

HAYNES BOONE

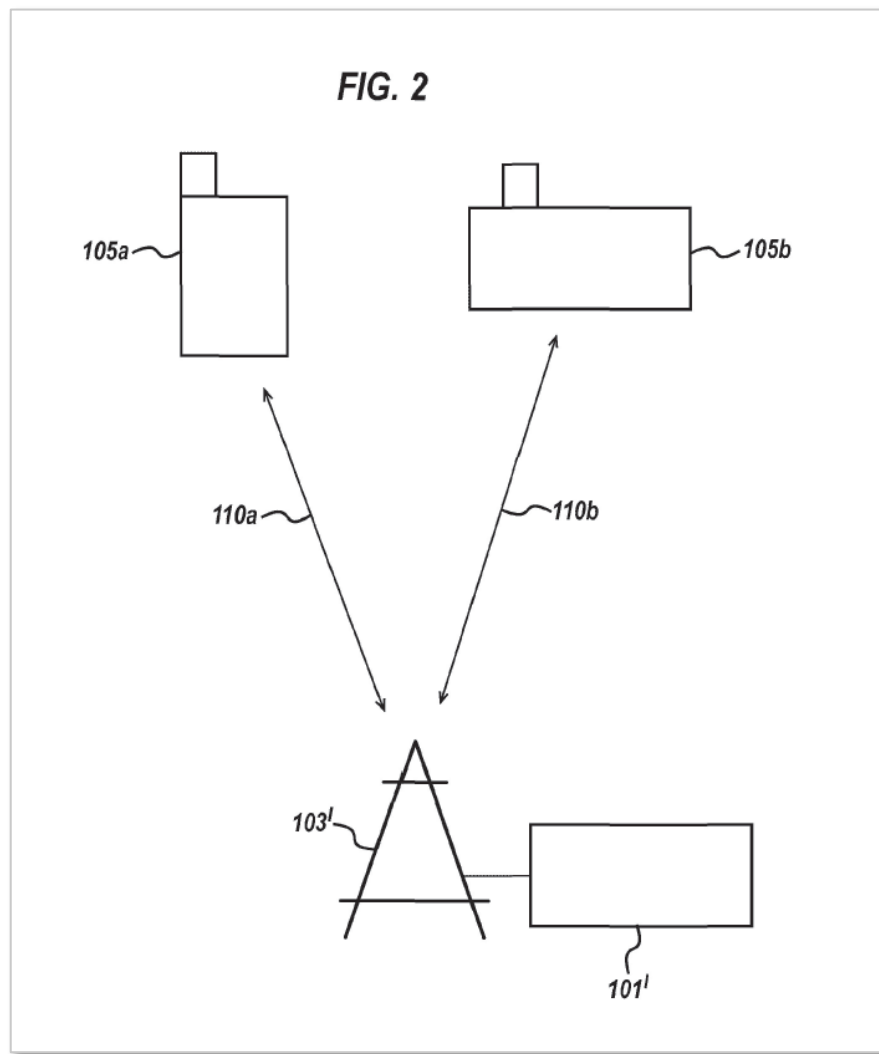
***TESLA, INC. V. INTELLECTUAL
VENTURES II LLC***

IPR2025-00220 (11,206,670)

Scott T. Jarratt, Clint Wilkins
Counsel for Petitioner



The '670 Patent



Ex.1001, Figure 2

308 CHAPTER 14 Access Procedures

14.2.2 System-Information Blocks

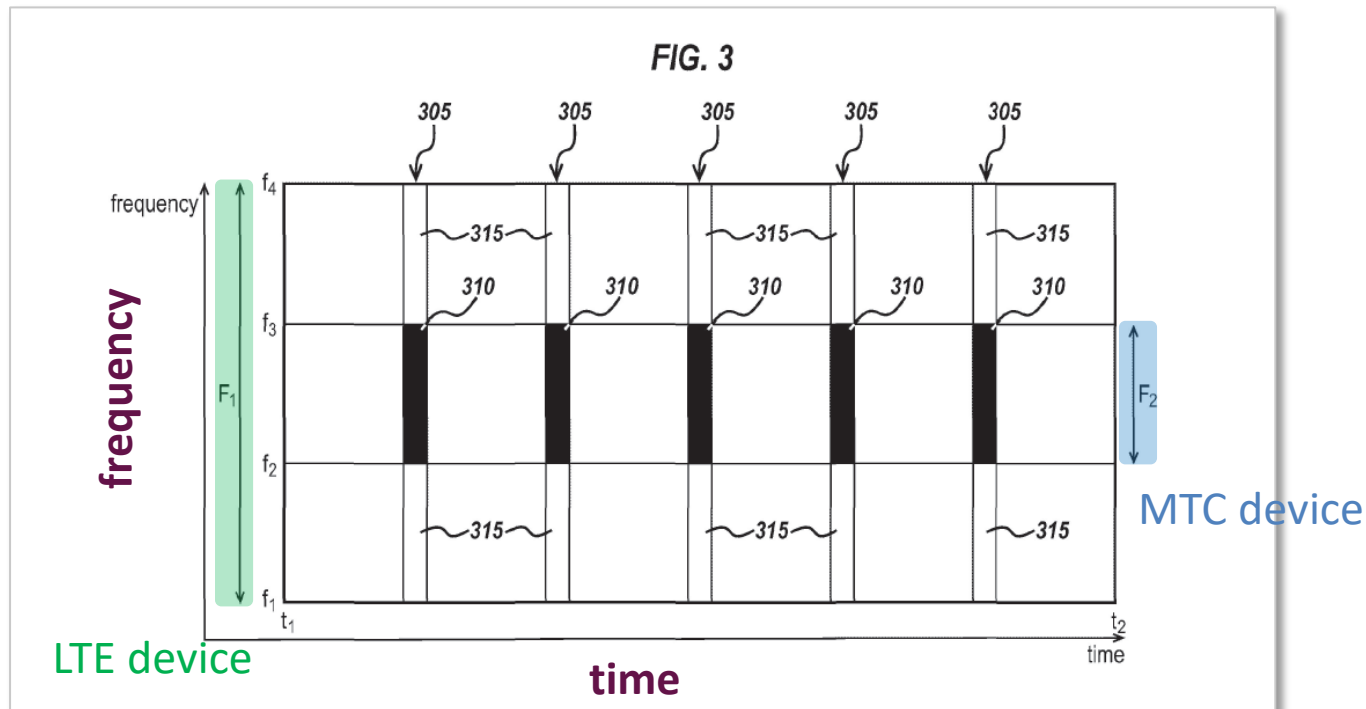
As already mentioned, the MIB on the BCH only includes a very limited part of the system information. The main part of the system information is instead included in different *System-Information Blocks* (SIBs) that are transmitted using the DL-SCH. The presence of system information on DL-SCH in a subframe is indicated by the transmission of a corresponding PDCCH marked with a special *System-Information RNTI* (SI-RNTI). Similar to the PDCCH providing the scheduling assignment for “normal” DL-SCH transmission, this PDCCH also indicates the transport format and physical resource (set of resource blocks) used for the system-information transmission.

