

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner,

v.

TOGAIL TECHNOLOGIES LTD.,

Patent Owner.

Case IPR2023-00645

Patent 10,743,238

PATENT OWNER’S PRELIMINARY RESPONSE TO PETITION

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I. INTRODUCTION

Patent Owner Togail Technologies Ltd. (“Patent Owner”) submits this preliminary response to Petitioner Apple Inc.’s (“Petitioner”) Petition for *inter partes* review of U.S. Patent No. 10,743,238 (“the ’238 Patent”). The Board should deny institution because Petitioner fails to establish a reasonable likelihood of unpatentability for the independent claims under any Ground, let alone present compelling evidence of unpatentability.

For Ground 1, Petitioner relies on 3GPP TSG RAN WG2 Meeting #99bis R2-1711767, “Discussion on the granularity of SI change notification,” (Ex. 1007, “*ITRF*”) in view of U.S. Patent No. 10,505,803 (Ex. 1008, “*Liao*”) and U.S. Patent Publication 2019/0132824 (Ex. 1010, “*Jeon*”). Petitioner’s ground 1 challenge to independent claims 1 and 11, as well as its challenges to the dependent claims in grounds 1-2, fail because *Jeon* and *Liao* do not disclose the limitation of the independent claims that requires “in response to receiving the SI change indication, switching from the currently active BWP to an initial active BWP for an SI update.” Ex. 1001, 12:49-51, 13:42-44. More specifically, *Jeon* and *Liao* teach and describe wireless devices that stay in the present bandwidth part (“BWP”) when it contains RMSI (Remaining Minimum System Information), or switch to a BWP that does contain RMSI without “receiving a system information change notification.” The

Petition therefore fails to establish that either *Jeon* or *Liao*, in combination with *ITRI*, render obvious any claim of the '238 Patent.

Petitioner has not established a reasonable likelihood of unpatentability under any ground or challenged claim. Accordingly, the Board should deny institution.

II. THE PETITION FAILS WITH RESPECT TO ALL GROUNDS

A. *Jeon*

Almost from the beginning, the Petition mischaracterizes *Jeon*'s teaching with respect to the transmission of Remaining Minimum System Information (RMSI) from the base station to user equipment (UE). The Petition first states that “*Jeon* teaches configuring ‘an initial active DL BWP for a transmission of RMSI.’” Paper 2 at 26 (citing *Jeon*, Ex.1010, ¶0276). While the starting point may be correct, it does not lead to Petitioner’s conclusion that a “POSITA thus would have understood *Jeon* to describe a UE in an active BWP to ***switch to the initial BWP in order to receive RMSI.***” *Id.* at 27 (emphasis added); *see also id.* at 28 (the “configuration described in *Jeon*” is “***with RMSI only carried in the initial active BWP***”) (emphasis added). To the contrary, *Jeon* teaches numerous different ways for the UE to receive RMSI, all but one of which do not involve the initial active BWP.

On page 26, the Petition next states that “*Jeon* explains that one ‘configured DL bandwidth parts for a PCell may comprise a CORESET with a CSS [common

search space] type for RMSI.” *Id.* at 26 (citing *Jeon*, Ex.1010, ¶0276). Notably, this explanation of the transmission of RMSI data is not limited to the initial active BWP. *See Jeon*, Ex. 1010, ¶0297 (“**One or more of configured DL bandwidth parts** for a PCell may comprise a CORESET with the CSS type for RMSI”) (emphasis added). One of *Jeon*’s “configured DL parts” may be a “default BWP.” Reconfiguration of a default BWP from an initial BWP may be performed” or a “default BWP may be the same as an initial BWP.” *Id.*, ¶0275; *see also id.*, ¶0269 (“A base station may not fix the default bandwidth part to be the same as an initial active bandwidth part.”); ¶0271 (“The base station may configure a wireless device specific default DL BWP other than an initial active BWP.”); ¶0272 (“The initial active DL BWP and / or UL BWP may be set as default DL BWP and / or UL BWP, respectively.”). *Jeon* further teaches that the wireless device (UE) may switch periodically, *i.e.*, without the use of a system information change notification, back to the default BWP to check for updated RMSI. *See id.*, ¶0274 (“Switching to a default BWP may be performed, for example, to check RMSI at least periodically.”).

