

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

TOGAIL TECHNOLOGIES LTD.,
Patent Owner.

IPR2023-00645
Patent 10,743,238 B2

Before JAMESON LEE, GREGG I. ANDERSON, and
SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

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

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–5 and 11–15 (the “challenged claims”) of U.S. Patent No. 10,743,238 B2 (Ex. 1001, “the ’238 patent”). Togail Technologies Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”)

The Board has authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We therefore institute *inter partes* review as to all of the challenged claims of the ’238 patent and all of the asserted grounds of unpatentability in the Petition.

II. BACKGROUND

A. Related Matters

The ’238 patent is a subject of several civil actions including *Togail Technologies Ltd. v. Apple Inc.*, No. 6:22-cv-00326 (W.D. Tex.). Pet. 82; Paper 3, 2.

B. The ’238 Patent

The ’238 patent is titled “System Information Updates In Band Width Part (BWP) Switch Operation” and issued on August 11, 2020 from an application filed on November 15, 2018. Ex. 1001, codes (22), (45), (54).

Related Provisional Application No. 2019/0150064 A1 was filed on November 15, 2017. *Id.*, codes (60), (65).

The '238 patent is directed to user equipment (UE) for wireless communications configured “to perform bandwidth part (BWP) switching operation in response to receiving a system information change indication.” Ex. 1001, code (57). In the system, “UE receives the system information change indication via a currently active BWP in a BCCH (Broadcast Control Channel) modification period.” *Id.* The system information change indication notifies UE that the system information contents have been changed. *Id.* UE then switches from the currently active BWP to an initial active BWP to receive the changed contents of system information which are required for the UE. *Id.* UE then receives the changed contents of system information in a next BCCH modification period that immediately follows the BCCH modification period, and UE updates the system information according to the changed contents. *Id.*

Figure 1, reproduced below, is a schematic diagram illustrating a BWP switching operation for a UE due to receiving a system information (SI) change indication. Ex. 1001, 2:23–26.

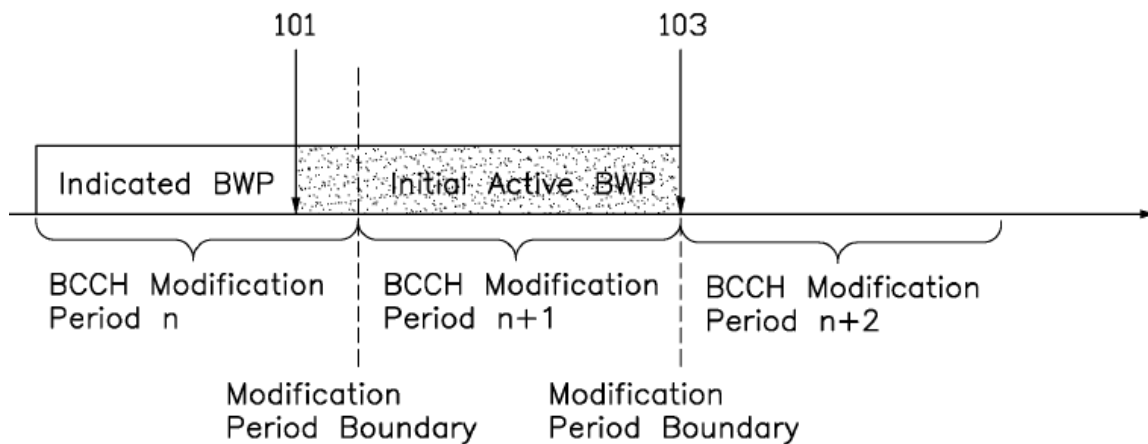


FIG. 1

Figure 1, above, illustrates a schematic diagram showing a BWP switching operation for a connected UE. Ex. 1001, 3:63–65. UE operates on an indicated BWP, the currently active BWP, for downlink data transmissions. *Id.* at 3:65–66. An SI change indication is sent to UE, and at 101, upon receiving the SI change indication, UE may switch immediately to the initial active BWP in modification period n. *Id.* at 4:9–17. After switching to the initial active BWP, UE may continue to stay on the initial active BWP until modification period n+1 ends. *Id.* at 4:25–27. In modification period n+1, UE may receive a broadcast with remaining minimum system information (RMSI). *Id.* at 4:34–37.