LTE defines a number of different SIBs characterized by the type of information that is included within them:

- SIB1 includes information mainly related to whether a terminal is allowed to camp on the cell. This includes information about the operator/operators of the cell, if there are restrictions with regards to what users may access the cell, etc. SIB1 also includes information about the allocation of subframes to uplink/downlink and configuration of the special subframe in the case of TDD. Finally, SIB1 includes information about the time-domain scheduling of the remaining SIBs (SIB2 and beyond).
- SIB2 includes information that terminals need in order to be able to access the cell. This includes information about the uplink cell bandwidth, random-access parameters, and parameters related to uplink power control.
- SIB3 mainly includes information related to cell reselection.
- SIB4–SIB8 include neighboring-cell-related information, including information related to neighboring cells on the same carrier, neighboring cells on different carriers, and neighboring non-LTE cells, such as WCDMA/HSPA, GSM, and CDMA2000 cells.
- SIB9 contains the name of the home-eNodeB.
- SIB10–SIB12 contain public warning messages, for example earthquake information.
- SIB13 contains information necessary for MBMS reception (see also Chapter 15).

Ex.1038, 308;
Ex.1037, ¶26;
Reply, 3, 9-10

The '670 Patent



Ex.1001, Figure 3

Shared Channel (PDSCH). Generally, the Master Information Block **830** provides sufficient information to gain access to the first of the System Information Blocks (SIB1), which in turn provides sufficient information to gain access to SIB2 et seq. SIB2 includes parameters relating to the reservation

Ex.1001, 17:22-26

'670 patent problem – “essential” SIBs transmitted in existing networks using frequencies where MTC devices cannot receive them

'670 patent

Certain resource blocks may be used to carry control signalling including synchronisation signals and system information. As explained above, a problem can therefore arise if essential control signalling from the base station is transmitted outside of the frequency range which can be received by a low-capability device. Fortunately, as described above, the synchronisation signals and the Master Information Block (MIB) of the system information are present within a frequency range which is likely to be receivable by a low-capability device. However, further system information, carried in System Information Blocks (SIBs), and the associated control signalling may be transmitted at a frequency which cannot be received by the low-capability device. This would cause problems, potentially preventing the low-capability device from being able to camp on to the network. It will be appreciated that not all

Ex.1001, 12:52-67; POR, 5; Reply, 3-4; Ex.1037, ¶27

Disputed limitation [1.6]

1. A user equipment (UE) comprising:
a transceiver; and
a processor, operatively coupled to the transceiver;
wherein
the transceiver and the processor are configured to receive
a primary synchronization signal (PSS), a secondary
synchronization signal (SSS), and a physical broadcast
channel (PBCH) including a master information block
(MIB), the PSS, SSS and PBCH are in a first bandwidth
of a cell having a cell bandwidth, wherein the first
bandwidth is a first portion of the cell bandwidth,
wherein the MIB includes an indication of frequency
resources and time resources for use in acquiring
additional system information; and
the transceiver and the processor are configured to acquire
the additional system information using the indication
of the frequency resources and the time resources,
[1.6] wherein the indicated frequency resources and the time
resources include control information for use by the UE
to acquire a system information block 1.

Dispute

- Independent claims 7 and 13 have limitations identical to [1.6].

Overview

1. Wallen renders obvious SIB1:

- A. Wallen renders obvious SIB1 under the plain and ordinary meaning, and Patent Owner's claim construction that imports a negative limitation into "SIB1" should be rejected.
- B. Wallen also renders obvious SIB1 under Patent Owner's construction.

2. Wallen is prior art

- A. Patent Owner has not satisfied its burden to show that the '670 patent is entitled to the filing date of its foreign priority application.
- B. Wallen provisional supports the cited portions of Wallen.

