '958 PATENT (EX. 1001)

The '958 patent relates to “requesting, transmitting, and using system information (SI) in wireless communications.” Ex. 1001, 1:13–16.

The patent describes an access node that broadcasts system information to its coverage area via System Information Blocks (SIBs). Ex. 1001, 1:39–41. Upon entering the coverage area, a wireless terminal (UE) obtains certain SIBs necessary to access the system. *Id.* at 1:43–45. The access node transmits SIBs required for system access (“first type system information” or “essential system information”) separately from SIBs not required for access (“second type system information” or “non-essential”). *Id.* at 8:34–47.

The access node periodically broadcasts first type system information in Essential System Information messages. Ex. 1001, 9:52–56. These messages include information about the second type system information, including 1) a value tag that uniquely identifies a version of the second type system information, and 2) scheduling information indicating whether the second type system information is on-demand or broadcast. *Id.* at 10:47–53, 15:38–43.

¹ We understand Patent Owner to be referring to *Daingean Tech. Ltd. v. Apple Inc.*, No. 3:23-cv-01560 (S.D. Cal.).

A wireless terminal requests second type system information when it determines that the second type system information has been modified.

Ex. 1001, 11:64–12:7. The wireless terminal makes this determination by comparing its stored valued tag with the value tag in the Essential System Information (i.e., first type SIB). *Id.*; *id.* at Fig. 9. In response to a request from the wireless terminal, the access node may broadcast the non-essential second type system information. *Id.* at 15:16–18.

B. CHALLENGED CLAIMS

The Petition challenges claims 1–4 of the '958 patent. Pet. 3.

Independent claim 1 reads as follows:

1. [1pre] An access node of a radio access network that communicates over a radio interface with a wireless terminal, the access node comprising:
 - [1a] processor circuitry configured:
 - [1b] to generate a first type system information block (SIB) comprising information and a value tag, the information indicating whether one or more associated second type system information blocks are provided by broadcast or on-demand, the value tag being updated upon a change of a corresponding second type SIB, the first type SIB being required for the wireless terminal to perform an initial access to the radio access network;
 - [1c] upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, to include in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast;
 - [1d] transmitter circuitry configured to:
 - [1e] transmit the first type SIB;
 - [1f] transmit a message that triggers the wireless terminal to receive the first type SIB, wherein;
 - [1g] whether or not the second type SIB has changed is determined based on a value tag, associated with the second type SIB,

stored in the wireless terminal, and the value tag included in the first type SIB corresponding to the second type SIB.

Ex. 1001, 27:28–55.

Claim 2 depends from claim 1 and recites the transmitter circuitry further being configured to transmit the second type SIB by broadcast after the change. Ex. 1001, 27:56–58. Independent claim 3 is a method claim and recites subject matter similar to claim 1. *Id.* at 27:59–28:16. Claim 4 depends from claim 3 and recites subject matter similar to claim 2. *Id.* at 28:17–18.

C. ASSERTED GROUNDS OF UNPATENTABILITY

We summarize the grounds advanced in the Petition below:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1A ²	1–4	102(a)(2)	Lee ^{3,4}
1B	1–4	103	Lee
2A	1–4	102(a)(1)–(2)	Brismar ⁵
2B	1–4	103	Brismar

Pet. 3.

² The Petition combines Grounds 1A and 1B into a single Ground 1, and Grounds 2A and 2B into a single Ground 2.

³ Lee et al., US 2019/0158988 A1, published May 23, 2019. Ex. 1004 (“Lee”).

⁴ Petitioner avers, and Patent Owner does not currently contest, that this reference claims priority to U.S. Provisional Applications Nos. 62/334,418 (Ex. 1006), 62/334,427, 62/334,443, and 62/366,643, and “is prior art under at least post-AIA § 102(a)(2) as a published patent application naming another inventor and effectively filed prior to July 28, 2016.” Pet. 3.

⁵ Brismar et al., US 2015/0382284 A1, published December 31, 2015. Ex. 1005 (“Brismar”).

In support of its arguments, Petitioner relies on a declaration of Dr. Wayne Stark. Ex. 1002. Patent Owner relies on a declaration of Dr. Karthikeyan Sundaresan. Ex. 2002.

III. ANALYSIS

A. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art at the time of the invention is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991)).

