

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.
Petitioners,

v.

DAINGEAN TECHNOLOGIES LTD.,
Patent Owner.

Case No. IPR2024-00402
U.S. Patent No. 10,841,958

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,841,958**

TABLE OF CONTENTS

I.	MANDATORY NOTICES UNDER 37 C.F.R. § 42.8.....	1
II.	FEES	2
III.	REQUIREMENTS FOR IPR	2
	A. Grounds for Standing	2
	B. Challenge and Relief Requested	3
IV.	INTRODUCTION	4
V.	OVERVIEW OF THE '958 PATENT	4
	A. Background	4
	B. Purported Invention.....	5
	C. Exemplary Claim.....	7
VI.	CLAIM CONSTRUCTION	7
VII.	LEVEL OF ORDINARY SKILL	8
VIII.	35 U.S.C. §325(d) is Inapplicable	8
IX.	PRIOR ART.....	9
	A. Lee	9
	1. Overview of Lee.....	9
	2. Lee is Prior Art to the '958 Patent	11
	B. Brismar	14
	1. Overview of Brismar.....	14
	2. Brismar is Prior Art to the '958 Patent	17
X.	ASSERTED GROUNDS OF UNPATENTABILITY	17
	A. Ground 1: Lee.....	17
	1. The Challenged Claims are Anticipated and/or Rendered Obvious by Lee	17
	B. Ground 2: Brismar.....	38
	1. The Challenged Claims are Anticipated and/or Rendered Obvious by Brismar	38
XI.	CONCLUSION.....	52

TABLE OF AUTHORITIES

	Page(s)
 CASES	
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>)	7
<i>Penumbra, Inc. v. Rapidpulse, Inc.</i> , IPR2021-01466 Paper 34	12
<i>Toyota Motor Corp. v. Cellport Systems, Inc.</i> , IPR2015- 00633	8
<i>Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.</i> , 200 F.3d 795 (Fed. Cir. 1999)	8
 STATUTES	
35 U.S.C. § 102(a)(2)	3, 12
§325(d)	8, 9, 11
 OTHER AUTHORITIES	
37 C.F.R. § 42.8	1
§ 42.10(b)	1
§ 42.15(a)	2
§ 42.24	53
§ 42.24(d)	53

LIST OF EXHIBITS

Exhibit	Description
EX1001	U.S. Pat. No. 10,841,958 (“the ’958 Patent”)
EX1002	Expert Declaration of Dr. Wayne Stark
EX1003	Curriculum Vitae of Expert
EX1004	U.S. Pat. Publication No. 2019/0158988 (“Lee”)
EX1005	U.S. Pat. Publication No. 2015/0382284 (“Brismar”)
EX1006	U.S. Provisional Patent Application No. 62/334,418 (“Lee Provisional”)
EX1007	’958 Patent File History

Listing of Challenged Claims

(Element labels added for ease of reference)

Claim 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.

Claim 2:

The access node of Claim 1, wherein the transmitter circuitry is further configured to transmit the second type SIB by broadcast after the change.

Claim 3:

[3pre] A method for an access node of a radio access network that communicates over a radio interface with a wireless terminal, the method comprising:

[3a] generating 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;

[3b] upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, including in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast;

[3c] transmitting the first type SIB;

[3d] transmitting a message that triggers the wireless terminal to receive the first type SIB, wherein;

[3d] 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.

Claim 4:

The method of Claim 3, further comprising transmitting the second type SIB by broadcast after the change.

AT&T Mobility LLC, AT&T Services Inc., Ericsson Inc., Nokia of America Corporation, and T-Mobile USA, Inc. (collectively, “Petitioners”) petition for *Inter Partes* Review (“IPR”) of Claims 1-4 (the “Challenged Claims”) of U.S. Patent No. 10,841,958 (the “’958 Patent”) (Ex- 1001), which, according to PTO records, was assigned to Daingean Technologies Ltd. (“Daingean” or “Patent Owner”) on October 11, 2022. For the reasons set forth below, the Challenged Claims should be found unpatentable and canceled.

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

Real Parties-in-Interest: Petitioners identify the following as the real parties-in-interest: 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. No other parties have directed, funded, or controlled the filing of this petition.

Related Matters: The ’958 Patent is asserted against Petitioners in *Daingean Tech. Ltd. v. AT&T Inc. et al.*, 2:23-cv-00123-JRG (E.D. Tex- Mar. 24, 2023).

Counsel and Service Information:

Petitioners identify lead and backup counsel below. A Power of Attorney is filed concurrently herewith under 37 C.F.R. § 42.10(b). Petitioner consents to email service at: ATT_Daingean@mckoolsmith.com.

Lead Counsel	Backup Counsel
Scott W. Hejny Reg. No. 45,882 shejny@McKoolSmith.com MCKOOL SMITH P.C. 300 Crescent Court, Suite 1500 Dallas, TX 75201 Telephone: 214.978.4000 Facsimile: 214.978.4044	Eric Hansen Reg. No. 63,095 ehansen@McKoolSmith.com MCKOOL SMITH P.C. 300 Crescent Court, Suite 1500 Dallas, TX 75201 Telephone: 214.978.4204 Facsimile: 214.978.4044

A copy of this entire Petition, including all Exhibits and a Power of Attorney, is being served by FEDERAL EXPRESS, costs prepaid, to the address of the attorney or agent of record for Patent Owner in the district court proceedings regarding the '958 Patent: Demetrios Anaipakos, Alavi & Anaipakos PLLC, 609 Main Street, Suite 3200, Houston, TX 77002; and to the address of the attorney or agent of record at the USPTO: John P. Fonder, Christensen, Fonder, Dardi & Herbert PLLC, 11322 86TH Avenue North, Maple Grove, MN 55369.

II. FEES

The Office is authorized to charge the fee in in 37 C.F.R. § 42.15(a) to Deposit Account No. DA-505723 and any additional fees that are due.

III. REQUIREMENTS FOR IPR

A. Grounds for Standing

Petitioners certify that the '958 Patent is available for IPR and Petitioners are not barred or estopped from requesting IPR on the grounds identified herein.

B. Challenge and Relief Requested

Petitioners request IPR of Claims 1-4 of the '958 Patent on the following grounds:

Ground	Claims	Basis
1	1-4	§ 102 and/or § 103 – Lee. ¹
2	1-4	§ 102 and/or § 103 – Brismar. ²

The earliest possible priority date of the '958 Patent is July 28, 2016.

Lee (filed May 10, 2017, published May 23, 2019 and Claiming priority to U.S. Provisional Applications No. 62/334,418 filed on May 10, 2016, No. 62/334,427 filed on May 10, 2016, No. 62/334,443 filed on May 10, 2016, and No. 62/366,643 filed on Jul. 26, 2016) 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.

Brismar (filed January 22, 2014 and published December 31, 2015) is prior art under at least post-AIA §§ 102(a)(1) and 102(a)(2) as a patent application filed and published prior to July 28, 2016.

¹ U.S. Patent Publication No. 2019/0158988 (Ex-1004, “Lee”).

² U.S. Patent Publication No. 2015/0382284 (Ex-1005, “Brismar”).

IV. INTRODUCTION

The Challenged Claims merely recite a concept that existed years before the Challenged Claims were filed, reducing NR system overhead by making the system information (“SI”) a configurable mix of broadcast and on-demand SI such that it is only broadcast when it has been changed and is relevant to the receiving users and/or configurations. Ex-1002, ¶ 4.³ As discussed in more detail below, the Challenged Claims are anticipated or, at the very least, rendered obvious by the prior art.

V. OVERVIEW OF THE ’958 PATENT

A. Background

In modern wireless telecommunications networks, a base station broadcasts system information to wireless terminals (“UEs”), which allows the UEs to obtain access the network. Ex-1002, ¶¶ 44-46. This system information is broadcast via System Information Blocks (“SIBs”) on downlink radio resources. *Id.* In some systems, SIBs are periodically broadcast to the UEs, regardless of whether or not they are relevant to the UEs. *Id.* With this type of SIB delivery, systems waste valuable radio resources by broadcasting all SIBs, not just the necessary SIBs. In

³ Petitioner submits the declaration of Dr. Wayne Stark (Ex-1002), an expert in the field of the ’958 Patent. Ex-1002, ¶¶ 33-34.

other systems, SIBs are requested via an on-demand configuration where they are requested by the UEs seeking network access. *Id.*

B. Purported Invention

The '958 Patent is generally directed to offering techniques for the “more efficient transmission of system information blocks (SIBs)” in cellular mobile communication systems. Ex-1001 at 1:59-62. The '958 Patent classifies a first type of system information comprising “essential” system information, which is defined as “essential to or minimally required by the wireless terminal for initial access to the radio access network.” *Id.* at 8:34-39. The '958 Patent further classifies a second type of system information, the “non-essential” SI, which is defined as all other types of information excluding that first type of information required for initial access. *Id.* at 8:40-46.

The first type system information, or the “essential” system information, is periodically transmitted (broadcast) to the UEs. This first type system information allows the UE(s) to obtain their initial access to the system. *Id.* at 8:60-9:14. The UEs may additionally need the second type system information, which is then provided “on demand.” *Id.* at 9:12-25. However, as explained below, this practice was well known in the art at the time of filing the '958 Patent.