Wallen – same problem and solution as 670 patent

- Same problem – enable MTC devices to connect to LTE system:

Wallen, [0016]

[0016] It is therefore desirable to have methods and apparatuses that enable an MTC device to retain its relatively low performance characteristics (e.g., in terms of size of bandwidth supported and/or processing power) and yet be capable of connecting to a modern-day cellular communications system, such as but not limited to an LTE system, that ordinarily imposes higher performance requirements on connecting devices.

Ex.1005, [0016];
Petition, 30-31

- Same solution – use MIB to convey control information for MTC devices to receive SIBs:

Wallen, [0072]

[0072] In another aspect (represented by the number “5” enclosed in a circle), the MIB 901 indicates the resource blocks, reference signal sequence, or search space allocated to a specific M-PDCCH, which should occupy regions of the host system’s radiofrequency spectrum that are different from the host system’s own (legacy) PDCCH locations. The M-PDCCH supplies control information to the MTC device, including MTC specific SIBs or downlink assignments pointing to the SIBs that are intended for this MTC device.

Ex.1005, [0072];
Petition, 46-53

1.A Wallen renders obvious SIB1 under the plain and ordinary meaning, and Patent Owner’s claim construction that imports a negative limitation into “SIB1” should be rejected.

Wallen renders obvious SIB1

[1.6] wherein the indicated frequency resources and the time resources include control information for use by the UE to acquire a system information block 1

Dispute

Wallen, [0072] (“example 5”)

[0072] In another aspect (represented by the number “5” enclosed in a circle), the MIB 901 indicates the resource blocks, reference signal sequence, or search space allocated to a specific M-PDCCH, which should occupy regions of the host system’s radiofrequency spectrum that are different from the host system’s own (legacy) PDCCH locations. The M-PDCCH supplies control information to the MTC device, including MTC specific SIBs or downlink assignments pointing to the SIBs that are intended for this MTC device.

Wallen confirms SIB1 is “the first system information block” and is received by MTC devices

Wallen, [0068]

[0068] In one aspect, the MIB **901** (which occupies its standard location in the host cell) includes time/frequency information (represented by the number “1” enclosed in a circle) that informs the MTC device of a location of the resource blocks and/or modulation and coding scheme (MCS) allocated to the first system information block (SIB 1) that is transmitted in a system standardized location (e.g., in subframe 5 in an LTE system). The first SIB, which is a legacy SIB, is allocated frequency resources such that it can be read by an MTC device. It includes such information as the RACH time/frequency grid and RACH signatures.

Ex.1005, [0068]; Petition, 31-32, 51-52;
Reply, 7, 11

Both experts agree that receiving SIB1 is “essential” for a device to connect to an LTE network

Petitioner’s expert declaration

fact, SIB1 is the only specific LTE SIB disclosed in Wallen. Moreover, it would have been obvious that one of the “SIBs” that are received includes the disclosed system information block 1 (SIB1) because SIB1 was known in LTE to carry information “essential” to connecting to a cell. Ex.1009, p. 2, line 34-p. 3, line 2 (LTE defines thirteen SIBs, including SIB1); p. 3, lines 19-21 (“SIB1 ...must be present in every cell... A user equipment considers the cell as ‘barred’ in case it cannot find this essential system information.”). Therefore, the indication of SIB1

Ex.1003, ¶91;
Petition, 51; Reply, 10

Deposition of Patent Owner’s expert

Q. Was SIB-1 known to carry information essential for UAE to connect to the LTE network?

A. It is -- it is known to be essential, yes.

Ex. 1036, 8:4-7;
Reply, 10-11;
Ex.2010, ¶35

Wallen's example 5 renders obvious SIB1

Petition

Wallen confirms SIB1 is “the first system information block”

SIB1 is essential.

Obvious that Wallen's example 5 “SIBs” include SIB1.

An example of one of Wallen's “SIBs” is SIB1, as disclosed in Wallen. Ex.1005, [0068] (“[T]he MIB 901 ... includes time/frequency information ... that informs the MTC device of a location of the resource blocks ... allocated to **the first system information block (SIB 1)**”); Ex.1006, 9. In fact, SIB1 is the only specific LTE SIB disclosed in Wallen. Ex.1003, ¶91. Moreover, it would have been obvious that one of Wallen's “SIBs” that are received includes the disclosed system information block 1 (SIB1) because SIB1 was known in LTE to carry information essential to connecting to a cell. Ex.1003, ¶91 (citing Ex.1009, pp. 2-3 (describing SIB1 as “essential” for connecting to a cell)). Therefore, the indication of SIB1 represents simply specifying an implementation detail of which of the known “SIBs” to indicate by Wallen's M-PDCCH, and it was obvious, predictable, and beneficial that one of the “SIBs” is a known and essential SIB in LTE, namely, SIB1, the only specific SIB disclosed in Wallen. Ex.1003, ¶91.

Patent Owner is wrong that Petition proposes bodily incorporating Wallen's embodiments and that Petitioner Reply pivoted to a "new theory"

Sur-reply

SIB such as SIB1. Given that Wallen (in Example "1") already disclosed that an MTC device could access the legacy SIB (SIB1) directly by a pointer from the MIB, the Petition fails to explain why a POSITA would have been motivated to *replace or supplement* that solution for *directly* accessing the legacy SIB (SIB1) with an *indirect* pathway that used an MTC specific channel (i.e., the M-PDCCH) as an intermediary to access the *same* legacy SIB1. For example, the Petition did not point

Sur-reply, 9

Sur-reply

The Reply pivots to a new theory that "[t]he Petition cites Wallen's mention of SIB1 in the content of example 1 only as additional evidence that SIBs include SIB1." Reply, 11. Before turning to this new narrative in the Reply, it is important

Sur-reply, 10

Construction of SIB1

[1.6] *“the indicated frequency resources and the time resources include control information for use by the UE to acquire a system information block 1”*

Petitioner’s construction	Patent Owner’s construction
No construction necessary.	“System information block 1 (SIB1) is an ordinary, legacy SIB, is <u>not</u> an MTC-specific SIB, and is <u>not</u> intended for an MTC device.” (Emphasis in POR.)