C. Illustrative Claim

Claims 1–5 and 11–15 of the '238 patent are challenged. Claims 1 and 11 are independent claims. Claim 1 is illustrative of the claimed subject matter and is reproduced below, with bracketed designations added for reference purposes.

[1.0] A method for a user equipment (UE) of a connected state, the method comprising:

[1.1] receiving a system information (SI) change indication broadcasted by a paging via a currently active bandwidth part (BWP) during a modification period;

[1.2] in response to receiving the SI change indication, switching from the currently active BWP to an initial active BWP for an SI update;

[1.3] receiving remaining minimum SI (RMSI) via the initial active BWP during a next modification period that immediately follows the modification period, [1.4] wherein the RMSI includes information associated with changed system information blocks (SIBs);

[1.5] determining which of the changed SIBs is required to be updated for the UE according to the received RMSI; and

[1.6] receiving content of the required changed SIBs based on the determination.

Ex. 1001, 12:44–61.

D. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–5 and 11–15 of the '238 patent on the following grounds:

Claims Challenged	35 U.S.C. § ¹	Reference(s)
1, 2, 4, 5, 11, 12, 14, 15	103	ITRI ² , Liao ³ , Jeon ⁴

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application and provisional application for the '238 patent were filed after this date, the AIA version of § 103 applies. *See* Ex. 1001, codes (22), (60).

² 3GPP TSG-RAN WG2 meeting #99bis, October 13, 2017 (Ex. 1007)

³ US Patent No. 10,505,803 B2, issued December 10, 2019 (Ex. 1008); Provisional App. No. 62/544,118, filing date August 11, 2017 (Ex. 1009).

⁴ US 2019/0132824 A1, published May 2, 2019 (Ex. 1010); Provisional App. No. 62/577,995, filing date October 27, 2017 (Ex. 1011).

Claims Challenged	35 U.S.C. § ¹	Reference(s)
3, 13	103	ITRI, Liao, Jeon, Huawei ⁵

Pet. 22.

III. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art:

would have at least a master's degree in electrical engineering, computer engineering, computer science, or a related field from an accredited program and one year of relevant experience in mobile communications or wireless networks. A Ph.D. degree in a relevant field may substitute for some work experience.

Pet. 19–20 (citing Ex. 1003 ¶¶ 19–21).

Patent Owner has not provided any proposed qualifications for a person of ordinary skill in the art. *See generally* Prelim. Resp.

For the purposes of this Decision, we adopt the assessment offered by Petitioner, except for the inclusion of “at least” which introduces vagueness, because that articulation is consistent with the '238 patent and the prior art before us. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. Claim Construction

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2022). Under the principles set forth by our reviewing court, the “words of a claim ‘are generally given their ordinary and customary meaning,’” as would be understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005)

⁵ 3GPP TSG RAN WG1 NR Ad Hoc Meeting, June 30, 2017 (Ex. 1012).

(en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner asserts that “the terms of the challenged claims should be given their plain and ordinary meaning, and no terms require specific construction.” Pet. 21 (citing Ex. 1003 ¶ 56). Patent Owner presents no proposed claim constructions. *See generally* Prelim. Resp.

We determine that we need not expressly construe any claim terms at this juncture. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art;

(3) the level of ordinary skill in the art; and (4) when in evidence, objective indicia of nonobviousness.⁶ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Obviousness of Claims 1, 2, 4, 5, 11, 12, 14, and 15 Over ITRI, Liao, and Jeon

Petitioner contends that claims 1, 2, 4, 5, 11, 12, 14, and 15 would have been obvious over ITRI, Liao, and Jeon. Pet. 24–69. To support its contentions, Petitioner provides explanations as to how the combination of the prior art teaches each claim limitation and provides rationale to combine the references. *Id.* Petitioner also relies upon the Ding Declaration (Ex. 1003) to support its positions. Patent Owner asserts that the prior art fails to teach limitation [1.2]. Prelim. Resp. 1–8.

We begin our discussion with brief summaries of ITRI, Liao, and Jeon, and then address the evidence and arguments presented.