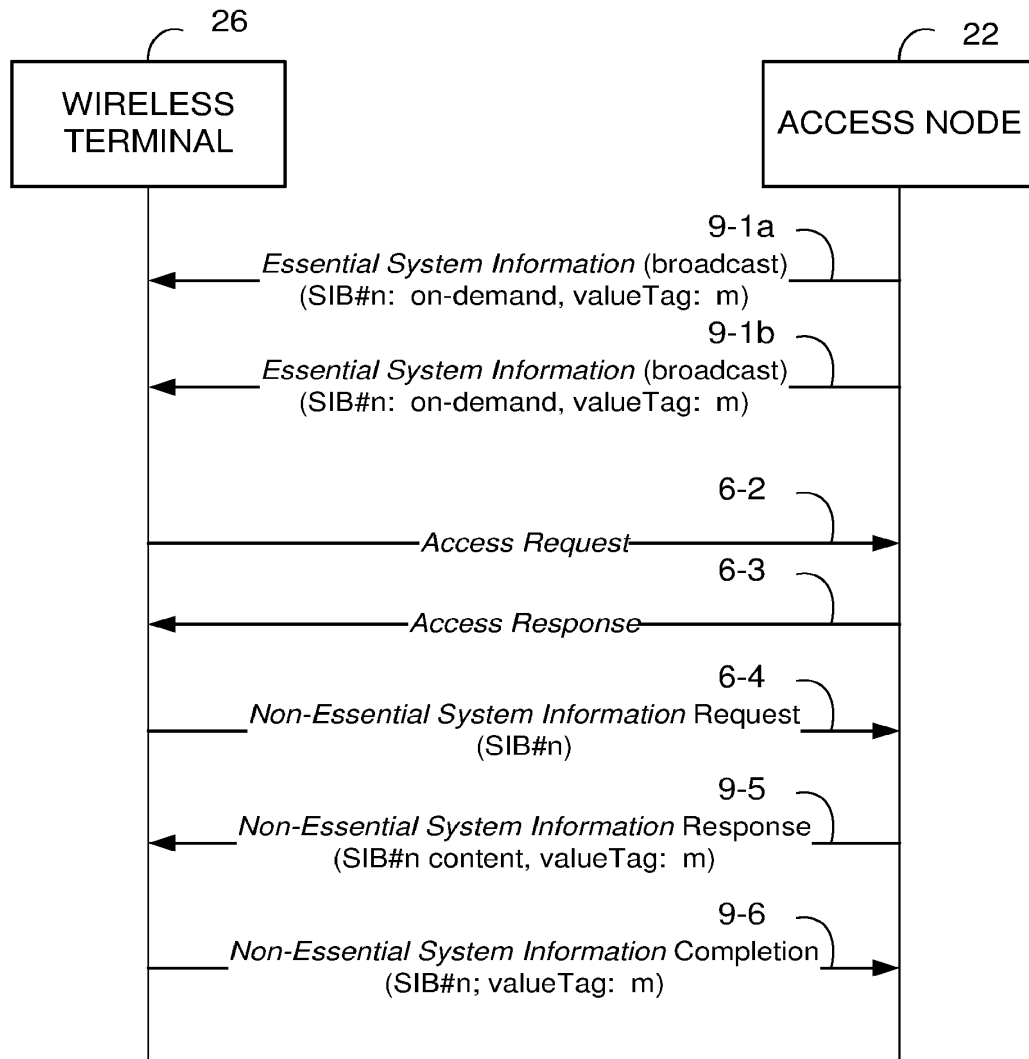


Fig. 9

Ex-1001 at Figure 9. Figure 9 shows an exemplary message flow where the wireless terminal (UE) first receives the Essential System Information via broadcast, and then makes an on-demand request for the second type system information (the non-essential system information).

The Essential System Information messages (9-1a and 9-1b), along with other information, include the value tag. *Id.* at 11:51-63. Upon a change of the value tag, the non-essential system information is then broadcast.

C. Exemplary Claim

Claims 1 and 3 are both independent Claims as challenged in this petition. Claim 3 is the communication method that recites the steps that the processor circuitry of the radio access node of Claim 1 must be configured to perform. Both Claims have been included, with labels in the Listing of Challenged Claims, *supra*. Elements 1c, 1e, 1f, and 1g are identical to elements 3b, 3c, 3d, and 3e, respectively. Additionally, the elements that are not identical are simply rewritten from a recitation of a generic component configured to perform the method step and the method step itself. Ex-1002, ¶¶ 135 and 179. A listing of the Claims is included above for reference.

VI. CLAIM CONSTRUCTION

For IPR proceedings, the Board applies the Claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). Under *Phillips*, Claim terms are typically given their ordinary and customary meanings, as would have been understood by a POSITA, at the time of the invention, having taken into consideration the language of the Claims, the specification, and the prosecution history of record. *Phillips*, 415 F.3d at 1313; *see also id.* at 1312–16. The Board,

however, only construes the Claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Systems, Inc.*, IPR2015- 00633, Paper 11 at 16 (PTAB Aug. 14, 2015); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). Petitioner respectfully submits that the Board need not expressly construe any terms because the prior art invalidates the Claims under any plausible construction. Ex-1002, ¶ 53.

VII. LEVEL OF ORDINARY SKILL

A person of ordinary skill in the art at the time of the alleged invention of the ’958 Patent (“POSITA”), which for purposes of this proceeding is on or around July 28, 2016, 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. Ex-1002, ¶ 33. More education may supplement practical experience or *vice versa. Id.*

VIII. 35 U.S.C. §325(d) is Inapplicable

The asserted references were not included in an IDS filed during the prosecution of the ’958 Patent, and the Examiner never identified them or used them as a basis to reject Claims during prosecution. *See generally* Ex-1007. The Examiner also never considered the testimony of Petitioner’s expert, Dr. Stark, regarding these references and the knowledge of a POSITA. The grounds in this petition are not

substantially the same as prior art or arguments the Office previously considered. Thus, 35 U.S.C. §325(d) is inapplicable to this case.

IX. PRIOR ART

A. Lee

1. Overview of Lee

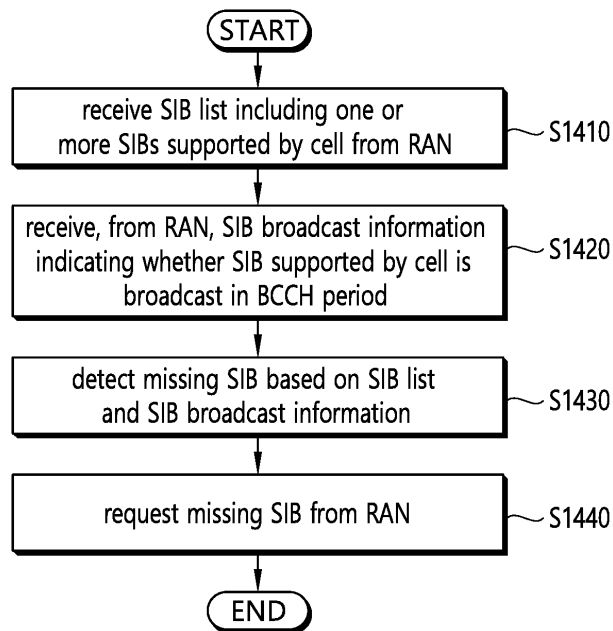
Lee generally describes methods and systems for “requesting a system information block” including “receiving, from the RAN, SIB broadcast information indicating whether the SIB supported by the cell is broadcast in a broadcast control channel (BCCH) section; detecting an omitted SIB on the basis of the SIB list and SIB broadcast information; and requesting the omitted SIB from the RAN.” Ex-1004 at Abstract.

Lee discloses that there are different types of SIBs. SIB1 also includes information associated with cell access. *Id.* at [0071]. SIB1 includes scheduling information on other SIBs (SIB2 to SIBn). *Id.* SIB2 includes necessary information for a UE to access a cell. SIB2 includes information on an uplink cell bandwidth, a random access parameter, and an uplink power control parameter. *Id.* at [0072].

Lee teaches that when a network changes a particular type of on-demand system information, the network may broadcast the changed system information during a specific period. *Id.* at [0167].

Lee describes a method for a UE requesting an SIB in the block diagram depicted in Figure 14, which is reproduced below:

FIG. 14



Id. at Fig. 14, [0036].

Lee describes receiving an SIB list including one or more SIBs supported by a cell from a RAN, which the UE receives via particular system information which is always broadcast by the RAN. Ex-1004 at [0173]. The UE then receives from the RAN, SIB broadcast information indicating whether an SIB supported by the cell is broadcast in a BCCH period. The SIB broadcast information may be system

information that is always broadcast by the RAN. *Id.* at [0173]. The UE then may detect a missing SIB based on the SIB list and the SIB broadcast information, and in turn, the UE may request the missing SIB. *Id.* at [0174]-[0178].

Lee additionally discloses receiving a value tag indicating system information to be requested. When the missing SIB is system information indicated by the value tag, the missing SIB may be requested from the RAN. *Id.* at [0180]. Lee also discloses that regardless of on-demand system information, the network may broadcast all system information or changed on-demand system information without a request by the UE. *Id.* at [0168]. The UE may check whether on-demand system information has changed based on the value tag. *Id.* at [0169].

Lee teaches that when the UE recognizes that on-demand system information is changed, the UE may trigger a system information request for the “changed” on-demand system information. *Id.* at [0170]. The UE may also not trigger a system-information request for the on-demand system information if the UE recognizes that the on-demand system information is changed and is scheduled to be broadcast. *Id.* In other words, changed system information may be automatically broadcast or requested depending on system status.