Petition, 16; POR, 27; Reply, 4

1. Patent Owner's expert contradicts its construction – MTC devices can receive “legacy” SIB1:

Patent Owner expert declaration

48. Of the various SIBs (SIB1, SIB2, et seq.), SIB1, that is *Legacy* SIB1, is prominent because it is transmitted in the “core frequency range” (1.4 MHz in LTE) that can be detected and decoded by all devices on the network. This makes SIB1 useful as a container for additional information, including information particularized for MTC-like communication devices that may (and generally do) have reduced bandwidth capabilities. Such devices can read SIB1. Moreover, the

Ex.2010, ¶48;
Reply, 5

2. Patent Owner's proposed construction excludes MTC devices but the '670 patent includes MTC devices.

Patent Owner expert declaration

27. Dr. Lomp's proposed construction is also inconsistent with the specification of the '670 patent. The central problem addressed in the '670 patent is how to accommodate "MTC-like terminal[s]" in legacy "LTE type networks" . . . "relatively simple and inexpensive." Ex.1001, 2:3-25; *see also id.*, 12:51-67. In other words, the '670 specification recognizes and attempts to solve a problem that "terminal devices with a lower bandwidth capability," such as MTC devices, "may not even be able to receive any more system information than that contained in the MIB of a Rel. 8/9/10 compliant [LTE] network." Ex.1001, 9:32-10:5. Despite

Ex.1037, ¶27; Reply, 4

3. SIB1 refers to a type of information, not the intended receiver.

Petitioner expert

26. The claims because the claims are agnostic as to what type of device receives SIB1. This makes sense because a POSITA would have understood that SIB1 in legacy LTE networks is defined by the *type* of information contained therein, not by the intended receiver of the information. *See, e.g.,* Ex.1038, p. 308 (“LTE defines a number of different SIBs characterized by the type of information that is included within them,” including “SIB1” that itself “includes information mainly related to whether a terminal is allowed to camp on the cell.”); *see also* Ex.2009, 59-60 (“System information is structured by means of System

Ex.1003, ¶26; Reply, 3

Patent Owner (in Sur-reply) leans into incorrect understanding of SIB1 as only for use by “legacy” device

Sur-reply

or legacy device (Wallen’s “first type of communication device”). Wallen uses the phrase SIB1 only once, and is explicit that SIB1 is a legacy SIB, meaning that it is for use by a standard-compliant or legacy device.

Sur-reply, 9

Wallen, [0068]

[0068] In one aspect, the MIB 901 (which occupies its standard location in the host cell) includes time/frequency information (represented by the number “1” enclosed in a circle) that informs the MTC device of a location of the resource blocks and/or modulation and coding scheme (MCS) allocated to the first system information block (SIB 1) that is transmitted in a system standardized location (e.g., in subframe 5 in an LTE system). The first SIB, which is a legacy SIB, is allocated frequency resources such that it can be read by an MTC device. It includes such information as the RACH time/frequency grid and RACH signatures.

**1.B Wallen also renders obvious SIB1 under
Patent Owner's construction.**

Wallen also renders obvious SIB1 under narrow construction of SIB1 requiring “legacy SIBs”

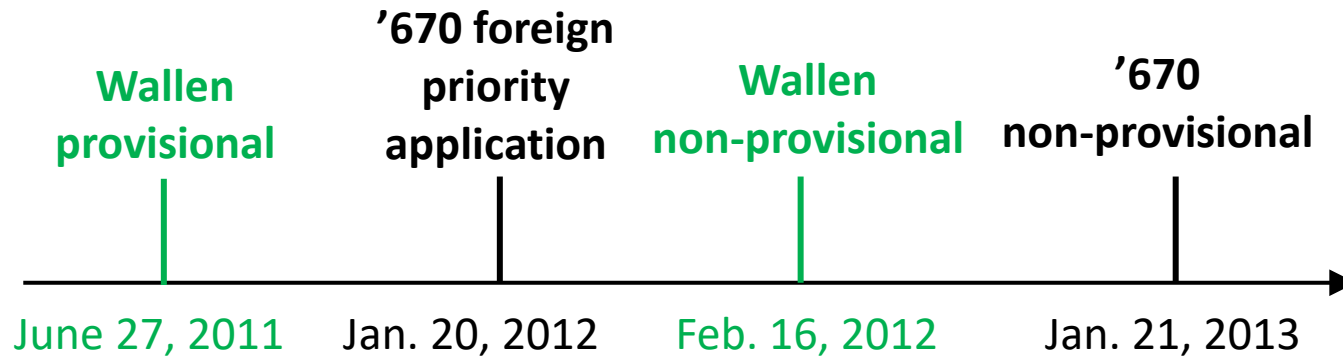
Wallen, [0072]

[0072] In another aspect (represented by the number “5” enclosed in a circle), the MIB 901 indicates the resource blocks, reference signal sequence, or search space allocated to a specific M-PDCCH, which should occupy regions of the host system’s radiofrequency spectrum that are different from the host system’s own (legacy) PDCCH locations. The M-PDCCH supplies control information to the MTC device, including MTC specific SIBs or downlink assignments pointing to the SIBs that are intended for this MTC device. The M-PDCCH may comply with the legacy PDCCH format for the MTC device’s lower bandwidth, or it may alternatively be encoded using a new format (e.g., Relay Physical Downlink Control Channel—“R-PDCCH”).