Petitioner asserts that a person of ordinary skill in the art (“POSITA”), on or around the filing date of the ’958 patent, “would have had a B.S. in Electrical Engineering or a related field with at least three years of experience designing, developing, and/or testing telecommunication systems” and that “[m]ore education may supplement practical experience or *vice versa*.” Pet. 8 (citing Ex. 1002 ¶ 33).

In its Preliminary Response, “Patent Owner generally concurs . . . though would propose that a POSITA only needs two years of experience, and believes that the appropriate field is . . . ‘wireless communications, and particularly . . . methods and apparatus for requesting, transmitting, and using system information (SI) in wireless communications.’” Prelim. Resp. 18–19 (quoting Ex. 1001, 1:11–16); Ex. 2002 ¶ 15.

We find Patent Owner’s proposed “wireless communications” is more consistent with the ’958 patent than Petitioner’s proposed “telecommunication,” which encompasses a variety of technologies

including, e.g., landline and wireless telephones, cable, and satellite. *See* Ex. 1001, 1:11–62 (describing the invention in terms of wireless communications). We therefore adopt a modified version of Petitioner’s proffered level of ordinary skill in the art, substituting “wireless communications” for “telecommunication.”

The parties rely on expert testimony for their respective positions relating to the number of years of experience needed to attain ordinary skill, but neither expert cites supporting evidence for their testimony. *See* Ex. 1002 ¶ 33; Ex. 2002 ¶ 15. Our decision to institute would be the same regardless of whether the length of experience is two years or three. If the parties believe the proposed differing lengths of experience would affect the analysis of patentability in this case, they should address that issue at trial and cite to evidence in the record to support their positions.

B. CLAIM CONSTRUCTION

In an *inter partes* review, the Board construes the terms of a patent claim “in accordance with the ordinary and customary meaning of such 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); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

Neither Petitioner nor Patent Owner expressly construe any claim terms. *See* Pet. 8; Prelim. Resp. 19.

We preliminarily determine that no claim construction is necessary for our decision to institute an *inter partes* review apart from that discussed in our analysis below. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only terms in controversy must be construed “and only to the extent necessary to resolve

the controversy”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. OVERVIEW OF ASSERTED PRIOR ART

1. *Lee (Ex. 1004)*

Lee “relates to a wireless communication system and, more particularly, to a method for a user equipment (UE) to request a missing system information block (SIB) in a wireless communication system, and an apparatus for supporting the same.” Ex. 1004 ¶ 2.

According to Lee, there are different types of SIBs. Ex. 1004 ¶¶ 7, 70–72. SIB1 is broadcast and includes information associated with cell access, and particularly includes scheduling information on other SIBs (SIB2 to SIBn). *Id.* Other SIBs may be broadcast or requested on-demand. *Id.* ¶ 101.

UEs must maintain up-to-date system information to perform an appropriate operation. Ex. 1004 ¶ 76. When a network changes a particular type of on-demand system information, the network may broadcast the changed system information without a request from the UE. *Id.* ¶¶ 167–168. Alternatively, the UE can request the changed system information, as seen below in Figure 13 of Lee. *Id.* ¶ 166.