1. ITRI (Ex. 1007)

ITRI is a summary of a meeting of the 3GPP TSG-RAN WG2 group which discussed “the granularity of SI change notification.” Ex. 1007, 1. ITRI discloses that “[u]pon system information change” the UE is notified by a paging message. *Id.* at 2. In response, the “UE acquires the latest SIB1 from gNB according to the SIB1 [SI block 1] scheduling information.” *Id.* Figure 1, reproduced below, depicts change notification periods. *Id.*

⁶ Neither party has submitted any objective evidence of nonobviousness at this juncture.

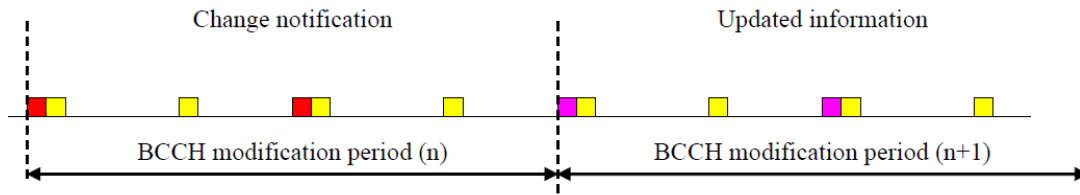


Figure 1. Change of system Information

Figure 1, above, illustrates UE receiving SI change notification in a modification period and acquiring the updated SIB in the next modification period. Ex. 1007, 2.

2. Liao (Ex. 1008)

Liao is directed to wireless communication to improve power efficiency for wide bandwidths. Ex. 1008, 1:17–19. In Liao, “the UE can switch among configured BWPs.” *Id.* at 7:41–42. For example, if “the current active BWP for the UE does not include a CORESET [control resource set] with CSS [common search space], the UE can switch its active BWP to the one including a CORESET with CSS scheduler.” *Id.* at 8:49–52.

3. Jeon (Ex. 1010)

Jeon is directed to wireless communication where a base station may send to a wireless device control messages for parameters for bandwidth parts. Ex. 1010, code (57). In Jeon, the wireless device may switch bandwidths based on the downloaded control messages. *Id.*

2. *Discussion*

a. *Claim 1*

i. *Preamble [1.0]*

Petitioner asserts that preamble [1.0] is taught by ITRI, which discusses the notification of an SI change, and discloses that “upon system information change,” the UE is notified of the change by a paging message. Pet. 44–45 (citing Ex. 1007, 2; Ex. 1003 ¶ 15) (emphasis omitted). Patent Owner has not presented any disputes as to the preamble. We have reviewed Petitioner’s evidence and arguments and find it is sufficient at this juncture for the teaching of the preamble.⁷

ii. *Limitation [1.1]*

Petitioner asserts that ITRI explains that the “UE may receive multiple SI change notification in a modification period and acquire the updated SIB in the next modification period.” Pet. 45–46 (citing Ex. 1007, 2) (emphasis omitted). Petitioner argues that ITRI illustrates a UE receiving an SI change paging notification in a modification period as shown in annotated Figure 1, reproduced below. *Id.* at 46.

⁷ We make no finding as to whether the preamble is limiting.

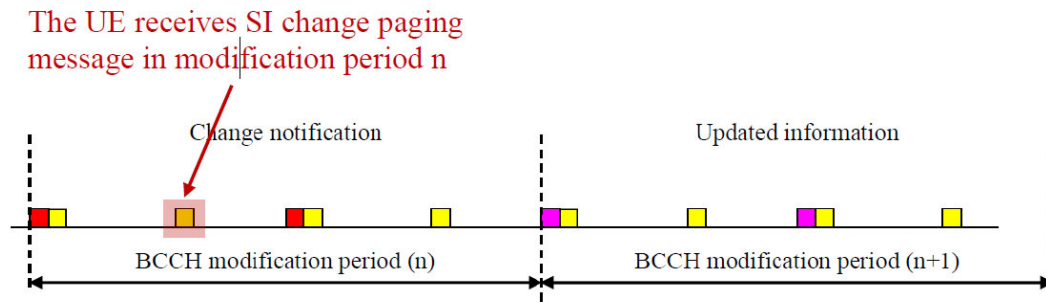


Figure 1. Change of system Information

Annotated Figure 1, above, shows the notification of change of the system information in modification period n and the update of information in the modification period n+1. Ex. 1007, 2. Petitioner contends that ITRI’s disclosures teach “receiving a system information (SI) change indication [] by a paging . . . during a modification period.” *Id.* at 46 (emphasis omitted).