Ex.1005, [0072]; Reply, 12-13

2. Wallen is prior art

'670 patent and Wallen dates



2.A The '670 patent is not entitled to the filing date of its foreign priority application.

There is no presumption that 670 patent is entitled to the filing date of its foreign priority application

Dynamic Drinkware

“[B]ecause the PTO does not examine priority claims unless necessary, **the Board has no basis to presume that a reference patent is necessarily entitled to the filing date of its provisional application.**”

Dynamic Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375, 1379–1380 (Fed. Cir. 2015); Reply, 14

Marvell Semiconductor, Inc. v. Uniloc 2017 LLC, IPR2019-01350, Final Written Decision

“Under the reasoning of *Dynamic Drinkware*, the same would be true for a foreign application the priority of which has been claimed.”

Petitioner: '670 patent not entitled to filing date of its foreign priority application

Petition

³ Wallen is also prior art under pre-AIA 35 U.S.C. § 102(e) as of its **non-provisional** filing date of February 16, 2012 because the '670 patent is not entitled to claim the benefit of GB 1201000 due to its lack of written description support of the Challenged Claims under pre-AIA 35 U.S.C. § 112, first paragraph, such as lack of written description of the limitation *wherein the indicated frequency resources and the time resources include control information for use by the UE to acquire a system information block 1*.

Petition, 17, n.3

Burden of production shifted to Patent Owner

Marvell Semiconductor, Inc. v. Uniloc 2017 LLC, IPR2019-01350,
Final Written Decision

entitled to the filing date of the foreign application. If Patent Owner wished to challenge the prior art status of a reference, after Petitioner satisfied its initial burden of production by saying the reference is prior art, Patent Owner would then have to demonstrate, in this proceeding, that the challenged claims indeed do satisfy the requirements of 35 U.S.C. § 119 with respect to the foreign application the priority of which it claims.⁵ Cf. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379–1380 (Fed. Cir. 2015). Dynamic Drinkware stated that because the USPTO

⁵ “[I]f the effective filing date of what is claimed in a United States application is at issue, to preserve symmetry of treatment between sections 120 and 119, the foreign priority application must be examined to ascertain if it supports, within the meaning of section 112, ¶ 1, what is claimed in the United States application.” *In re Gosteli*, 872 F.2d 1008, 1011 (Fed. Cir. 1989).

Marvell Semiconductor, Inc. v. Uniloc 2017 LLC, IPR2019-01350, Paper 24 at 12-13 (Feb. 1, 2021) (citing *In re Gosteli*, 872 F.2d 1008, 1011 (Fed. Cir. 1989)); Reply, 14-15

Patent Owner did not satisfy burden

- Patent Owner only addressed whether “SIB1” is in the foreign priority application, and even that showing is deficient.

Claim 1

- [1.4] wherein the MIB includes an indication of frequency resources and time resources for use in acquiring additional system information; and
- [1.6] wherein the indicated frequency resources and the time resources include control information for use by the UE to acquire a system information block 1.

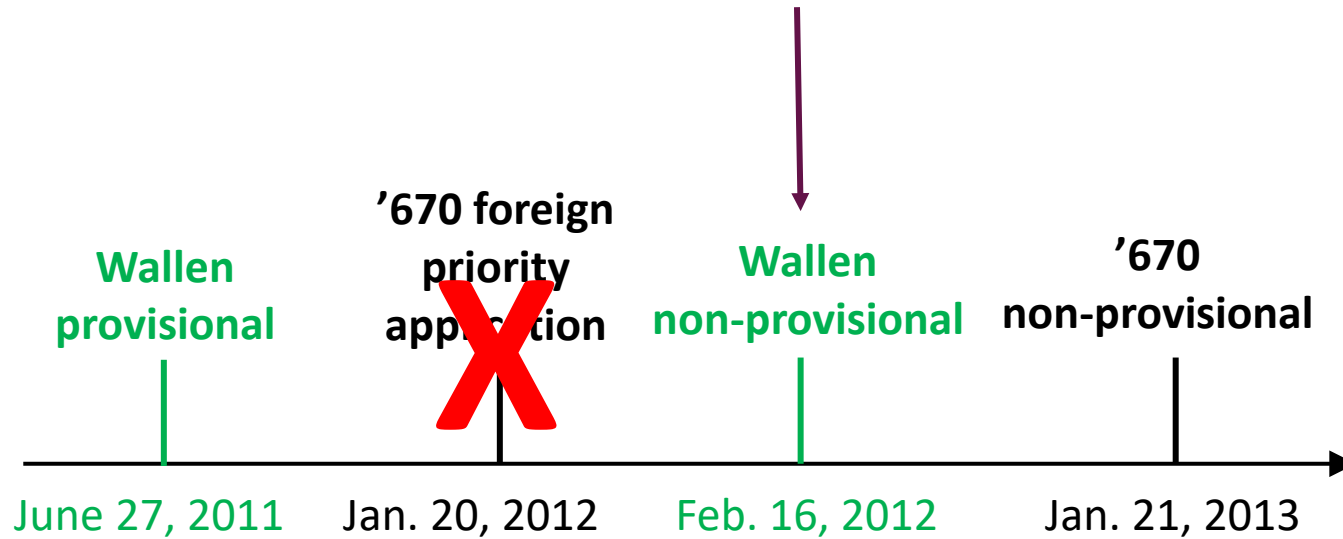
Response

This argument lacks merit. As set forth below, GB 1201000 expressly discloses a system information block 1 (SIB1):

... In each radio frame, a MIB 830 is provided in the central frequency portion 820. The MIB 830 is readable by devices using both the host carrier and the subordinate carrier. ... Generally, the Master Information Block 830 provides sufficient information to gain access to the first of the System Information Blocks (SIB1), which in turn provides sufficient information to gain access to SIB2 et seq. SIB2 includes parameters relating to the reservation of MBSFN subframes (as described above). Ex. 1018, 25 (emphasis added).