FIG. 13

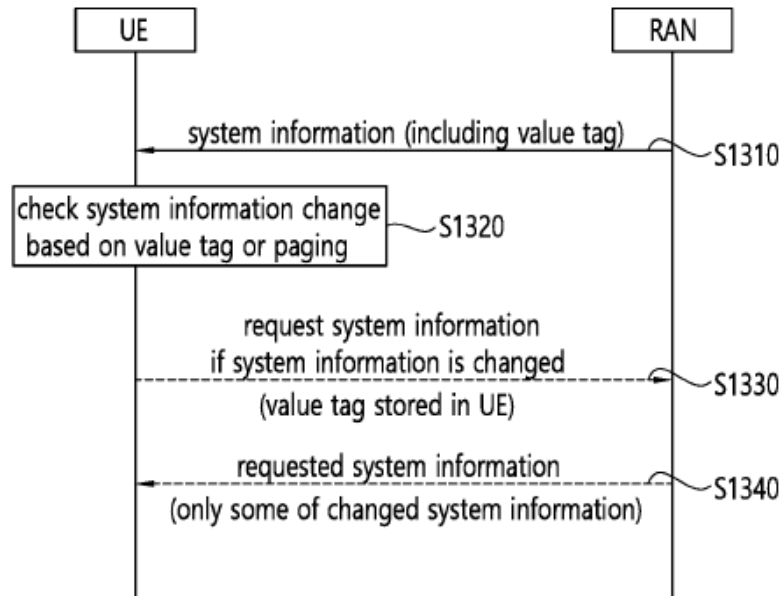


Figure 13 above illustrates a procedure where a UE receives changed system information. Ex. 1004 ¶¶ 166–171. In step S1310 of Figure 13, the network (RAN) may indicate to the UE that on-demand system information is to be changed by broadcast signaling during a specified period. *Id.* ¶ 168. The broadcast signaling may be essential system information or a paging message. *Id.* Step S1310 may include a value tag for a particular type of system information. *Id.* Step S1310 also may indicate whether on-demand system information is to be broadcast in the next period. *Id.*

In step S1320, the UE may check whether the on-demand system information is changed based on the value tag (i.e., the UE compares its stored value tag with the value tag in step S1310). *Id.* ¶ 169.

In step S1330, when the UE recognizes that the on-demand system information is changed but not scheduled to be broadcast, the UE may trigger a request for the on-demand system information. *Id.* ¶ 170. On the

other hand, when the UE recognizes that the on-demand system information is changed and is scheduled to be broadcast, the UE may not trigger a request. *Id.*

In step S1340, the UE receives the changed system information. *Id.* ¶ 171.

2. *Brismar (Ex. 1005)*

Brismar describes a network node in a wireless communication network to transmit system information to a plurality of wireless terminals (UEs). Ex. 1005 ¶¶ 22, 70. The network utilizes at least two system information distribution channels. *Id.*

As seen in the block diagram depicted in Figure 5a below, the network node transmits a first group of system information blocks (SIBs) via a first physical channel, and transmits a second group of additional SIBs via a different, second physical channel. *Id.* ¶ 22.

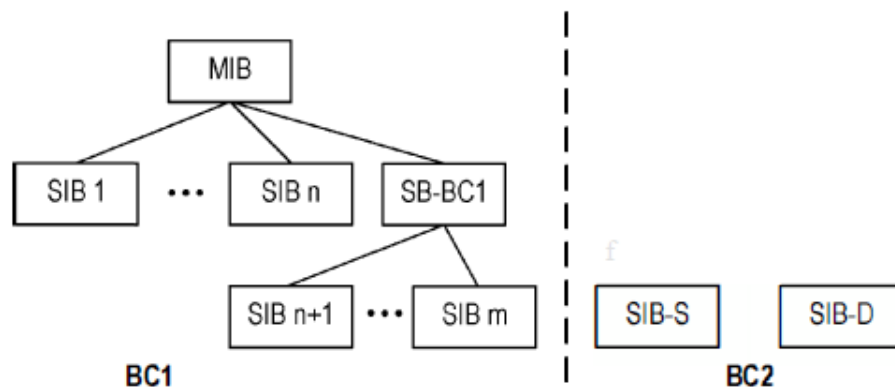


FIG. 5A

Seen above in Figure 5a block diagram of a SIB structure of Brismar, the first physical channel (also referred to as BC1 or the legacy distribution channel) maintains backwards compatibility with the existing SI distribution

mechanisms. Ex. 1005 ¶¶ 65, 70, 72. Accordingly, SIBs needed for legacy UEs currently deployed in the network are broadcast over BC1. *Id.* ¶ 64. The first physical channel transmits the Master Information Block (MIB), Scheduling Block (SB or SB-BC1), and SIBs for legacy UEs. *Id.* ¶¶ 5, 103.

The second physical channel (also referred to as BC2 or the extended distribution channel) extends the SI distribution mechanism for non-legacy UEs (i.e., UEs capable of understanding the extended mechanism).

Ex. 1005 ¶¶ 70, 73. Although not depicted in Figure 5a, an extended scheduling block (SB-BC2) may be transmitted on BC2. *Id.* ¶ 88, Figs. 3a, 4a. As seen in Figure 5a, system information broadcast on BC2 may be grouped into two separate SIBs depending on how frequent the information is changed by the network. *Id.* ¶ 98. All static information may be provided in one SIB (SIB-S) and all dynamic information may be provided in another SIB (SIB-D). *Id.*

The scheduling information in the MIB or scheduling blocks (i.e., SB-BC1 or SB-BC2) provides a list of the SIBs and their broadcast channel location. Ex. 1005 ¶ 6.