Petitioner additionally asserts that Jeon discloses “paging control for a system information update” using “an active BWP for a user after a wireless device becomes RRC connected.” Pet. 47 (citing Ex. 1010 ¶¶ 276, 290; Ex. 1003 ¶ 113) (emphasis omitted). More specifically, Petitioner refers to an active BWP wherein a “base station may configure GCSS [Group-common search space]” and “paging control may be transmitted on GCSS.” *Id.* (citing Ex. 1010 ¶ 290; Ex. 1003 ¶ 113). With this, Petitioner asserts that Jeon discloses “receiving a system information (SI) change indication broadcasted by a paging via a currently active bandwidth part (BWP).” *Id.* at 48.

Petitioner asserts that a person of ordinary skill in the art would have been motivated to incorporate Jeon’s teachings regarding BWPs into the system of ITRI because ITRI describes a temporal sequence of messages for updating system information in 5G, but does not explicitly address that there are multiple BWPs in 5G networks. Pet. 30 (citing Ex. 1003 ¶ 72).

Petitioner contends that it was already established by the 5G working group that the upcoming 5G system would support multiple BWPs, and also agreed that the initial BWP would, by definition, be the frequency-band location of RMSI. *Id.* at 31 (citing Ex. 1014, 68, 88; Ex. 1003 ¶ 74). Accordingly, Petitioner argues, a person of skill would have been motivated to supplement ITRI's teachings with compatible teachings regarding system information updates with multiple BWPs, such as in Jeon, in order to allow the application of ITRI's technique. *Id.* at 32.

Patent Owner has not presented any disputes as to the teaching of this limitation [1.0] or the motivation to combine ITRI and Jeon. We have reviewed Petitioner's evidence and arguments and find it is sufficient at this juncture for the teaching of limitation [1.0] and rationale to combine.

iii. Limitation [1.2]

Petitioner asserts that ITRI teaches receiving a SI change notification by paging and this information is used to obtain a "SI update." Pet. 48–49 (citing Ex. 1007, 1–2; Ex. 1003 ¶¶ 116–118). For the teaching of BWP switching, Petitioner relies upon Jeon and Liao. *Id.* at 49. Petitioner contends that Jeon teaches the configuration of "an initial active DL [Download] BWP for a transmission of RMSI." *Id.* at 26 (citing Ex. 1010 ¶ 276). According to Petitioner, the configured bandwidth parts "may comprise a CORESET with a CSS [common search space] type for RMSI." *Id.* (citing Ex. 1010 ¶ 297). With this, Petitioner argues that "Jeon describes configuring an initial active BWP with a search space for carrying RMSI." *Id.* (citing Ex. 1010 ¶¶ 276, 290).

Petitioner contends that Jeon's disclosures that "[a]n initial active DL BWP may be defined as frequency location and bandwidth of RMSI

CORESET and numerology of RMSI,” indicates that the “‘initial active DL BWP’ is ‘defined’ as the location for RMSI.” Pet. 49 (citing Ex. 1010 ¶ 376). Petitioner asserts that Jeon teaches that a UE may switch to an initial BWP to receive RMSI by its disclosure that “[a]n initial DL BWP may comprise a control channel for RMSI . . . The wireless device may switch a BWP to monitor such a control channel.” *Id.* at 49–50 (citing Ex. 1010 ¶ 299) (emphasis omitted).

Petitioner contends that Jeon provides details on how the currently active BWP is utilized to provide SI update paging messages. Pet. 49–50. As discussed for limitation [1.1], Petitioner asserts that Jeon teaches receiving a system information (SI) change indication broadcasted by paging on a currently active BWP by its disclosure of a different search space called a GCSS used for paging control. *Id.* at 26, 47, 50 (citing Ex. 1010 ¶ 290).