POR, 57-58;
Reply 15-16

Therefore, Wallen is prior art at least as of this date



Reply, 15-16

2.B Wallen provisional provides written description support for cited portions of Wallen.

- **Disputed portions of Wallen:**
 - 1. Figure 13 and related excerpts**
 - 2. Wallen, [0072]**

Wallen Figure 13 disclosure

1. A user equipment (UE) comprising:
a transceiver; and
a processor, operatively coupled to the transceiver;
wherein

13. At least one non-transient computer readable medium
containing program instructions to perform a method of:
receiving a primary synchronization signal (PSS), a sec-
ondary synchronization signal (SSS) and a physical

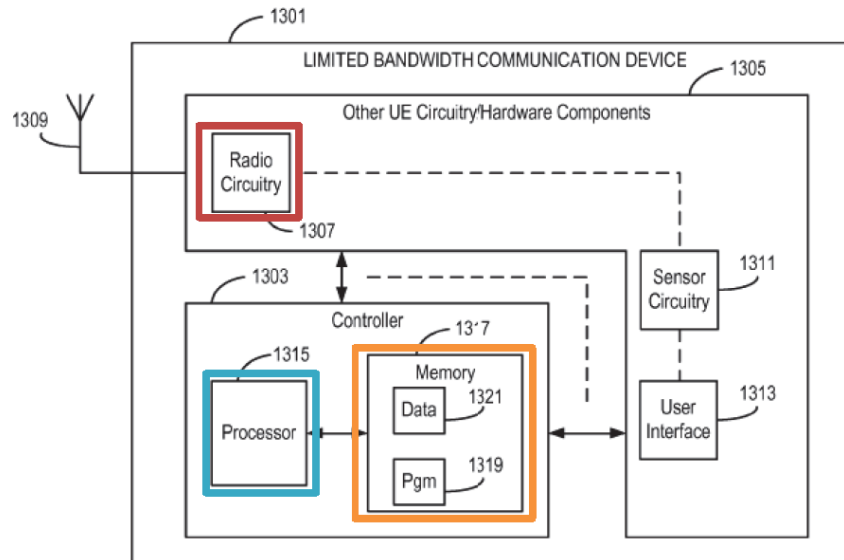


FIG. 13

Ex.1005, Figure 13; Ex.1003, p. 90; Petition, 39-41, 69-70

Wallen provisional Figure 6 and associated disclosure provides written description support for Wallen Figure 13

Wallen Figure 13

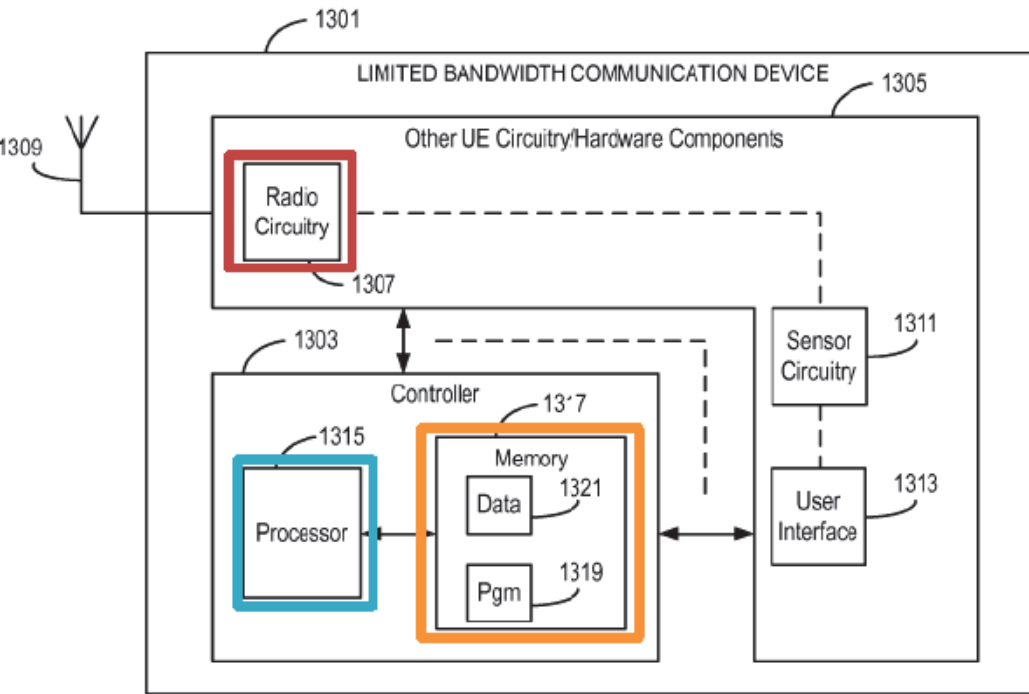
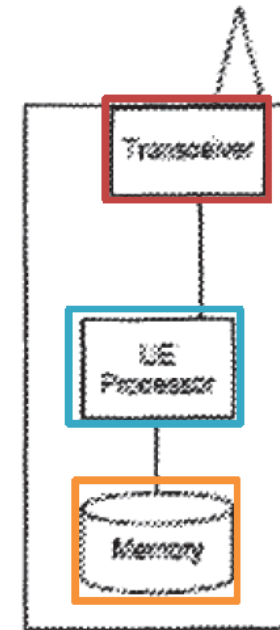