The scheduling information also contains a value tag (or an expiration timer) for each SIB that provides version and validity information.

Ex. 1005 ¶ 6. SIB-S may include a value tag to indicate its version, and the content of SIB-D can be associated with an expiration timer. *Id.* ¶¶ 100–101, 106–107. When the content of an SIB on BC2 is modified, the UE may compare the associated SIB value tag located in scheduling block SB-BC2 with the value tag stored in the UE. *Id.* ¶ 97. If the value tags differ, the UE may reacquire the modified SIB. *Id.*

D. LEGAL PRINCIPLES

A claim is unpatentable under § 102 as anticipated if a single prior art reference either expressly or inherently discloses every limitation of the claim. *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 975 (Fed. Cir. 2010). A claim is unpatentable under § 103 if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). When a ground in a petition is based on a combination of references, we consider “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). We base our obviousness inquiry on factual considerations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) any objective indicia of obviousness or non-obviousness that may be in evidence. *See Graham*, 383 U.S. at 17–18.

E. ANTICIPATION BY OR OBVIOUSNESS OVER LEE

Petitioner contends that claims 1–4 are unpatentable under § 102 as anticipated by or under § 103 as obvious over Lee. Pet. 17–37.

1. *Claim 1*

We focus our analysis on independent claim 1. For the reasons explained below, we determine that Petitioner has shown a reasonable likelihood that claim 1 is anticipated by and/or rendered obvious over Lee.

(a) Limitation [1c]: Petitioner's Contentions

We begin our analysis on disputed limitation [1c]. Limitation [1c] recites “upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, to include in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast.”

Petitioner contends that limitation [1c] is disclosed or suggested by Lee. Pet. 24–25 (citing Ex. 1002 ¶¶ 107–112; Ex. 1004 ¶¶ 167–169, Fig. 13). Specifically, Petitioner contends that Lee's first type SIB includes 1) an indication (such as a value tag) that the second type SIB has changed, and 2) scheduling information of the second type SIB. Pet. 24 (citing Ex. 1004 ¶ 169); Pet. 20–23 (citing Ex. 1004 ¶ 71). Petitioner contends that Lee discloses, upon a change of the on-demand second type SIB, broadcasting the second type SIB during a specified period and indicating to the UE, via essential system information (i.e., first type SIB), whether the on-demand second type SIB is broadcast in the next period. Pet. 24–25 (citing Ex. 1004 ¶¶ 167–168); Ex. 1002 ¶ 103 (citing Ex. 1004 ¶ 168). Petitioner further contends that the specified period may be set in any necessary system information. *Id.* at 24–25 (citing Ex. 1004 ¶ 167).

Petitioner contends that Lee discloses “an indication of whether a system information block is on demand in the first type SIB” and that a “POSITA would understand that the first type SIB therefore needs to say that the changed system information is now broadcast . . . so that the UE's [*sic*] in need of the updated system information know how to update it.” Pet. 26 (citing Ex. 1002 ¶¶ 110–111). Alternatively, Petitioner contends that

it would have been obvious to one of ordinary skill in the art to interpret or modify Lee with such an indication, “because the UE would require an indication that the changed system information is now broadcast so that they would know to receive it.” *Id.* at 26.

(b) Limitation [1c]: Patent Owner Arguments; Analysis

We now address Patent Owner’s arguments in response to Petitioner’s contentions with respect to limitation [1c], along with our preliminary analysis of the parties’ arguments.

According to Patent Owner, Petitioner fails to show “‘upon a change of a second type SIB’ that the second type SIB’s ‘associated information’ in Lee’s S1310 system information ‘indicated before the change that the second type SIB was provided on-demand,’ and, after the change, the ‘associated information’ ‘indicat[es] that the second type SIB is provided by broadcast.’” Prelim. Resp. 20. In support, Patent Owner makes several points, which we address in turn below.