Petitioner asserts that in Jeon, a person of ordinary skill would have understood that a UE monitors the active BWP for SI update paging. Pet. 50. As discussed above, Petitioner also asserts that Jeon teaches configuring SI update pages on an active BWP so that the UE does not to monitor the initial BWP, and a person of ordinary skill in the art, upon receiving the SI update page would switch to the initial BWP for RMSI. Pet. 50 (citing Ex. 1010 ¶¶ 290, 297; Ex. 1003 ¶¶ 120–122 (citing Ex. 1012, Fig. 10)).

We have reviewed Petitioner’s evidence and argument on the teaching of the limitation [1.2] and rationale to combine ITRI and Jeon and find they are sufficient at this juncture. More specifically, Petitioner has provided sufficient support that ITRI teaches receiving a SI change notification by paging and this information is used to obtain a “SI update,” with Jeon

providing details of how the BWP switching would be done to obtain the SI update. As asserted by Petitioner, and discussed above, Jeon discloses that the initial BWP may carry RMSI. Petitioner further asserts that in Jeon, notification of SI change paging occurs in a different BWP, that is, an active BWP. These disclosures, as well as Jeon's explicit disclosures that the initial BWP "is defined" as the location for RMSI and "[t]he wireless device may switch a BWP to monitor such a control channel" (Ex. 1010 ¶ 299) which contains RMSI, support Dr. Ding's testimony that a person of ordinary skill in the art would understand that a UE could monitor an active BWP for SI update paging and then switch to the initial BWP for RMSI. Ex. 1003 ¶ 122.

Patent Owner argues that Jeon teaches different ways for the UE to receive RMSI, and "all but one" do not involve the initial active BWP. Prelim. Resp. 2. Patent Owner discusses different ways that Jeon discloses that RMSI may be received by the UE not including the initial BWP. *Id.* at 2–4, 7. Although we agree with Patent Owner that Jeon teaches different ways the UE may receive RMSI not involving the initial BWP, nevertheless, Petitioner relies on Jeon disclosures where the RMSI is received by a UE using the initial BWP⁸, and which we find persuasive, as discussed above.

Related to the previously-discussed issue, Patent Owner also disagrees with Petitioner's contention "that the 'initial active DL BWP' is 'defined' as the location for RMSI" because Jeon may transmit CSS for RMSI on many different BWPs. Prelim. Resp. 7. Again, we agree that Jeon teaches transmittals on different BWPs, therefore the "defined" statement does not

⁸ Patent Owner acknowledges that there is "at least one" disclosure in Jeon where a UE receives RMSI involving the initial BWP. Prelim. Resp. 2.

appear to act as a “definition.” Nonetheless, although the initial active BWP may not “define” the location for RMSI under all of its disclosures, Jeon’s statement that “[a]n initial active DL BWP may be defined as frequency location and bandwidth of RMSI CORESET and . . . RMSI” supports Petitioner’s assertions regarding the RMSI being sent to the UE using the initial active BWP. *See* Ex. 1010 ¶ 376.

Patent Owner also points to Petitioner’s assertions on Jeon’s disclosure of GCSS for paging, and contends that the transmittal of paging control would not require a switch in BWPs. Prelim. Resp. 4–5. Patent Owner argues that a BWP switch would not be necessary because Jeon discloses that “[t]he wireless device may monitor GCSS . . . instead of switching to the BWP containing the CSS for such information.” *Id.* (citing Ex. 1010 ¶ 290). Petitioner, however, relies on Jeon’s teaching of using GCSS with paging, but not for RMSI transmittal. *See* Pet. 47, 49–50. Again, our view is that although Jeon discloses that GCSS “may” be monitored with no switch to a BWP for CSS, Jeon is not limited to this type of operation, so Petitioner’s reliance on GCSS for paging only is consistent with Jeon’s disclosures.

Thus, at this juncture, we do not find that Patent Owner’s arguments undermine Petitioner’s sufficient showing of the teaching of this limitation based on the combination of ITRI and Jeon. Patent Owner also makes some arguments related to Liao (Prelim. Resp. 5–8). We need not reach those arguments because we have preliminarily found that ITRI and Jeon provide sufficient support.

iv. Limitation [1.3]

Petitioner asserts that ITRI teaches that in response to a “SI change notification . . . [t]he UE acquires the latest SIB1.” Pet. 53 (citing Ex. 1007, 2) (emphasis omitted). Petitioner contends that annotated Figure 1, reproduced below, illustrates the acquisition of the updated SIB in the “next” modification period. *Id.* (citing Ex. 1007, Fig. 1; Ex. 1003 ¶ 126) (emphasis omitted).