FIG. 13

Wallen provisional Figure 6



Example User Equipment (UE)

Ex.1003, pp. 89-90

Patent Owner alleges Wallen-Prov is limited to existing “cellular telephones”

“Rather than depicting an example of an MTC device, Figures 5 and 6 of Wallen-Prov only depicted UEs in the form of cellular telephones.”

Wallen provisional is about MTC devices

MIB for MTC

Ex.1006, Title

1.3 Basic Concept

This disclosure proposes an extended Master Information Block including a bit sequence pointing out a subset of Resource Elements (RE) and/or Resource Blocks (RB) in the time and frequency grid. This can easily be made by utilizing a subset of the 10 spare bits in the LTE MIB currently not used to carry information. This subset of REs and/or RBs pointed out by the bit sequence could include information suitable for MTC devices operating on a smaller (a subset) of the (LTE) system bandwidth than the cell system bandwidth, to still be able connect to the cell. Examples of such information in the MIB are:

Ex.1006, p. 9

3 Advantages of Described Solutions

With the proposed MTC devices, with capabilities of only supporting a smaller bandwidth and/or longer response time than the current standardized LTE system, can be able to do connection set up to an LTE cell.

Ex.1006, p. 11

Reply, 16-19; Ex.1003, pp. 75-90

Wallen provisional's Figure 6 is an MTC device

4 Example Implementations

...

As shown in Figure 6, the example UE includes a processor, a memory, a transceiver, and an antenna. In particular embodiments, some or all of the functionality described above as being provided by mobile communication devices or other forms of UE may be provided by the UE processor executing instructions stored on a computer-readable medium, such as the memory shown in Figure 6. Alternative embodiments of the UE may include additional components beyond those shown in Figure 6 that may be responsible for providing certain aspects of the UE's functionality, including any of the functionality described above and/or any functionality necessary to support the solution described above.

Ex.1006, p. 12; Reply, 16-19

Disputed disclosure

Wallen-Prov, p. 9

The RBs, reference signal sequence or search space allocated to a specific MTC-PDCCH, which should be different than the legacy PDCCH locations, where an MTC can receive and detect control information, including the MTC specific SIBs or downlink assignments pointing to the SIBs.

Wallen, [0072]

from the host system's own (legacy) PDCCH locations. The M-PDCCH supplies control information to the MTC device, including MTC specific SIBs or downlink assignments pointing to the SIBs that are intended for this MTC device. The

POR, 48; Ex.1003, 79-82; Ex.1037, ¶¶51-52;
Reply, 19-20

Patent Owner admits that the disputed passages in Wallen and Wallen-Prov mean the same thing

Patent Owner Response

It is clear from the text that both “the SIBs that are intended for this MTC device...” as in paragraph [0072] of Wallen and “...the SIBs...” as in page 9 of Wallen-Prov refer to the MTC specific SIBs referenced in the first part of these sentences. See Ex. 2006, ¶¶ 58, 66-67]. Nevertheless, even if it were assumed for

POR, 48; Ex.1003, 79-82; Ex.1037, ¶¶51-52;
Reply, 19-20

Conclusions

- It would have been obvious that Wallen's "SIBs" include the essential first system information block, or SIB1, thereby rendering obvious disputed limitation [1.6].
- Wallen is prior art because (1) Patent Owner has not shown the '670 patent is entitled to the filing date of the foreign priority application; and (2) even assuming the '670 is entitled to its foreign priority filing date, there is no serious dispute that Wallen provisional provides written description support for Wallen.

Backup slides

Wallen's examples 1 and 5 are different alternatives

Patent Owner Response

As outlined in paragraphs [0067]-[0072] and shown in Figure 9, Wallen sets forth five different alternatives for the MIB to “suppl[y] an MTC device with information that is useful for enabling the MTC device to locate an M-cell and/or to locate an M-PDCCH and/or to locate an M-SI, and/or to know how it can perform an M-RACH procedure.” Ex. 1005, [0067] (emphasis added).

POR, 38

Reply

and Ex.1036, 7:16-8:7. As explained above, at the time of the '670 patent, SIB1 was not already transmitted in legacy LTE networks such that MTC devices could receive this necessary information. Therefore, a POSITA would have understood that Wallen's “fifth alternative” in [0072] teaches a different change to LTE networks regarding how system information is indicated to an MTC device using the MIB as compared to the “first alternative” in [0068]. Accordingly, it would

Patent Owner does not have a credible position regarding written description support for Wallen, [0072]

Sur-reply

Petitioner does not do so. Petitioner’s entire “support” reduces to an inference that, because Wallen-Prov states an MTC can “receive and detect control information, including the MTC specific SIBs or downlink assignments pointing to the SIBs,” it is therefore “clear” that the SIBs are “intended” for the referenced MTC device—even though Wallen-Prov never says that. Reply, 20-21 (quoting EX1006 p.9; citing EX1037 ¶52). That is not written description; it is unsupported attorney argument.