2. Lee is Prior Art to the '958 Patent

U.S. Patent Pub. No. 2019/0158988 (“Lee”) is entitled “Method and apparatus for requesting sib in wireless communication system.” *See* Ex-1004. Lee is assigned

to LG Electronics Inc. *Id.* Lee was filed as PCT App. No. PCT/KR2017/004792. Lee Claims priority to U.S. Prov. App. Nos. 62/334,418 filed on May 10, 2016, No. 62/334,427 filed on May 10, 2016, No. 62/334,443 filed on May 10, 2016, and No. 62/366,643 filed on Jul. 26, 2016. *Id.*

Lee is prior art under at least post-AIA § 102(a)(2) as a published patent application naming another inventor and effectively filed prior to the earliest effective filing date for the Challenged Claims, which all four of the provisional applications Lee Claims priority to were. Therefore, Lee is prior art under 35 U.S.C. § 102(a)(2) if the subject matter relied upon from Lee is supported by Lee's earlier priority applications. *Penumbra, Inc. v. Rapidpulse, Inc.*, IPR2021-01466 Paper 34 (precedential) at 29-35 ("*Penumbra*"). *Penumbra* rejected the application of *Dynamic Drinkware* for the purposes of determining prior art status under post-AIA § 102(a)(2) and (d) and held that a patent is available as a prior art reference if the subject matter relied upon as prior art was supported by an earlier-filed provisional application. *Id.*

The subject matter relied upon from Lee in Section X.A below is supported in the Lee Provisional Applications, as shown in the table below. EX-1002 at ¶¶ 73-75. Accordingly, Lee is prior art to the '958 Patent under post-AIA § 102(a)(2) and (d).

Subject Matter from Ex-1004 Cited in Analysis Below	Supporting Corresponding Subject Matter in Lee Provisional (Ex-1006) ⁴
[0009]	P. 37 ⁵
[0041]-[0042]	Pp. 39-40
[0071]-[0072]	Pp. 2 and 34
[0076]-[0078]	Pp. 4 and 37
[0083]	Pp. 3-5
[0166]-[0170]	Pp. 3-7 and 20
[0184]-[0186]	Pp. 39-40, 42 and 50-51
Figure 1	P. 49
Figure 13	Pp. 37-38
Figure 14	P. 37
Figure 15	Pp. 51 and 55

Additionally, even though *Dynamic Drinkware*'s analysis of a reference patent or publication's Claims is no longer required to establish the reference as prior art, Lee's Claims are supported by the Lee Provisional. Ex-1002 at ¶ 76. The table below identifies subject matter that supports Lee's Claims.

⁴ U.S. Provisional Patent Application No. 62/334,418 (Ex-1004, "Lee Provisional").

⁵ Citations are to the page numbers in Lee Provisional. *See* Ex-1004.

Lee Claim 1 (Ex-1004 at Claim 1)	Supporting Corresponding Subject Matter in Lee Provisional (Ex-1006)
1. A method for requesting, by a user equipment (UE), a system information block (SIB) in a wireless communication system, the method comprising:	P. 37
receiving an SIB list comprising one or more SIBs supported by a cell from a radio access network (RAN);	P. 37
receiving, from the RAN, SIB broadcast information indicating whether an SIB supported by the cell is broadcast in a broadcast control channel (BCCH) period;	P. 37
detecting a missing SIB based on the SIB list and the SIB broadcast information; and	P. 37
requesting the missing SIB from the RAN.	P. 37

B. Brismar

1. Overview of Brismar

U.S. Patent Pub. No. 2015/0382284 (Brismar) is entitled “Extended System Information Distribution Mechanisms.” *See* Ex-1005. Brismar was filed as U.S. Patent App. No. 14/768,250 on January 22, 2014 and Claims priority to provisional Application No. 61/769,037, filed February 25, 2013. *Id.* Brismar is assigned to Telefonaktiebolaget LM Ericsson. *Id.*

Brismar generally describes a method for “transmitting system information to a plurality of wireless terminals.” *Id.* at Abstract.

Like Lee, Brismar discloses first and second type SIBs. This is illustrated in FIG. 2A-2C, reproduced below. Brismar teaches transmitting a first type SIB on a first channel (BC1) and transmitting a second type SIB on a second channel (BC2).

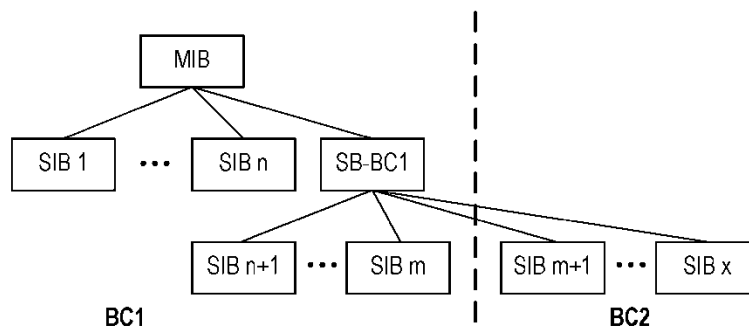


FIG. 2A

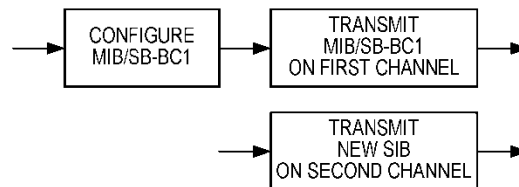


FIG. 2B

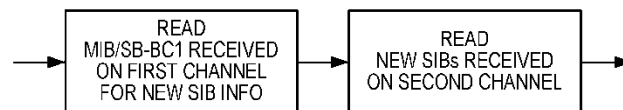


FIG. 2C

Ex-1005 at Figure 2A-2C.

Brismar discloses that a first type of SIB is used for static system information and a second type of SIB for dynamic system information. *Id.* at [0027]. All of the static system information is grouped in the same SIB and transmitted via broadcast. *Id.* at [0103]. The first type of SIB includes both scheduling information for other SIBs (SIB 1 to SIB n) and a value tag which gives information to the UE about whether the other SIBs have changed. *Id.* at [0012]. This indicates to the UE whether it needs to read new information on the broadcast channel. When the SIB content is modified, the SIB value tag is updated by the network. *Id.*

Brismar also discloses an on-demand scheduling SIB distribution alternative, where the other system information is not sent periodically on the broadcast channel, but may be requested. *Id.* at [0125]. For example, the UE may request the information when the system information has changed. *Id.* at Figure 12, reproduced below, illustrating an exemplary on-demand distribution of system information.

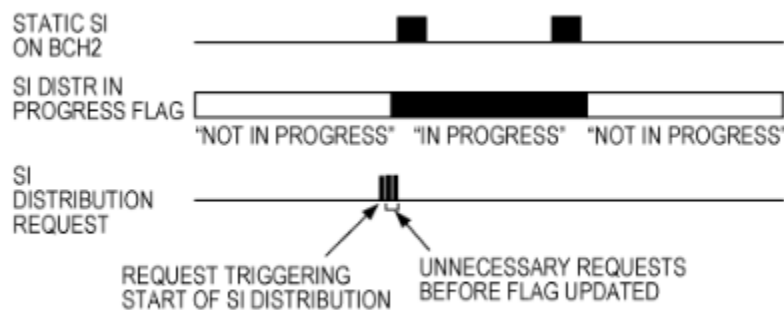


FIG. 12

Id. at Figure 12.

2. Brismar is Prior Art to the '958 Patent

Brismar is prior art under at least post-AIA §§ 102(a)(1) and 102(a)(2) as a patent application filed and published prior to July 28, 2016.

X. ASSERTED GROUNDS OF UNPATENTABILITY

A. Ground 1: Lee

1. The Challenged Claims are Anticipated and/or Rendered Obvious by Lee

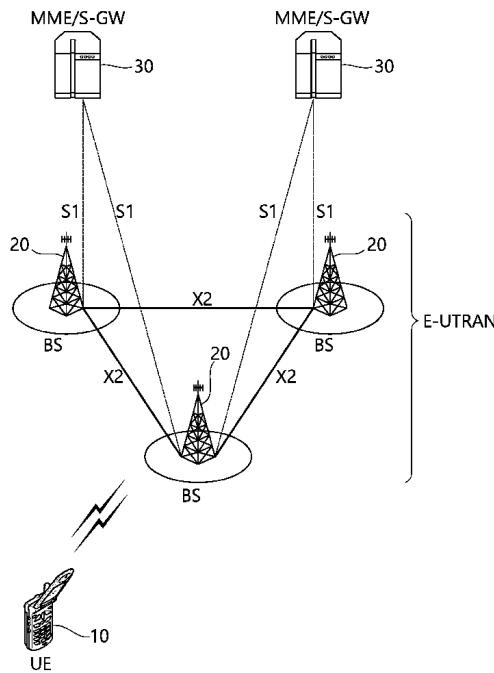
a) Claim 1

[1pre] An access node of a radio access network that communicates over a radio interface with a wireless terminal, the access node comprising:

Lee teaches this limitation. Ex-1002 at ¶¶ 89-93. For example, in Figure 1, reproduced below, Lee discloses a wireless communication system with a user equipment (UE, 10) and a radio access network. Ex-1004 at [0041]. The exemplary radio access network in Figure 1 is an evolved-UMTS terrestrial radio access network (E-UTRAN) including one or more evolved node-b (eNB) or base stations (BS). *Id.* at [0042]. Lee further discloses a user equipment (UE) as part of the wireless communication system. *Id.* at [0009]. The UE receives system information from a radio access network (RAN), communicated with the base station. *Id.* Therefore, Lee discloses an access node of a radio access network (the BS)

communicating over a radio interface (RAN) with a wireless terminal (UE). Ex-1002 at ¶ 93.

FIG. 1



Id. at Fig. 1, [0041]-[0042]; Ex-1002 at ¶ 92.