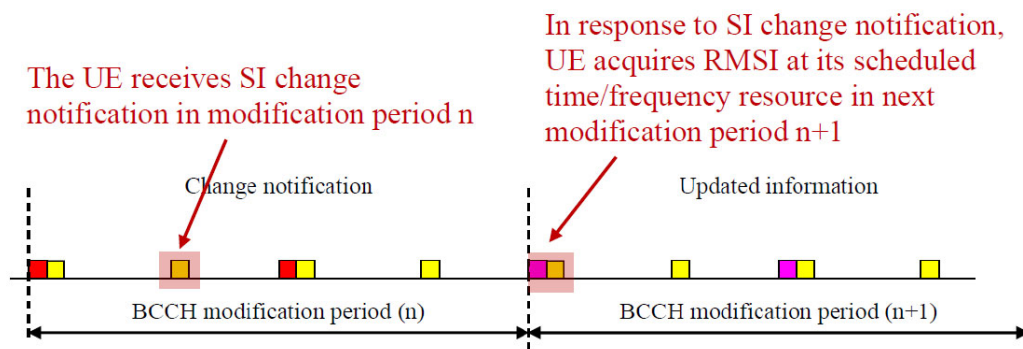


Figure 1. Change of system Information

Annotated Figure 1 of ITRI, above, illustrates a “change notification” in a modification period n and “updated information” in modification period n+1. Ex. 1007, Fig. 1. Petitioner argues that in ITRI the UE receives the RMSI/SIB1 according to “RMSI scheduling information” including “frequency resource configuration” of where RMSI is scheduled. Pet. 53 (citing Ex. 1007, 1). Petitioner also asserts that Jeon provides teachings to support that the RMSI is received in an initial BWP, relying on its arguments and evidence for limitation [1.2]. *Id.* at 53–54.

Patent Owner has not presented any disputes specific to the teaching of this limitation [1.3] or the motivation to combine ITRI and Jeon. We have reviewed Petitioner’s evidence and arguments and find it sufficient for the teaching of limitation [1.3] and rationale to combine.

v. Limitation [1.4]

Petitioner argues that ITRI discloses that, after receipt of SIB1 (RMSI), the “UE may check the scheduling information carried in the latest SIB1 for the validity of the other stored SIBs,” and “[i]f the scheduling information is different from the stored scheduling information, the UE can identify the changed SIBs and acquire the updated SIBs accordingly.” Pet. 54–55 (citing Ex. 1007, 2; Ex. 1003 ¶ 130) (emphasis omitted).

Patent Owner has not presented any disputes specific to the teaching of limitation [1.4]. We have reviewed Petitioner’s evidence and arguments and find it is sufficient for the teaching of limitation [1.4] at this juncture.

vi. Limitation [1.5]

Petitioner refers to the showing for limitation [1.4], and further contends that in ITRI the SIB1 indicates for each of the SIBs a “value tag,” which can be a numerical value that changes each time an SIB is updated. Pet. 55 (citing Ex. 1007, 2; Ex. 1003 ¶ 132). With that, Petitioner refers to ITRI’s disclosure that, if the SIB value tag is different than a stored one, the UE identifies the changed SIBs. *Id.* (citing Ex. 1007, 2). For support, Petitioner also refers to the ITRI disclosure that an “index/identifier in minimum SI to enable the UE to avoid reacquisition of already stored SI-block(s)/SI messages(s),” and the “UE is able to re-acquire only the SIBs which are updated.” *Id.* at 55–56 (citing Ex. 1007, 2–3; Ex. 1003 ¶ 132) (emphasis omitted). Petitioner asserts that ITRI therefore teaches “determining which of the changed SIBs is required to be updated” in the view of one of ordinary skill in the art. *Id.* at 56 (citing Ex. 1007, 2; Ex. 1003 ¶ 133) (emphasis omitted).