First, Patent Owner explains that “the patentee made clear during prosecution that, for limitation 1c, merely having a base station trigger UEs to receive broadcast system information in the cell without request was insufficient to meet this limitation.” Prelim. Resp. 20 (citing Ex. 1007, 1756–1757); *id.* at 9–11 (citing Ex. 1007, 1727–1728). Patent Owner further explains that the patentee “made clear that limitation 1c requires the method of delivery of the second type SIB to be switched from ‘on-demand’ to ‘by broadcast’ based on a change to the second type SIB information.” *Id.* at 11. Based on this record, Lee discloses switching the second type SIB from on-demand to broadcast when the second type SIB changes. *See, e.g.*, Ex. 1004 ¶ 167 (“[w]hen a network changes a particular type of on-demand system

information, the network may broadcast the changed system information”). Furthermore, we preliminarily disagree with Patent Owner’s argument that the changed second type SIB in Lee’s Figure 13 remains on demand rather than switched to broadcast. Prelim. Resp. 21. Patent Owner explains that “Figure 13 does not illustrate a case where the base station is broadcasting a message, but shows that the changed SI is on demand, and the UE requests the changed information.” *Id.* However, Lee’s Figure 13 accounts for two scenarios: one where the second type SIB is requested (remains on-demand) and another where the second type SIB is broadcast. Paragraph 170 of Lee clarifies this point, stating,

[W]hen the UE recognizes that the on-demand system information is changed and the on-demand system information is not scheduled to be broadcast, the UE may trigger a system information request for the on-demand system information. *On the other hand, when the UE recognizes that the on-demand system information is changed and the on-demand system information is scheduled to be broadcast, the UE may not trigger a system information request for the on-demand system information.*

Ex. 1004 ¶ 170 (emphasis added).

As paragraph 170 explains, the UE recognizes that the second type SIB is changed but does not make an on-demand request when the UE determines that the second type SIB is already scheduled to be broadcast. The UE is able to determine that the second type SIB is already scheduled to be broadcast because the network indicates, via essential system information (i.e., first type SIB), that on-demand system information is to be switched to broadcast. Ex. 1004 ¶ 168.

Patent Owner next argues that Petitioner, in arguing alternative grounds based on obviousness, “implicitly concede[s]” that limitation [1c] is

missing in Lee. Prelim. Resp. 21–22. We do not agree that Petitioner’s presentation of an alternative obviousness challenge undermines its anticipation challenge.

Lastly, Patent Owner explains that Lee discloses an “indicator in a paging message.” Prelim. Resp. 22–23 (citing Ex. 1004 ¶ 78). To the extent Patent Owner argues that the presence of the paging message suggests that Lee’s first type SIB lacks broadcast information about the second type SIB, we do not agree at this stage. Lee discloses that “the network may indicate to the UE that on-demand system information is to be changed by broadcast signaling . . . [which] may be *essential system information or a paging message*.” Ex. 1004 ¶ 168 (emphasis added). Lee further discloses that the network indicates (via essential system information *or* a paging message) whether the changed system information (i.e., second type SIB) will be broadcast. *Id.* In solely focusing on the paging message, Patent Owner ignores Lee’s disclosure that essential system information may indicate a change from on-demand to broadcast. *See* Prelim. Resp. 22–23. Accordingly, based on the preliminary record, Lee’s essential system information (i.e., first type SIB) indicates whether the second type SIB is on-demand or broadcast. On this record, at this stage, we determine that Lee discloses or suggests limitation [1c].

(c) Undisputed Limitations [1pre]–[1b], [1d]–[1g]

At this stage, Patent Owner does not dispute Petitioner’s contentions regarding limitations [1pre]–[1b] and [1d]–[1g], which are discussed briefly below.

Limitation [1pre] recites “[a]n access node of a radio access network that communicates over a radio interface with a wireless terminal, the access

node comprising.” Ex. 1001, 27:28–30. Petitioner identifies Lee’s evolved node-B (eNB) or base station (BS) of an evolved-UMTS terrestrial radio access network (E-UTRAN) that communicates with user equipment (UE). Pet. 17 (citing Ex. 1005 ¶¶ 9, 41–42, Fig. 1).

Limitation [1a] recites “processor circuitry configured,” which Petitioner identifies in Lee as BS processor 1501. Ex. 1001, 27:31; Pet. 18–19 (citing Ex. 1005 ¶¶ 184–186, Fig. 15).

Limitation [1b] recites:

to generate a first type system information block (SIB) comprising information and a value tag, the information indicating whether one or more associated second type system information blocks are provided by broadcast or on-demand, the value tag being updated upon a change of a corresponding second type SIB, the first type SIB being required for the wireless terminal to perform an initial access to the radio access network.