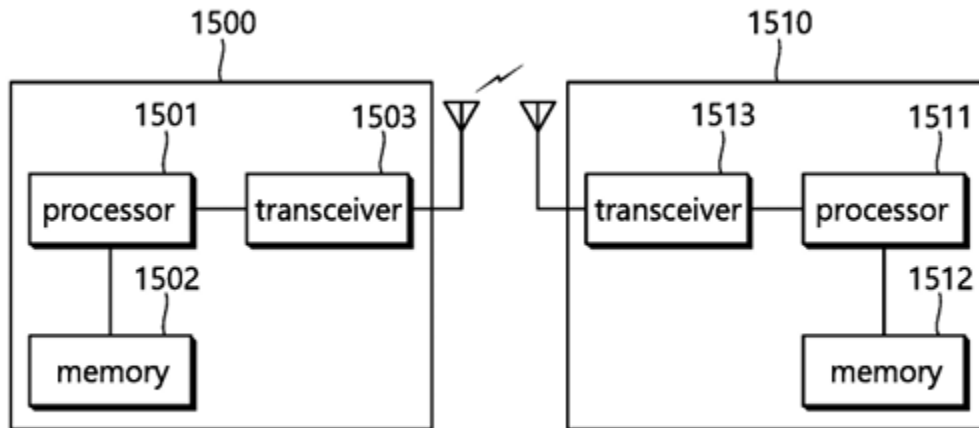
Thus, Lee discloses element [1pre], “an access node of a radio access network that communicates over a radio interface with a wireless terminal.” Ex-1002 at ¶ 93.

[1a] processor circuitry configured:

Lee teaches this limitation. Ex-1002 at ¶¶ 94-97. For example, Lee explicitly discloses that the “BS includes a processor.” Ex-1004 at [0184]. Lee further discloses that the processor “implements proposed functions, processes and/or

methods” and that “an operation of the BS may be implemented by the processor.”

Id. The presence of the processor(s) is shown in Figure 15, reproduced below. The BS processor is element 1501.



Id. at Fig. 15, [0185]-[0186]; Ex-1002 at ¶ 95.

To the extent that Lee does not expressly disclose element [1a], a POSITA would understand that a processor includes processor circuitry that can be configured to implement proposed functions. Ex-1002 at ¶ 96. Further, Lee’s disclosure that the processor may implement such functions indicates the presence of such circuitry. *Id.*

To the extent that the Board disagrees that such functionality is necessarily/inherently disclosed in Lee, the functionality would be obvious to a

POSITA because, as explained above, a processor would be required to implement the proposed functions. *Id.*

Thus, Lee teaches element [1a], processor circuitry configured to perform the functionality discussed below. Ex-1002 at ¶ 97.

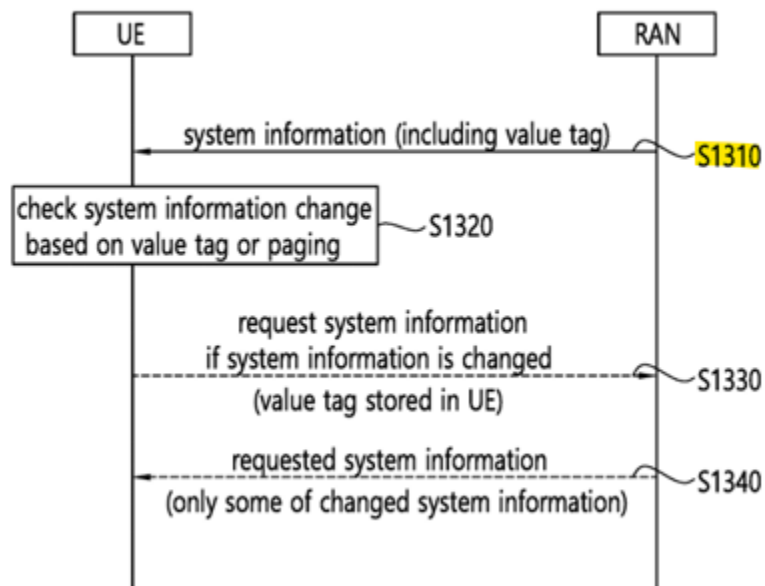
[1b] to generate a first type system information block (SIB) comprising information and a value tag, the information indicating whether one or more associated second type system information blocks are provided by broadcast or on-demand, the value tag being updated upon a change of a corresponding second type SIB, the first type SIB being required for the wireless terminal to perform an initial access to the radio access network;

Lee teaches this limitation. Ex-1002 at ¶¶ 98-106. As an initial matter, Lee discloses generating a first type system information block. *Id.* For example, Lee teaches that “SIB1 includes pieces of information associated with cell access, and particularly includes scheduling information on other SIBs (SIB2 to SIBn). Ex-1004 at [0071]. Lee further teaches that “SIB2 includes necessary information for a UE to access a cell. SIB2 includes information on an uplink cell bandwidth, a random access parameter, and an uplink power control parameter.” Ex-1004 at [0072]. The first type SIB is therefore required for the wireless terminal to perform an initial access to the RAN. Ex-1002 at ¶ 99. This first type SIB is broadcast through a downlink shared channel. *Id.* Therefore, Lee teaches that the circuitry is configured “to generate a first type system information block...the first type SIB being required

for the wireless terminal to perform an initial access to the radio access network.”

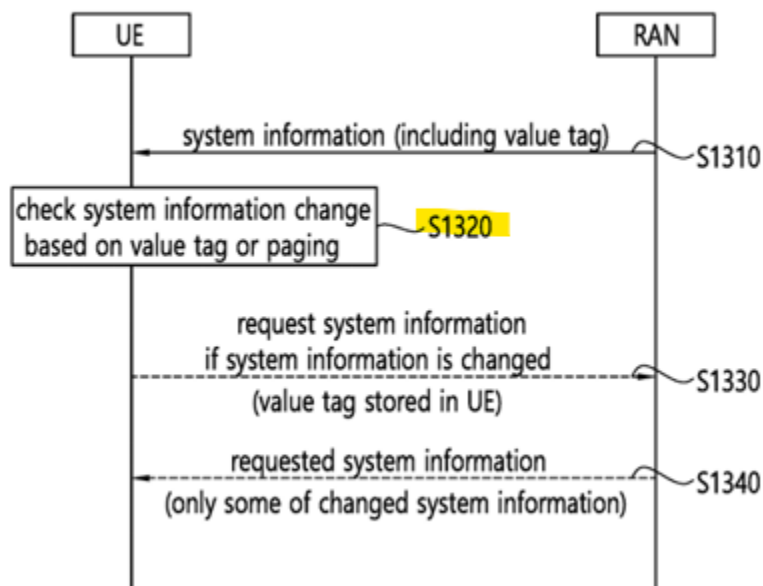
Id.

Referring to FIG. 13, reproduced below, Lee also teaches that the first type SIB comprises information and a value tag. Specifically, Lee teaches that the network may indicate to the UE that on-demand system information is to be changed by broadcast signaling during a specified period. For example, the broadcast signaling may be essential information or a paging message. Ex-1004 at [0168]. As shown in Figure 13 below, Lee discloses that the first type system information block comprises system information and a value tag. Ex-1002 at ¶ 101.



Ex-1004 at Fig. 13 (annotation added), [0166]; Ex-1002 at ¶ 102.

Lee also teaches that “the value tag [can be] updated upon a change of a corresponding second type SIB.” Ex-1002 at ¶ 102. Specifically, Lee teaches that “the network may indicate to the UE that on-demand system information is to be changed by broadcast signaling during a specified time period.” Ex-1004 at [0168]. The broadcast signaling is of the essential system information or paging information, and the indication includes a value tag for the other type of system information indicating whether there has been a change to the system information. *Id.*; Ex-1002 at ¶¶ 102-103. The UE may check whether the on-demand system information is changed based on the value tag. Ex-1004 at [0169]. This is also depicted in Figure 13, reproduced below. In order for the value tag to indicate whether system information has been changed, the value tag must be updated upon such a change. Ex-1002 at ¶¶ 103-104.



Ex-1004 at Fig. 13 (annotation added), [0166]; Ex-1002 at ¶ 104.

For ease of reference, the below table outlines the mapping of SIB type in the Challenged Claims and Lee’s disclosure. Ex-1002 at ¶ 105. At S1310, Lee teaches the transmission of a first type SIB (including a value tag). *Id.* After determining that system information has changed based on either value tag or paging at step S1320, a second type SIB (requested system information with the changed system information) is transmitted at step S1340. *Id.* A change in the value tag indicates that the other system information (the type two system information not already generated/transmitted) has changed. *Id.*

System Information Block Type from the Challenged Claims	Lee’s Disclosure
First Type SIB	System information (including value tag), S1310 in Figure 13
Second Type SIB	Requested system information (changed system information), S1340 in Figure 13

Thus, Lee discloses element 1[b], generating “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-1002 at ¶ 106.