Patent Owner has not presented any disputes specific to the teaching of limitation [1.5]. We have reviewed the evidence and arguments and find that it is sufficient for the teaching of limitation [1.5] at this juncture.

vii. Limitation [1.6]

Relying on ITRI's disclosures discussed for limitations [1.4] and [1.5], Petitioner contends that ITRI teaches receiving the content of the changed SIBs. Pet. 57 (citing Ex. 1007, 2 ("the UE can identify the changed SIBs and acquire the updated SIBs accordingly")).

Patent Owner has not presented any disputes specific to the teaching of limitation [1.6]. We have reviewed the evidence and arguments and find that it is sufficient for the teaching of limitation [1.6] at this juncture.

viii. Conclusion for Claim 1

Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 1 would have been obvious over ITRI, Jeon, and Liao.

b. Claims 2, 4, 5, 11, 12, 14, and 15

Petitioner provides evidence and argument that claims 2, 4, 5, 11, 12, 14, and 15 would have been obvious over ITRI, Jeon, and Liao. Pet. 58–69. Patent Owner has not presented any disputes specific to these dependent claims. We have reviewed the evidence and arguments and find Petitioner's evidence and argument on the obviousness of these claims are sufficient at this juncture.

Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claims 2, 4, 5, 11, 12, 14, and 15 would have been obvious over ITRI, Jeon, and Liao.

E. Obviousness of Claims 3 and 13 Over ITRI, Jeon, Liao, and Huawei

Petitioner contends that claims 3 and 13 would have been obvious over ITRI, Jeon, Liao, and Huawei. Pet. 69–76. To support its contentions, Petitioner provides explanations as to how the combination of the prior art teaches each claim limitation and provides rationale to combine the references. *Id.* Petitioner also relies upon the Ding Declaration (Ex. 1003) to support its positions.

We begin our discussion with a brief summary of Huawei, and then address the evidence and arguments presented.

1. Huawei (Ex. 1012)

Huawei addresses wider bandwidth operations in 5G systems, and includes a discussions of control for RMSI delivery to UEs. Ex. 1012, 1, 5–6. Huawei describes bandwidth part switching, wherein “the UE receives both DL control information and DL data within the 1st bandwidth part during slot n while the UE switches to the 2nd bandwidth part during slot n+1 for DL control information and DL data,” as shown in the portion of Figure 2, reproduced below, designated as “(a).” *Id.* at 2.