Jeon further teaches that the wireless device need not rely on just the default BWP to receive updated RMSI by having the base station transmit the “CORESET with a CSS type” for RMSI on other BWPs besides the default BWP. *See id.*, ¶¶0287-0288. “There may be one or more benefits from configuring the same CORESET containing the CSS across BWPs. For example, the RMSI and broadcast

OSI monitoring may be performed without necessitating BWP switching ...” *Id.*, ¶0289. Another alternative in *Jeon* is the use of a “Group - common search space (GCSS)” that be used in addition to or as an alternative to CSS ...” *Id.*, ¶0290. Like the CSS in a BWP, initial active, default, or otherwise, “[t]he wireless device may monitor GCSS ... instead of switching to the BWP containing the CSS for such information.” *Id.* *Jeon* describes the GCSS as providing direct reception of RMSI by the wireless device, i.e., without switching BWPs in response to a system information change indication.

Jeon’s disclosure of GCSS also notes that “paging control may be transmitted” therewith. *Id.*, ¶0290. Petitioner relies on this disclosure to note that *Jeon*’s “paging control for system information update” is an example of “paging control.” *See* Paper 2 at 26. Based on this, Petitioner leaps to the unwarranted conclusion that, in *Jeon*’s system, a “POSITA also would have recognized that the switch to the initial active ‘for RMSI’ ... would be in response to an SI update paging message.” Paper 2 at 27. This conclusion is premised on *Jeon*’s “paging control for system information update” being a “system information change indication” that will cause a switch in BWPs as required by the claims of the ’238 Patent. This premise is wrong. The “paging control” transmitted on GCSS does not cause a switch in BWPs. To the contrary, *Jeon* teaches that, through the use of the GCSS, a switch in BWPs is not **required**. *See Jeon*, Ex. 1010, ¶0290 (“The wireless device may monitor GCSS, for

example, instead of switching to the BWP containing the CSS for such information.”). To accomplish this, *Jeon* must include the requisite data, *i.e.*, RMSI, in the GCSS, as it does with the other mechanisms for providing RMSI directly in the BWP.

B. *Liao*

Like *Jeon*, at least some of *Liao*’s BWPs carry RMSI data. *See* Ex. 1008, *Liao*, 7:62-67 (“When there is single BWP active at any given time for the UE, each configured BWP, such as 511-513, 521-523, and 531-533 includes at least one CORESET with UE-specific search space and at least one of the configured BWPs include one CORESET with CSS, such BWP 511.”) Also, like *Jeon*, *Liao*’s system will only switch BWPs when the present BWP does not include CSS. *Compare id.*, 8:41-43 (“In one scenario, when the active BWP and the CSS are both in the same BWP, such as BWP 603, there is no need for BWP switching.”) *with id.*, 8:49-53 (“If the current active BWP for the UE does not include a CORESET with CSS, the UE can switch its active BWP to the one including a CORESET with CSS scheduler during the time gap for the monitoring of broadcast message, such as SI, RA response, paging control, and etc.”).

“[T]he UE can switch among configured BWPs with different BWP configurations, which enables the adaptation of UE TX/RX antenna number. The BWP switch can be based two or more combined methods including a higher-layer

signaling, such as the RRC-layer signaling or a MAC CE; a physical-layer signaling, such as the DL control information (DCI); and the time pattern.” *See id.*, 7:41-47. Contrary to Petitioner’s mischaracterization, *see* Paper 2 at 39, *Liao* does not describe that “the BWP switch signaling can be a ‘broadcast and/or multi-cast message includ[ing] ... paging control for system information update.”” *Liao* only describes the “broadcast and/or multi-cast message” as just that, a message, and not as “BWP switch signaling.” *See* Ex. 1008, *Liao*, 7:48-53 (“The UE broadcast and/or multi-cast message includes at least the system information, the random access (RA) response in RA procedure, paging control for system information update, the group-based UL transmission power control (TPC) command, and scheduling of multi-cast services.”). Simply put, *Liao* does not disclose a “system information change notification,” let alone “switching from the currently active BWP to an initial active BWP for an SI update” in response to that notification.