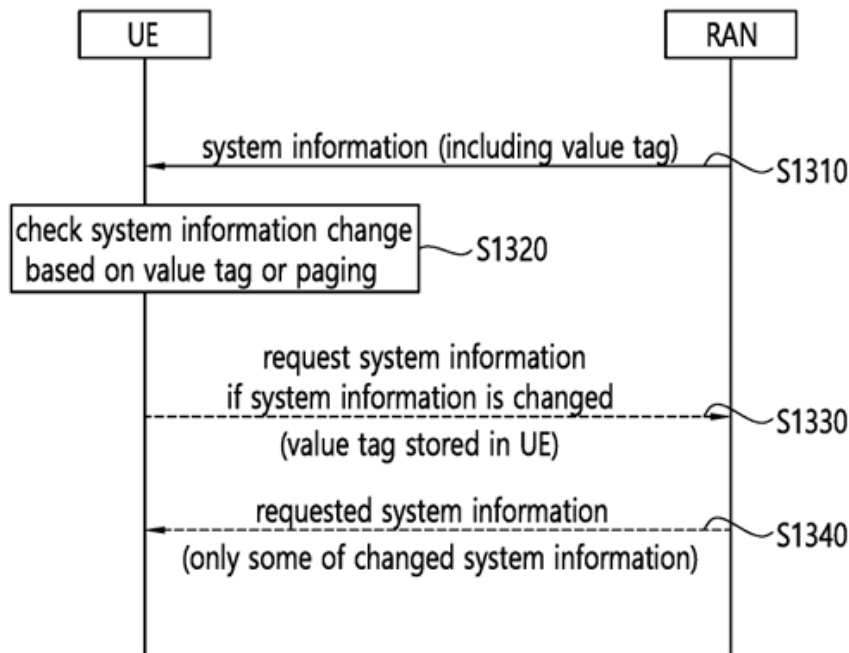
[1c] upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, to include in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast;

Lee teaches or renders obvious this limitation. Ex-1002 at ¶¶ 107-112. To start, Lee discloses that when on-demand system information has changed, it is broadcast during an initial period. As discussed above, the first type SIB includes an indication of if and when the second type SIB has been changed. *See supra* X.A.1.(a)[1b]. More specifically, Lee teaches that the UE may check whether the second type SIB is changed based on the value tag. Ex-1004 at [0169]; Ex-1002 at ¶ 108. Lee further discloses that when a network changes a type of on-demand system information, the network “may broadcast the changed system information or all system information.” Ex-1004 at [0167].

Lee further discloses that, “when a network changes a particular type of on-demand system information, the network may broadcast the changed system information or all system information during a specified period. For example, the specified period may be a modification period. The specified period may be set in

master system information or any necessary system information.” Ex-1004 at [0167].

Lee also discloses as shown in Figure 13, reproduced below, that “the network may broadcast all system information or changed on-demand system information without a request by the UE.” Ex- 1004 at [0168]. Therefore, Lee explicitly discloses that when on-demand system information has changed, that information may be broadcast. Ex-1002 at ¶ 109.



Ex-1004 at Fig. 13, [0168]; Ex-1002 at ¶ 109.

To the extent that Lee does not expressly disclose limitation [1c], it would be obvious to a POSITA. Ex-1002 at ¶¶ 110-111. As discussed above, Lee clearly

discloses that there is a value tag and an indication of whether a system information block is on demand in the first type SIB. *See supra* X.A.1.(a)[1b]. A POSITA would understand that the first type SIB therefore needs to say that the changed system information is now broadcast (and include the updated value tag) so that the UE's in need of the updated system information know to update it. Ex-1002 at ¶¶ 110-111.

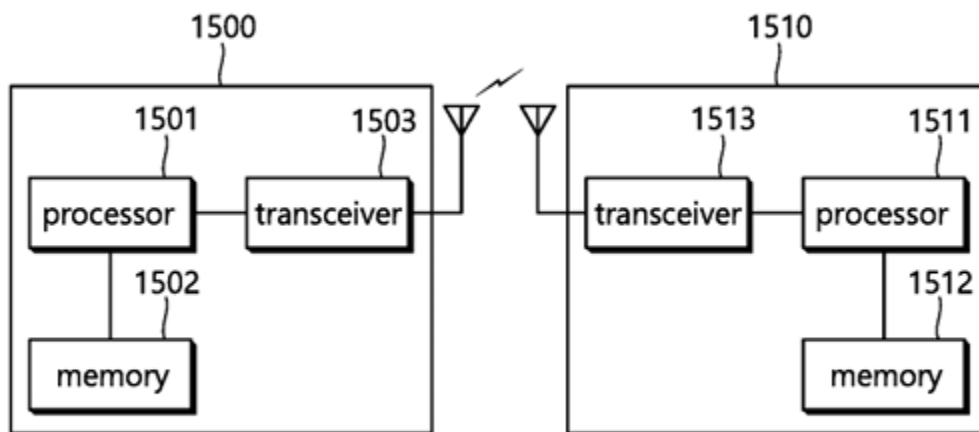
To the extent that the Board disagrees that such functionality is disclosed in Lee, the functionality would be obvious to a POSITA. Ex-1002 at ¶¶ 110-111. In particular, upon a change of the second type SIB (indicated by a change in value tag as discussed above), the essential SIB (first type SIB) would indicate to the UE that the changed on-demand system information will be broadcast. Ex-1002 at ¶¶ 110-111. A POSITA would interpret and/or modify Lee's disclosure in light of this knowledge, because the UE would require an indication that the changed system information is now broadcast so that they would know to receive it. *Id.* Otherwise, the UE would have no way to know to receive such changed system information. *Id.*

Thus, Lee discloses or renders obvious element [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.” Ex-1002 at ¶ 112.

[1d] transmitter circuitry configured to:

Lee teaches this limitation. Ex-1002 at ¶¶ 113-115. For example, Lee discloses that the BS transmits system information. Ex-1002 at [0076]. A POSITA would understand requires transmitter circuitry because such circuitry must exist in the system for transmissions between UEs and base stations to occur. Ex-1002 at ¶ 113.

Lee further illustrates a block diagram of a wireless communication system in Figure 15, reproduced below, depicting a transceiver as part of BS 1500. Lee teaches that the transceiver “transmits and/or receives radio signals.” As noted above, a POSITA would further understand that the transmission of radio signals requires transmitter circuitry. Ex-1002 at ¶ 114.

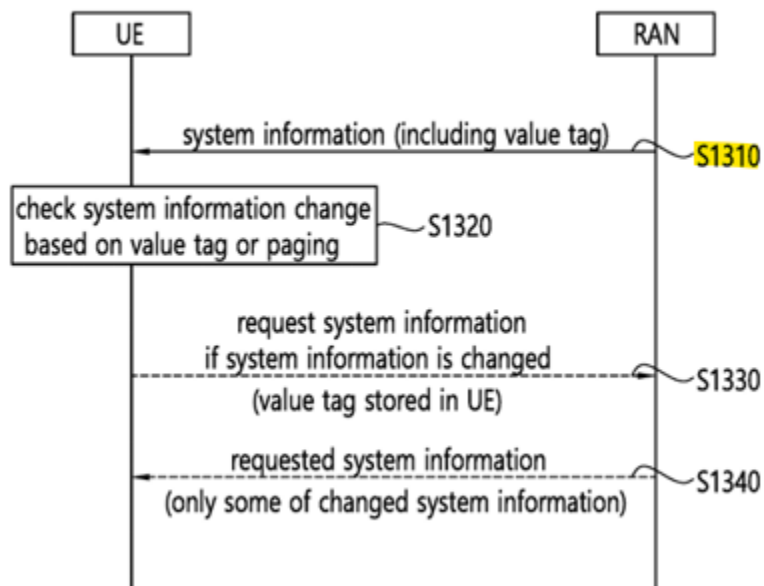


Id. at Fig. 15, [0185]-[0186].

Thus, Lee teaches element [1d], transmitter circuitry configured to perform the functionality discussed below. Ex-1002 at ¶ 115.

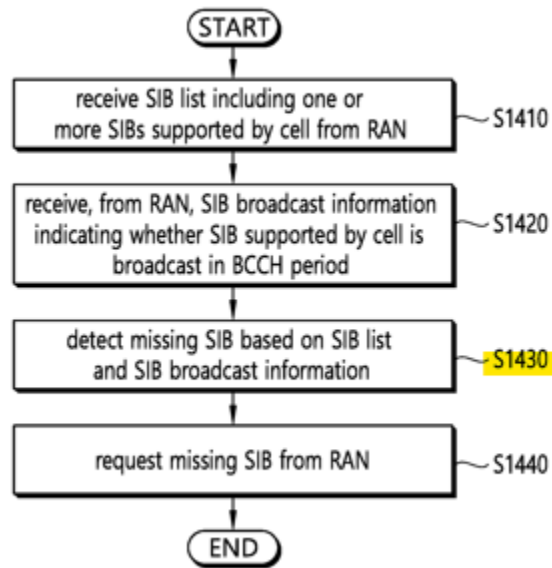
[1e] transmit the first type SIB;

Lee teaches this limitation. Ex-1002 at ¶¶ 116-119. For example, Lee discloses the “transmission of system information” generally. Ex- 1004 at [0076]; Ex-1002 at ¶ 116. Lee also teaches specifically transmitting a first type SIB, which includes information associated with cell access as well as scheduling information on other SIBs. Ex- 1004 at [0071]; Figure 13 (reproduced below); Ex-1002 at ¶ 117. Lee specifically discloses that the first type SIB is broadcast through a downlink shared channel. Ex-1004 at [0071].



Ex-1004 at Fig. 13 (annotation added), [0166]; Ex-1002 at ¶ 117.

As another example, Figure 14, reproduced below, illustrates a method in which a UE requests an SIB. At S1430, the UE may detect a missing SIB based on the SIB list and the SIB broadcast information.



Ex-1004 at Fig. 14 (annotation added), [0166]; Ex-1002 at ¶ 118.

Thus, Lee teaches element [1e] “transmit[ing] the first type SIB.” Ex-1002 at ¶ 119.

[1f] transmit a message that triggers the wireless terminal to receive the first type SIB, wherein;

Lee teaches this limitation. Ex-1002 at ¶¶ 120-126. For example, Lee discloses that SIB1 is transferred via a system information message. Ex-1004 at [0071]. Lee specifically discloses that broadcast signaling may be essential system information or a paging message. *Id.* at [0168].