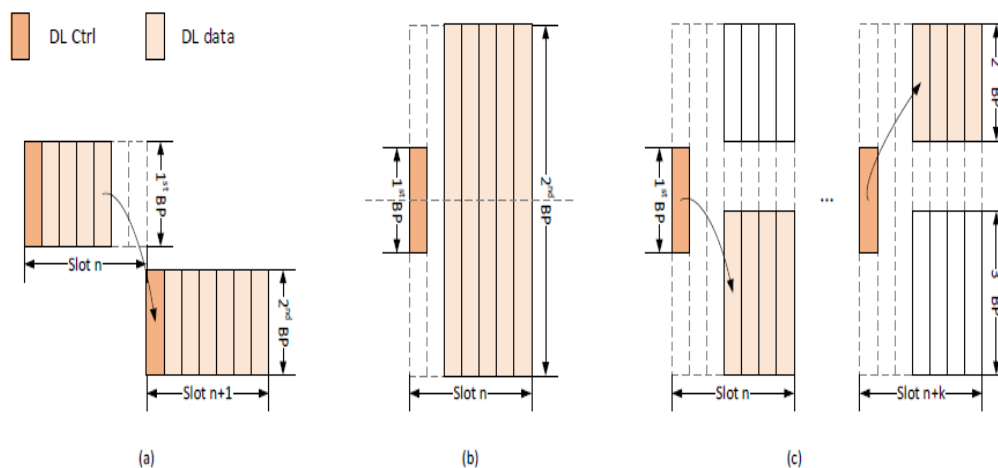


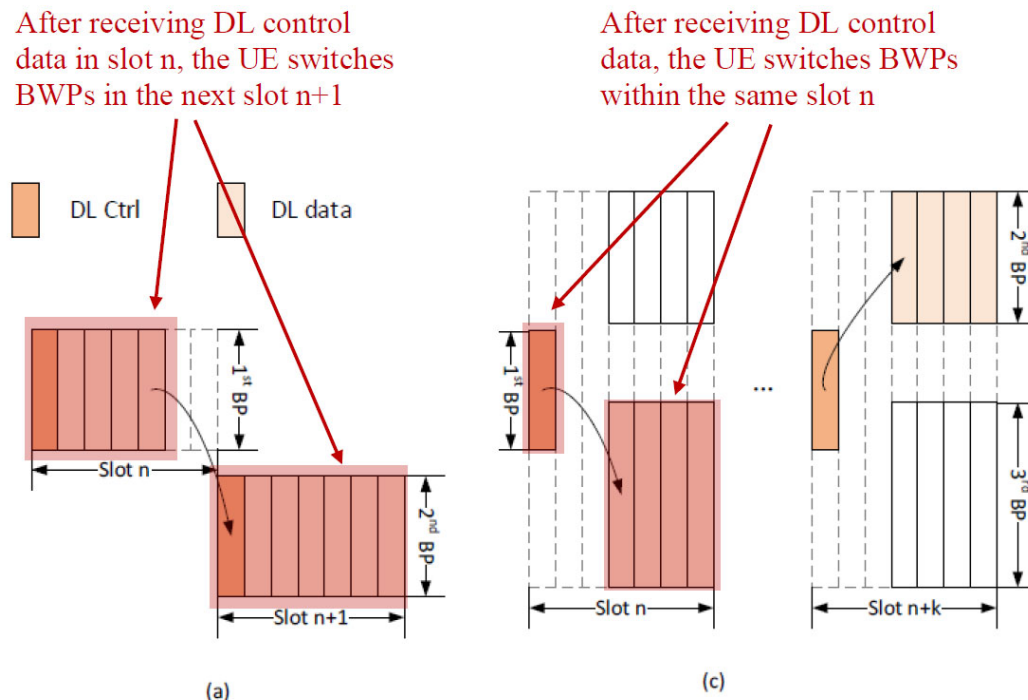
Figure 2 Potential use cases for bandwidth adaptation among multiple bandwidth parts

Figure 2 of Huawei, above, depicts different use cases for bandwidth adaptation among multiple bandwidth parts. Ex. 1012, 2.

2. Discussion

Claim 3 depends from claim 1, and further recites “wherein the currently active BWP is switched to the initial active BWP immediately upon receiving the SI change indication.” Ex. 1001, 12:65–67. Claim 13 depends from claim 11 and contains a similar limitation. *Id.* at 14:11–13.

Petitioner asserts that Huawei teaches techniques for bandwidth part switching, where it discloses that it was known in the art to receive data on one BWP and switch to another BWP in the next time slot or the same time slot. Pet. 74 (citing Ex. 1012, 1–2, Fig. 2; Ex. 1003 ¶ 176). For support, Petitioner refers to annotated Figure 2 of Huawei, reproduced below. *Id.*



Portions of annotated Figure 2, above, depict different use cases for bandwidth switching. Pet. 75; Ex. 1012, 2. Petitioner contends that Figure 2 illustrates examples where a UE switches BWPs immediately after receiving

downlink control information, including in the next slot (Fig. 2 (a)) or within the same time slot (Fig.2 (c)), thus teaching the limitations of claims 3 and 13. Pet. 74 (citing Ex. 1012, 2, 4, Fig. 2, 4; Ex. 1003 ¶ 177). Patent Owner has not presented any disputes specific to claims 3 and 13.

We have reviewed Petitioner's evidence and arguments and find it is sufficient for the teaching of claims 3 and 13 at this juncture. Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claims 3 and 13 would have been obvious over ITRI, Jeon, Liao, and Huawei.

IV. CONCLUSION

For the foregoing reasons, we have determined that there is a reasonable likelihood that the Petitioner would prevail with respect to at least one of the claims challenged in the Petition. We therefore institute trial as to all challenged claims on all grounds stated in the Petition.

V. ORDER

Upon consideration of the record before us, it is:

ORDERED that *inter partes* review of claims 1–5 and 11–15 of the '238 patent is instituted on all grounds in the Petition; and

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

IPR2023-00645
Patent 10,743,238 B2

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