C. *Neither Jeon or Liao disclose “switching from the currently active BWP to an initial active BWP for an SI update” “in response to system information change notification”*

The Petition relies on *Jeon* and *Liao* in attempting to meet the limitation of the ’238 Patent claims of “in response to receiving the SI change indication, switching from the currently active BWP to an initial active BWP for an SI update.” *See* Paper 2 at 49-53. Petitioner’s attempt falls short for several reasons.

First, *Jeon* does not, as Petitioner contends, explain “that the ‘initial active DL BWP’ is ‘defined’ as the location for RMSI.” Paper 2 at 49. As set forth above, *Jeon*’s base station may transmit CSS for RMSI on many different BWPs, not just the initial active BWP. The “initial active DL BWP” is **not** “defined” as *the*, i.e., the only, location for RMSI.

Second, a POSITA, in view of *Jeon*’s teaching, would **not** “have understood a UE could monitor an active BWP for SI update paging, and upon receiving an SI update page, switch to the initial BWP for RMSI,” as Petitioner alleges. Paper 2 at 50. As discussed, *supra*, *Jeon* does not teach that a “paging control for system information update” will cause a switch in BWPs as required by the claims of the ’238 Patent. Petitioner further alleges that “[t]o the extent *Jeon* does not explicitly teach a UE switching BWPs specifically in response to a SI update paging message, these details are taught by *Liao*.” *Id.* *Jeon* does not “explicitly teach a UE switching BWPs specifically in response to a SI update paging message” because *Jeon* teaches the opposite – that the RMSI data accompanying the “paging control for system information update” is complete, eliminating any reason for the UE to switch BWPs.

Third, although *Liao* teaches that a UE may switch BWPs based on a variety of signaling techniques, *see* Paper 2 at 51, *Liao* does not “explain[] that the “BWP switch signaling” can be a “broadcast and/or multi-cast message includ[ing] ... paging control for system information update,” as Petitioner contends. *Liao* does

not teach that a “UE switches BWPs in response to a broadcasted SI update paging message.” *Id.* As discussed, *supra*, *Liao*’s system will only switch BWPs when the present BWP does not include CSS.

For the foregoing reasons, the Petitioner has not demonstrated that there is a reasonable likelihood that it would prevail with respect to at least one of the claims challenged based on the *Jeon and Liao* references.

III. CONCLUSION

The Board should deny institution because Petitioner fails to establish a reasonable likelihood of unpatentability for the independent claims Ground 1, let alone present compelling evidence of unpatentability. The Petition fails to establish that either *Jeon* or *Liao* teach “switching from the currently active BWP to an initial active BWP for an SI update” “in response to system information change notification,” as required by all challenged claims of the ’238 Patent.

IV. MANDATORY NOTICES – Related Matters – 37 C.F.R. §42.8(b)(2)

The ’238 Patent is the subject of a civil action captioned: *Togail Technologies Ltd. v. Apple Inc.*, Case No. 3:23-cv-00610-JO-DEB (S.D. Cal.) which was transferred from Case No. 6:22-cv-00326-ADA (W.D. Tex.).

Respectfully submitted,

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Date: July 13, 2023

CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

The undersigned hereby certifies that the word count in this Patent Owner Preliminary Response is 1,907 words, as counted by the word-processing program Microsoft Word that was used to generate this Patent Owner Preliminary Response, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, claim listing, and this certificate of word count. This Patent Owner Preliminary Response is in compliance with the 14,000-word limit set forth in 37 C.F.R. § 42.24(b)(1).

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

The undersigned hereby certifies that the above document was served on July 13, 2023, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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