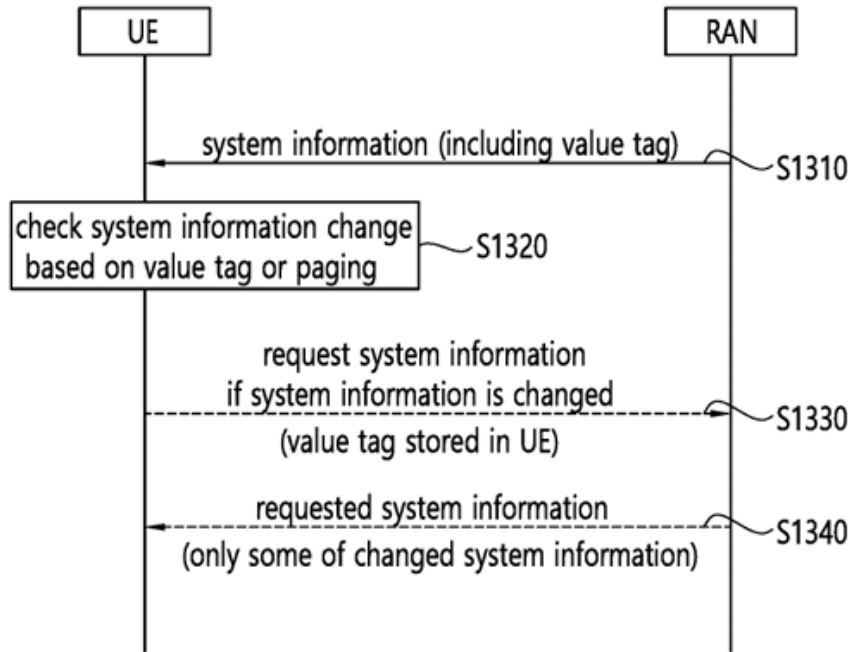
As discussed above, Lee teaches that the first type SIB needs to be received first in order to receive other SIBs. *See supra* Section X.A.1.a.1b. Lee further teaches that “when an update of system information is scheduled, the BS includes a system information modification indicator in a paging message. Generally, a paging message is a message received by an idle - mode UE. However, since an update of system information is notified through a paging message, a connected - mode UE also needs to receive a paging message at times and to identify an update of system information”. Ex-1004 at [0078].

In 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. Ex-1002 at ¶ 125.

Thus, Lee teaches element 1[f] “transmit[ing] the first type SIB.” Ex-1002 at ¶ 126.

[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.

Lee teaches this limitation. Ex-1002 at ¶¶ 127-131. As an initial matter, Lee discloses that the first type SIB comprises scheduling information regarding other SIBs and thus must be received first. Ex-1004 at [0083]. As explained above, this first type system information block includes a value tag corresponding to the second type SIB. *See supra* Section X.A.1.a.1b. Thus, the value tag is “included in the first type system information block” which is “corresponding to the second type SIB” because Lee discloses that the first type SIB comprises scheduling information regarding the other SIBs. Ex-1002 at ¶¶ 128-129. This is illustrated in Figure 13, reproduced below.



Ex-1004 at Fig. 13, [0168]; Ex-1002 at ¶ 129.

Figure 13 illustrates a procedure in which a UE requests changed system information. Ex-1004 at [0166]. Lee teaches that the UE may check whether the on-demand system information is changed based on the value tag. *Id.* at [0169]; Figure 13 at element S1320. Thus, Lee teaches that “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.” Ex-1002 at ¶ 130.

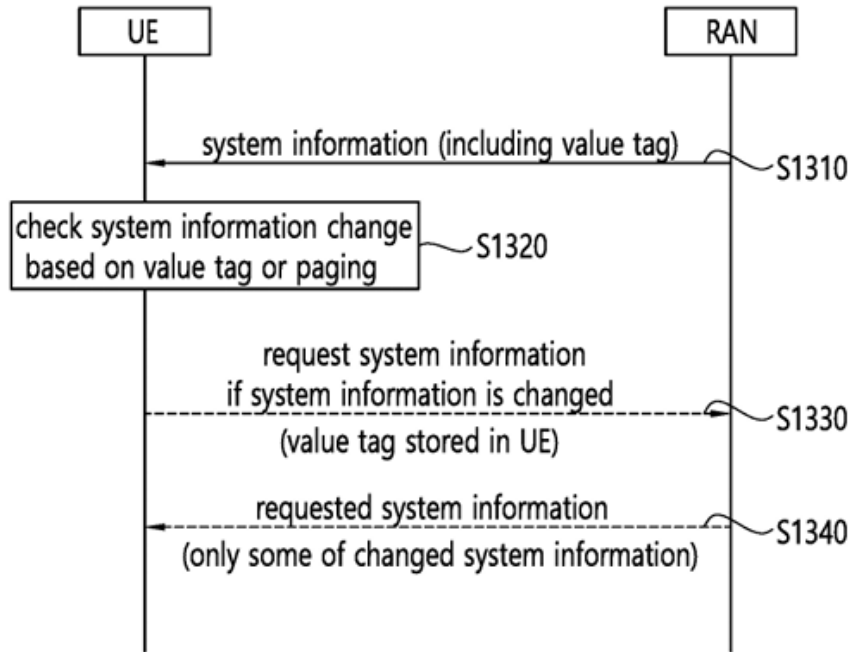
Thus, Lee discloses element 1[g], “whether or not the second type SIB has changed is determined based on a value tag, associated with the second type SIB,

stored in the wireless terminal, and the value tag included in the first type SIB corresponding to the second type SIB..” Ex-1002 at ¶ 131.

b) Claim 2: The access node of Claim 1, wherein the transmitter circuitry is further configured to transmit the second type SIB by broadcast after the change.

Lee teaches this limitation. Ex-1002 at ¶¶ 132-134. As an initial matter, Lee discloses transmitter circuitry for the same reasons discussed above with reference to Claim limitation [1d]. *See supra* Section X.A.1.(a)[1d].

Further, as shown in Figure 13, reproduced below, Lee discloses transmitting a second type SIB after a change which is determined by checking the value tag. Ex-1002 at ¶ 133. Specifically, referring to Figure 13, “in step S1310, the network may indicate to the UE that on-demand system information is to be changed by broadcast signaling during a specified period.”



Id. at Fig. 13, [0166]; Ex-1002 at ¶ 133.

After determining that the second type SIB has changed based on the value tag, the changed system information is transmitted. *Id.*

Thus, Lee discloses generating “transmitter circuitry ... configured to transmit the second type SIB by broadcast after the change.” Ex-1002 at ¶ 134.

c) Claim 3

Claim 3 is substantively the same as Claim 1 but is directed to a method for an access node of a radio access network rather than the access node itself. Ex-1002 at ¶¶ 135-136. The same teachings of Lee that anticipate and/or render the limitations of Claim 1 obvious, anticipate and/or render the same limitations in Claim 3 obvious,

as it is obvious both to configure an access node to perform a step and to have the access node actually perform the step. Ex-1002 at ¶ 136.

[3pre] A method for an access node of a radio access network that communicates over a radio interface with a wireless terminal, the method comprising:

Limitation [3pre] recites a “method for an access node of a radio access network that communicates over a radio interface with a wireless terminal” while limitation [1pre] recites an “access node of a radio access network that communicates over a radio interface with a wireless terminal.” As set forth in connection with limitation [1pre], Lee renders that limitation obvious. *See* Section X.A.1.(a)[1pre]. The same disclosures and analysis render limitation [3pre] obvious. Ex-1002 at ¶ 137.

[3a] generating 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;

Limitation [3a] recites “generating a first type system information block” with certain requirements while limitation [1b] recites “transmitting circuitry configured to transmit” the same first type SIB with the same requirements. As set forth in connection with limitation [1b], Lee renders that limitation obvious. *See* Section

X.A.1.(a)[1b]. The same disclosures and analysis render limitation [3a] obvious. Ex-1002 at ¶ 138.

[3b] upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, including in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast;

Limitation [3b] recites “including in the first type system information block” certain requirements upon a change of a second type SIB, while limitation [1c] recites “transmitting circuitry configured to transmit” the same information upon a change of a second type SIB. As set forth in connection with limitation [1c], Lee renders that limitation obvious. *See* Section X.A.1.(a)[1c]. The same disclosures and analysis render limitation [3b] obvious. Ex-1002 at ¶ 139.

[3c] transmitting the first type SIB;

Limitation [3c] recites “transmitting the first type SIB,” while limitation [1e] recites “transmitting circuitry configured to transmit” the first type SIB. As set forth in connection with limitation [1e], Lee renders that limitation obvious. *See* Section X.A.1.(a)[1e]. The same disclosures and analysis render limitation [3c] obvious. Ex-1002 at ¶ 140.

[3d] transmitting a message that triggers the wireless terminal to receive the first type SIB, wherein;

Limitation [3d] recites “transmitting a message that triggers the wireless terminal to receive the first type SIB,” while limitation [1f] recites “transmitting circuitry configured to transmit” the same message. As set forth in connection with limitation [1f], Lee renders that limitation obvious. *See* Section X.A.1.(a)[1f]. The same disclosures and analysis render limitation [3d] obvious. Ex-1002 at ¶ 141.

[3e] 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.

Limitation [3e] is the same as limitation [1g]. As set forth in connection with limitation [1g], Lee renders that limitation obvious. *See* Section X.A.1.(a)[1g]. The same disclosures and analysis render limitation [3e] obvious. Ex-1002 at ¶ 142.

d) Claim 4: The method of Claim 3, further comprising transmitting the second type SIB by broadcast after the change.

As with Claim 3, Claim 4 is substantively the same as Claim 2, but directed to the recitation of the method steps of Claim 3. Ex-1002 at ¶ 143. The same teachings of Lee that anticipate and/or render the limitations of Claim 2 obvious, anticipate and/or render the same limitations in Claim 4 obvious, as it is obvious both to configure an access node to perform a step and to have the access node actually perform the step. Ex-1002 at ¶ 143.