Ex. 1001, 27:32–40.

Petitioner identifies in Lee generating SIB1 (i.e., essential system information at step S1301) comprising scheduling information on other SIBs, such as on-demand system information, and a value tag, the information indicating whether the on-demand system information is provided by broadcast or on-demand, the value tag being updated upon a change of the on-demand system information, the SIB1 being associated with cell access. Pet. 20–24 (citing Ex. 1005 ¶¶ 71–72, 166, 168–169, Fig. 13).

Limitation [1d] recites “transmitter circuitry configured to: . . . ,” which Petitioner identifies in Lee as transceiver 1503. Ex. 1001, 27:47; Pet. 26–27 (citing Ex. 1005 ¶¶ 76, 185–186, Fig. 15).

Limitation [1e] recites “transmit the first type SIB,” which Petitioner identifies in Lee as the transmission of system information, e.g., in step S1310 of Figure 13, in which the transmitted system information is associated with cell access as well as scheduling information on other SIBs. Ex. 1001, 27:48; Pet. 28–29 (citing Ex. 1005 ¶¶ 71, 76, 166, Figs. 13, 14).

Limitation [1f] recites “transmit a message that triggers the wireless terminal to receive the first type SIB, wherein” Ex. 1001, 27:49–50. Petitioner identifies in Lee transmitting a paging message. Pet. 29–30 (citing Ex. 1005 ¶¶ 71, 78, 168). Petitioner also contends:

[i]n order for a SIB information to be communicated from a RAN to a UE, the UE must be configured to receive the RAN transmissions. Thus, a POSITA would understand that the system disclosed in Lee is configured to ensure that this will occur – e.g., the UE in Lee must be configured, via a message from the RAN, to configure the UE to receive first type SIB from the RAN so that the UE may then receive the other SIBs.

Pet. 30 (citing Ex. 1002 ¶ 125).

Limitation [1g] recites “whether or not the second type SIB has changed is determined based on a value tag, associated with the second type SIB, stored in the wireless terminal, and the value tag included in the first type SIB corresponding to the second type SIB.” Ex. 1001, 27:51–55. Petitioner identifies Lee’s determining whether or not the on-demand system information has changed based on 1) a value tag, associated with the on-demand system information, stored in the UE, and 2) the value tag, included in the SIB1/essential system information in step S1310, corresponding to the on-demand system information. Pet. 31 (citing Ex. 1005 ¶ 83, Fig. 13); Pet. 20–24 (citing Ex. 1005 ¶¶ 166, 168–169); *see also* Ex. 1005 ¶ 170 (further

explaining the embodiment of Figure 13, the UE recognizes when the on-demand system information is changed).

At this stage, Patent Owner does not specifically contest Petitioner's contentions with respect to limitations [1pre]–[1b] and [1d]–[1g], and we are persuaded that Lee discloses each of these limitations, for the reasons given by Petitioner. *See* Prelim. Resp.

(d) Conclusion as to Claim 1

For the above reasons, we determine that Petitioner has shown, sufficiently persuasively at this stage, that Lee anticipates claim 1 and/or renders claim 1 obvious. We therefore determine that Petitioner is reasonably likely to prevail in showing that claim 1 is unpatentable.

2. *Claims 2–4*

For claims 2–4, Petitioner advances arguments mapping with particularity every claim limitation to disclosures in Lee. Pet. 33–37.

At this stage in the proceeding, Patent Owner does not contest those arguments except to contend that Lee does not disclose limitation [3b] of claim 3. Prelim. Resp. 23. Limitation [3b] includes the same subject matter as limitation [1c]. Ex. 1001, 27:41–46, 28:3–8. For similar reasons as discussed above with respect to limitation [1c], we are sufficiently persuaded at this stage that Lee discloses or suggests limitation [3b].

We therefore determine that Petitioner is reasonably likely to prevail in showing that claims 2–4 are unpatentable.

IV. OTHER GROUNDS

Because Petitioner has shown a reasonable likelihood of prevailing with respect to claims 1–4 based on anticipation by Lee, we will institute on all claims and all grounds raised in the Petition. 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”); *see SAS*, 138 S. Ct. at 1359–60; *AC Techs. S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1364 (Fed. Cir. 2019) (“[I]f the Board institutes an IPR, it must . . . address all grounds of unpatentability raised by the petitioner.”).