Sur-reply, 25

No dispute that Wallen renders obvious [1.4]

[1.4] wherein the MIB includes an indication of frequency resources and time resources for use in acquiring additional system information; and

Wallen

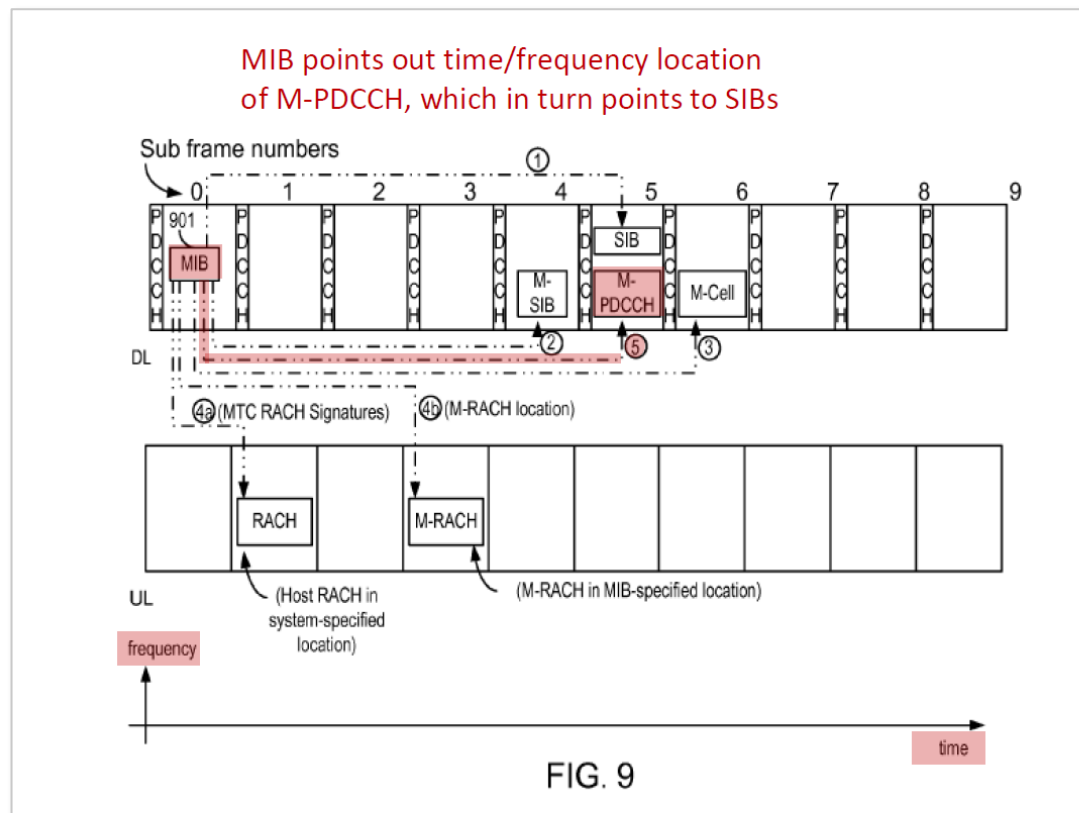
[0072] In another aspect (represented by the number “5” enclosed in a circle), the MIB 901 indicates the resource blocks, reference signal sequence, or search space allocated to a specific M-PDCCH, which should occupy regions of the host system’s radiofrequency spectrum that are different from the host system’s own (legacy) PDCCH locations. The M-PDCCH supplies control information to the MTC device, including MTC specific SIBs or downlink assignments pointing to the SIBs that are intended for this MTC device.

Ex.1005, [0072]; Petition 46-49

No dispute that Wallen discloses [1.4] (cont.)

[1.4] wherein the MIB includes an indication of frequency resources and time resources for use in acquiring additional system information; and

Petition (annotated Wallen, Figure 9)



Ex.1005, Figure 9;
Petition 48;
Ex.1003, ¶84

Patent Owner's expert acknowledged that MTC devices could not receive the wide bandwidth SIB1 of existing networks

Patent Owner expert declaration

35. The MIB is transmitted over the same 1.4 MHz. In addition to the MIB there are System Information Blocks (SIBs). A UE must receive at least two SIBs (SIB1 and SIB2) before being able to communicate with the BS. These SIBs are transmitted on the PDSCH (the physical downlink shared channel) over the entire bandwidth of the cell and typically are not limited to 1.4 MHz. Terminals in the prior art had bandwidths up to 20 MHz and were capable of receiving the SIBs. At the same time, the '670 patent recognized that then-novel MTC devices had narrower bandwidths and could not receive the SIBs aimed at the wideband mobile terminals:

Ex.2010, ¶35

Wallen

Wallen

[0020] In an aspect of some but not necessarily all embodiments, the extended broadcast information identifies a time and frequency position at which a special system information block (M-SIB) will be transmitted, wherein the M-SIB is a system information block that includes information that is for use by the second type of communication device.

[0021] In an aspect of some but not necessarily all embodiments, the extended broadcast information identifies a modulation coding scheme that will be used when an M-SIB is transmitted, wherein the M-SIB is a system information block that includes information that is for use by the second type of communication device.

Sur-reply

Ex.1005, [0020]-[0021]

the more traditional term.” EX1005, [0043]. One such new entity defined by Wallen was “a *special system information block*” or “*M-SIB*” that “includes information that is necessary for use by the second type of communication device.” *Id.*, [0020]-[0021]. In contrast to an M-SIB used by *an MTC device*, Wallen used the term “*SIB*”