B. Ground 2: Brismar

1. The Challenged Claims are Anticipated and/or Rendered Obvious by Brismar

a) Claim 1

[1pre] An access node of a radio access network that communicates over a radio interface with a wireless terminal, the access node comprising:

Brismar teaches this limitation. Ex-1002 at ¶¶ 144-146. For example, Brismar discloses a “method implemented by a network node in a wireless communication network for transmitting system information to a plurality of wireless terminals.” Ex-1005 at [0022]. Brismar further discloses that the method may be implemented by a wireless terminal in a wireless communication network. *Id.* at [0028].

Thus, Brismar discloses element [1pre] “an access node of a radio access network that communicates over a radio interface with a wireless terminal.” Ex-1002 at ¶ 146.

[1a] processor circuitry configured:

Brismar teaches this limitation. Ex-1002 at ¶¶ 147-150. For example, Brismar discloses that the network node comprises one or more hardware processors. Ex-1005 at [0201]. Brismar further discloses that the processor(s) “may be configured to execute program instructions to perform the functions of one or more of the network node components.” *Id.* at [0202]. This is similarly illustrated in Figure 19B, reproduced below, illustrating the wireless terminal processor(s).

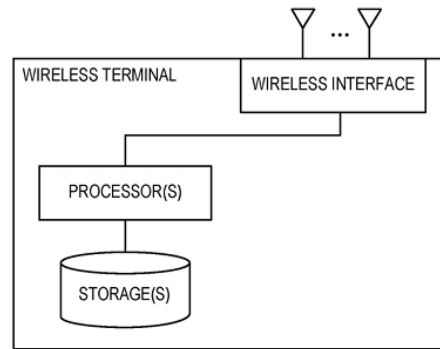


FIG. 19B

Id. at Fig. 19B, [0205]; Ex-1002 at ¶ 149.

Thus, Brismar teaches element [1a], processor circuitry configured to perform the functionality discussed below. Ex-1002 at ¶ 150.

[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;

Brismar teaches this limitation. Ex-1002 at ¶¶ 151-160. As an initial matter, Brismar discloses generating both a first and second type of information block. For example, as depicted in Figure 16, reproduced below, Brismar teaches transmitting a first group of SIBs via a first physical channel, and a second group of additional SIBs via a different, second physical channel.

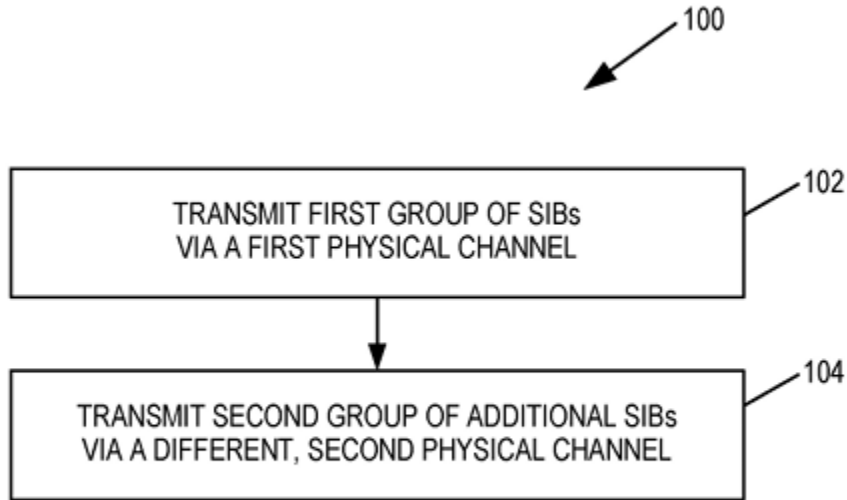


FIG. 16

Id. at Fig. 16, [0183]; Ex-1002 at ¶ 152.

Brismar distinguishes the SIBs depending on whether they contain static or dynamic information. *Id.* at [0012]. Here, the SIBs containing static information correspond to the first type system information block, and the SIBs containing dynamic information correspond to the second type system information block, as illustrated in the table below. Ex-1002 at ¶ 154. These static type information SIBs are transmitted on a broadcast channel using the same repetition period. Ex-1006 at [0103]. Brismar further teaches that this static data is acquired by the UE when a new cell is entered. *Id.* at [0104]. Therefore, to the extent that Brismar does not expressly disclose that the first type SIB is required for a wireless terminal to perform initial access to a network, a POSITA would understand that the static data

included in the first type SIB would be required for the UE in order to obtain network access. Ex-1002 at ¶ 156.

System Information Block Type from the Challenged Claims	Brismar's Disclosure
First Type SIB	SIB containing static information
Second Type SIB	SIB containing dynamic information

Brismar also teaches that for the SIBs containing static information, or the first type SIBs recited in the Challenged Claims, the SIB includes scheduling information and “a value tag ... used to indicate when there is a need for the UE to read new information on the broadcast channel.” Ex-1006 at [0104]. When SIB content is modified, the corresponding value tag is updated. *Id.* The value tag may be included in Paging Type 1 and System Information Change Indication messages. *Id.* at [0109].

Brismar also discloses that in addition to broadcasting system information, system information may be requested by the UE in on-demand scheduling scenarios. *Id.* at [0125]. Brismar further discloses that “when the value tag has changed...if SI distribution is not already in progress...the UE may then send its SI distribution request.” In other words, the second type SIB may be provided by broadcast or on-demand. Ex-1002 at ¶ 158.

Brismar further discloses that “as soon as a UE is missing SIB information because it has never been read or the value tag has changed, the UE may be required to first monitor the SI distribution in progress flag, and if SI distribution is not already in progress (or soon to start), the UE then may send its SI distribution request.” Ex-1006 at [0173]. A POSITA would understand that this distribution in progress flag is an indication of whether the second type SIBS are (a) in process or (b) need to be requested. Ex-1002 at ¶ 159. A POSITA would further understand that this flag would be transmitted in the same physical control channel as the first type SIB, and “would have considered it obvious to include the information provided by the distribution in progress flag in the SIB transmitted on the same P-CCPCH channel as the flag.” *Id.*

Thus, Brismar teaches element [1b], generating “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-1002 at ¶ 160.

[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;

Brismar teaches this limitation or renders it obvious. Ex-1002 at ¶¶ 161-166.

As an initial matter, Brismar discloses that a change in value tag indicates that the UE will need to reacquire the modified SIB. Ex-1006 at [0097]. A POSITA would understand that a change of value tag indicates a change of second type SIB, which would require retransmission of the second type SIB. Ex-1002 at ¶ 161.

As discussed above, the first type SIB includes an indication that the second type SIB has been changed. *See supra* Section X.B.1.(a)[1b]. Brismar further discloses that “when the value tag has changed...if SI distribution is not already in progress...the UE may then send its SI distribution request.” A POSITA would understand that the distribution in progress flag indicates whether the distribution is in progress or on-demand. Ex-1002 at ¶¶ 162. When the value tag is changed, the SI distribution may be requested absent SI distribution already in progress. A POSITA would further understand that, if SI distribution is already in progress, it must be broadcast because in order for it to be distributed without an on-demand request, it would have to be broadcast. Ex-1002 at ¶¶ 162-163.

As similarly discussed above, the first type SIB comprises information associated about the dynamic, or second type, SIB. *See* X.B.1.(a)[1b]. Brismar further discloses that the value tag change is sent to the UE, and at reception of such indication, the UE may read and store a new version of the second type SIB. Ex-1006 at [0109].

To the extent that Brismar does not expressly disclose limitation [1c], it would be obvious to a POSITA based on Brismar's disclosures. Ex-1002 at ¶¶ 164-165. Upon the change of the value tag, A POSITA would understand that the first type SIB needs to communicate that the changed system information is now broadcast (and include the updated value tag) so that the UE's in need of the updated system information know to update it. *Id.*

To the extent that the Board disagrees that such functionality is necessarily disclosed in Brismar, the functionality would be obvious to a POSITA. *Id.* In particular, upon a change of the second type SIB as indicated by a change in value tag, the static SIB (first type SIB) would indicate to the UE that the changed system information will be broadcast. *Id.* A POSITA would interpret and/or modify Brismar's disclosure in light of this knowledge, because the UE would require an indication that the changed system information is now broadcast so that they would know to receive it. *Id.* Otherwise, the UE would have no way to know to receive such changed system information. *Id.*

Thus, Brismar, or Brismar in view of the knowledge of a POSITA, teaches element [1c], discloses “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.” Ex-1002 at ¶ 166.

[1d] transmitter circuitry configured to:

Brismar teaches this limitation or renders it obvious. Ex-1002 at ¶¶ 167-168. For example, Brismar discloses that the network node may transmit system information. Ex-1006 at [0209]. A POSITA would understand that this transmission would require transmitter circuitry. Ex-1002 at ¶ 167.

Thus, Brismar teaches element [1d], transmitter circuitry configured to perform the functionality discussed below. Ex-1002 at ¶ 168.

[1e] transmit the first type SIB;

Brismar teaches this limitation. Ex-1002 at ¶¶ 169-170. For example, Brismar discloses “transmit[ting] a first group of SIBs via a first physical channel.” Ex- 1005 at [0183]; Ex-1002 at ¶ 169. This is further illustrated by Figure 16, reproduced below.