At this stage, we decline to provide full and detailed preliminary findings as to the remaining ground of unpatentability based on Brismar. We determine that, under the facts presented on this record, the dispute surrounding these grounds is best suited for resolution on a full trial record. However, we provide the following remarks as guidance to the parties in an effort to promote a streamlined trial.

Claim 1 recites “first type SIB” and “second type SIB.” Ex. 1001, 27:28–55. Petitioner maps Brismar’s “first group of SIBs via a first physical channel” to the claimed first type SIB and “second group of additional SIBs via a different, second physical channel” to the claimed second type SIB. Pet. 39–40 (citing Ex. 1005 ¶ 183, Fig. 16; Ex. 1002 ¶ 152); *id.* at 45. Petitioner also maps the “SIB containing static information” to the first type SIB and “SIB containing dynamic information” to the second type SIB. Pet. 40–41 (citing Ex. 1005 ¶¶ 12, 103–104; Ex. 1002 ¶ 154.).

Based on our review, the SIB containing static information (SIB-S) is transmitted via the second physical channel. *See, e.g.*, Ex. 1005 ¶¶ 98, 109,

Fig. 5a. As such, SIB-S is distinct from the first group of SIBs via a first physical channel. *Id.* Petitioner’s mapping for the claimed first type SIB potentially conflates SIB-S on the second physical channel with SIBs on the first physical channel.

In its Preliminary Response, Patent Owner does not address Petitioner’s mapping of Brismar’s first group of SIBs on the first physical channel to the first type SIB. Prelim. Resp. 24–44. The parties may wish to explore Petitioner’s argument mapping Brismar’s “first group of SIBs via a first physical channel” to the first type SIB, including whether the Petition sufficiently identifies with particularity every claim limitation to disclosures in the asserted prior art. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b).

In its Preliminary Response, Patent Owner focuses its arguments on Petitioner’s mapping of Brismar’s static SIB-S and dynamic SIB (SIB-D) to the claimed first and second type SIBs, respectively. *Id.* For example, Patent Owner argues that Brismar’s first type SIB (i.e., SIB-S) does not include a value tag corresponding to the second type SIB (i.e., SIB-D), as required by limitation [1g]. *Id.* at 42–43. Specifically, Patent Owner argues that the value tag is in the scheduling block (not the first type SIB) and the value tag is only applicable to static (not dynamic) system information. Prelim. Resp. 43 (citing Ex. 1001 ¶¶ 12–13, 74–78, 87, 106).

Patent Owner’s argument has merit. According to our review and based on this record, none of the evidence cited by Petitioner for the value tag (namely, Brismar’s paragraphs 12, 97, 104, and 109) appears to show the SIB-S including a value tag corresponding to the SIB-D. Pet. 40–41, 46 (citing Ex. 1005 ¶¶ 12, 97, 104, 109); Ex. 1002 ¶¶ 151–160, 173–174. Paragraphs 12 and 97 disclose that the MIB or the scheduling block (not the

SIB-S) include value tags. Prelim. Resp. 43. Further, we see nothing in the record suggesting that a value tag (which *changes* as SIB content is modified) is *static* information that would be included in the SIB-S (which only includes static information). Ex. 1006 ¶¶ 100–107. Paragraphs 12, 104, and 109 disclose only a value tag corresponding to the SIB-S (not a value tag corresponding to the SIB-D). Further, Petitioner’s expert’s testimony does not remedy our concerns with respect to this matter. *See* Ex. 1002 ¶ 157 (discussing the value tag in the context of the SIB-S).

For these reasons, we preliminarily agree with Patent Owner that Brismar’s SIB-S does not include a value tag corresponding to the SIB-D.

V. CONCLUSION

We determine that there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition, and therefore, we institute *inter partes* review.

Any argument not raised in a Patent Owner Response to the Petition, or as permitted in another manner during trial, shall be deemed waived even if asserted in the Preliminary Response. In addition, nothing in this Decision authorizes Petitioner to supplement information advanced in the Petition in a manner not permitted by the Board’s Rules.

VI. ORDER

In consideration of the foregoing, it is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of all challenged claims of the ’958 patent is instituted on all grounds of unpatentability set forth in the Petition; and

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FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(a) and 37 C.F.R. § 42.4, notice is given of institution of trial commencing on the entry date of this Decision.

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