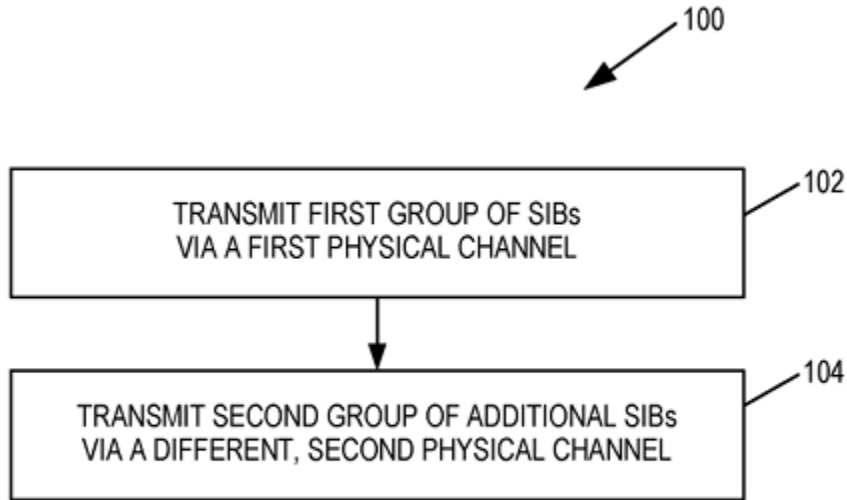


FIG. 16

Brismar at Figure 16.

Thus, Brismar teaches element [1e], “transmit[ing] the first type SIB.” Ex-1002 at ¶ 170.

[1f] transmit a message that triggers the wireless terminal to receive the first type SIB, wherein;

Brismar teaches this limitation. Ex-1002 at ¶¶ 171-172. For example, as explained above, Brismar teaches transmitting a first type SIB. *See supra* Section X.B.1.(a)[1e]. Brismar further discloses that system information is transmitted via Paging Type 1 message. Ex- 1005 at [0097]. Thus, a POSITA would understand that the message disclosed by Brismar would trigger the wireless terminal to receive the first type SIB. Ex-1002 at ¶ 171.

Thus, Brismar teaches element [1f], “transmit[ing] the first type SIB.” Ex-1002 at ¶ 172.

[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.

Brismar teaches this limitation. Ex-1002 at ¶¶ 173-174. As an initial matter, Brismar discloses that for the second type information block, the value tag change is included in the Paging Type 1 and System Information Change Indication messages. Ex-1006 at [0097]. As explained above, the value tag indicates whether the dynamic system information blocks (here, SIB2) have changed. *Id.*; Ex-1002 at ¶ 173. Specifically, Brismar teaches that the UE may compare the new value tags with the stored ones, and that when they differ the UE may reacquire the modified SIB. *Id.*

Thus, Brismar teaches element [1g], generating “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-1002 at ¶ 174.

b) Claim 2: The access node of Claim 1, wherein the transmitter circuitry is further configured to transmit the second type SIB by broadcast after the change.

Brismar teaches this limitation. Ex-1002 at ¶¶ 175-178. As discussed above, when the value tag changes, the UE will reacquire the changed second type SIB. *See supra* cite; Ex-1006 at [0097]. Further, Brismar discloses that as soon as a UE is missing information because the value tag has changed, the UE will either monitor the SI distribution to see if distribution is already in progress, or send its own SI distribution request to receive the changed second type SIB. *Id.* at [0173]. Accordingly, in the instance wherein a distribution is already in progress, the second type SIB is broadcast after the change. This is also illustrated in Figure 12, reproduced below.

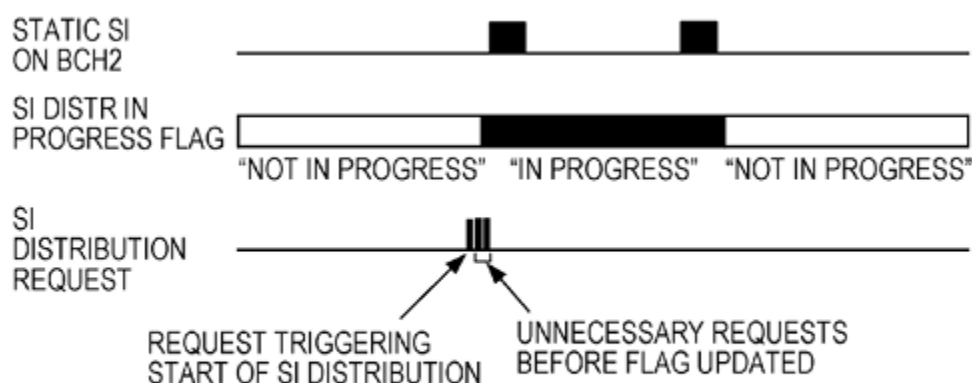


FIG. 12

Brismar at Figure 12.

Thus, Brismar discloses generating “transmitter circuitry ... configured to transmit the second type SIB by broadcast after the change.” Ex-1002 at ¶ 178.

c) Claim 3

Claim 3 is substantively the same as Claim 1 but is directed to a method for an access node of a radio access network rather than the access node itself. Ex-1002 at ¶¶ 179-180. The same teachings of Brismar that anticipate and/or render the limitations of Claim 1 obvious, anticipate and/or render the same limitations in Claim 3 obvious, as it is obvious both to configure an access node to perform a step and to have the access node actually perform the step. Ex-1002 at ¶ 180.

[3pre] A method for an access node of a radio access network that communicates over a radio interface with a wireless terminal, the method comprising:

Limitation [3pre] recites a “method for an access node of a radio access network that communicates over a radio interface with a wireless terminal” while limitation [1pre] recites an “access node of a radio access network that communicates over a radio interface with a wireless terminal.” As set forth in connection with limitation [1pre], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1pre]. The same disclosures and analysis render limitation [3pre] obvious. Ex-1002 at ¶ 181.

[3a] generating 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;

Limitation [3a] recites “generating a first type system information block” with certain requirements while limitation [1b] recites “transmitting circuitry configured to transmit” the same first type SIB with the same requirements. As set forth in connection with limitation [1b], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1b]. The same disclosures and analysis render limitation [3a] obvious. Ex-1002 at ¶ 182.

[3b] upon a change of a second type SIB whose associated information indicated before the change that the second type SIB was provided on-demand, including in the first type SIB the information associated with the second type SIB indicating that the second type SIB is provided by broadcast;

Limitation [3b] recites “including in the first type system information block” certain requirements upon a change of a second type SIB, while limitation [1c] recites “transmitting circuitry configured to transmit” the same information upon a change of a second type SIB. As set forth in connection with limitation [1c], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1c]. The same disclosures and analysis render limitation [3b] obvious. Ex-1002 at ¶ 183.

[3c] transmitting the first type SIB;

Limitation [3c] recites “transmitting the first type SIB,” while limitation [1e] recites “transmitting circuitry configured to transmit” the first type SIB. As set forth in connection with limitation [1e], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1e]. The same disclosures and analysis render limitation [3c] obvious. Ex-1002 at ¶ 184.

[3d] transmitting a message that triggers the wireless terminal to receive the first type SIB, wherein;

Limitation [3c] recites “transmitting a message that triggers the wireless terminal to receive the first type SIB,” while limitation [1f] recites “transmitting circuitry configured to transmit” the same message. As set forth in connection with limitation [1f], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1f]. The same disclosures and analysis render limitation [3d] obvious. Ex-1002 at ¶ 185.

[3e] 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.

Limitation [3e] is the same as limitation [1g]. As set forth in connection with limitation [1c], Brismar renders that limitation obvious. *See* Section X.B.1.(a)[1g]. The same disclosures and analysis render limitation [3e] obvious. Ex-1002 at ¶ 186.

d) Claim 4: The method of Claim 3, further comprising transmitting the second type SIB by broadcast after the change.

As with Claim 3, Claim 4 is substantively the same as Claim 2, but directed to the recitation of the method steps of Claim 3. Ex-1002 at ¶ 187. Claim 4's limitations, where not identical to Claim 2's limitations, recite the step the corresponding limitation requires the access node to be configured to perform the recited functions. *Id.* The same teachings of Brismar that anticipate and/or render the limitations of Claim 2 obvious, anticipate and/or render the same limitations in Claim 4 obvious, as it is obvious both to configure an access node to perform a step and to have the access node actually perform the step. Ex-1002 at ¶ 187.

XI. CONCLUSION

For the reasons given above, Petitioners request institution of *inter partes* review of the '958 Patent to cancel the Challenged Claims based on each of the grounds specified in this petition.

Respectfully submitted,

Dated: January 8, 2024

By: /Scott W. Hejny/
Scott W. Hejny
Reg. No. 45,882
Counsel for Petitioners

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 10,841,958 contains, as measured by the word processing system used to prepare this paper, 8,466 words. This word count does not include the items excluded by 37 C.F.R. § 42.24 as not counting towards the word limit.

Respectfully submitted,

Dated: January 8, 2024

By: /Scott W. Hejny/
Scott W. Hejny
Reg. No. 45,882
Counsel for Petitioners

CERTIFICATE OF SERVICE

I hereby certify that on January 8, 2024, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 10,841,958 and supporting exhibits was served on the following parties via Federal Express or Express Mail:

Demetrios Anaipakos, Alavi & Anaipakos PLLC
609 Main Street, Suite 3200
Houston, TX 77002

AND

USPTO: John P. Fonder, Christensen, Fonder,
Dardi & Herbert PLLC
11322 86TH Avenue North,
Maple Grove, MN 55369

*

A courtesy copy was also sent via electronic mail to Patent Owner's litigation counsel listed below:

Demetrios Anaipakos

DTL-AAteam@aatriallaw.com

Amir H. Alavi

Michael McBride

ALAVI & ANAIPAKOS PLLC

Michael Heim

DaingeanTT@hpcllp.com

Eric Enger

R. Allan Bullwinkel

Alden Harris

Blaine Larson

HEIM PAYNE & CHORUSH LLP

Andrea L. Fair

WARD, SMITH & HILL, PLLC

andrea@wsfirm.com

Petition for *Inter Partes* Review
U.S. Patent No. 10,841,958

By: /Scott W. Hejny/
Scott W. Hejny
Reg. No. 45,882
Counsel for Petitioners