

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

TOGAIL TECHNOLOGIES LTD.,
Patent Owner.

IPR2023-00720
U.S. Patent No. 10,791,502

PETITIONER'S REQUEST FOR REHEARING

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I. INTRODUCTION

Petitioner respectfully requests rehearing pursuant to 37 C.F.R. § 42.71(d) for claims 1-20 of U.S. Patent 10,791,502 (the “’502 Patent”). In its Decision on Institution (“DI” or “Decision”), the Board:

1. misapprehended the teachings of Oppo cited in the Petition by finding a second SI request can be sent whether or not the timer expired; and
2. misapprehended the purpose of the Deenoo citations in the Petition regarding the UE transmitting an SI request in connected mode using dedicated resources.

Respectfully, each of these misapprehensions in the Decision independently require rehearing. Upon rehearing, the Board should institute trial.

II. SPECIFIC BASIS FOR REQUESTED RELIEF

A. The Decision misapprehended the Oppo ground by finding a second SI request can be sent whether or not the timer expired.

The Board found in its Institution Decision that “Petitioner has not shown a reasonable likelihood that claim 1 would have been obvious over Oppo” based upon claim element [1.4]: “*transmitting a second SI request message to the BS only when the at least one requested SIB is not received and the prohibit timer expires.*” DI, 13-15. As part of its analysis, the Board concluded that “Petitioner’s citations to Oppo show that the SI can be sent regardless of whether or not the timer has expired.” DI, 14. This conclusion misapprehends Oppo because (i) it is contrary to Oppo’s explicit teaching that a second SI request will *not* be sent

before the timer expires, and (ii) it is illogical in the context of Oppo's efficiency-oriented scheme. Pet., 25-27 (citing Ex.1007, 2; Ex.1003, ¶¶58-61).

First, as illustrated in Oppo's table reproduced in the Petition and below, a "second SI request" can **only** be sent if two conditions are met: (i) the timer is expired and (ii) the requested SI is "still needed." Pet., 25-27, 30-31 (quoting Ex.1007, 2; Ex.1003, ¶¶58-61, 69-70).

Second SI request transmitted to BS only if the SI is still needed and the SI prohibit timer is at expiry

Timer	Start	Stop	At expiry
Txxx	Transmission of SI request by RRC signalling or trigger MAC to perform Random Access for SI request	Reception of SI request acknowledgement; The requested SI has been available in latest SIB1	Trigger another SI request if the SI is still needed in the concern cell

Pet., 27 (Ex.1007, 2 (annotated); Ex.1003, ¶60).

At no point in the lifecycle of the timer shown above does Oppo contemplate sending a second SI request prior to expiration. Indeed, aside from the right-most column of the table shown above, **Oppo includes no other disclosure of sending a second SI request.** Cf. Ex.1007, 2. This makes sense because the very purpose of the timer is to prevent "unnecessary" and premature SI requests. *Id.* As Oppo explains, the UE only makes another SI request (i) "when the timer expires" and (ii) "UE still need the SI." Ex.1007, 2 ("the introduced SI prohibit timer ... the timer is started when SI request is initiated... When Timer expires, SI request can

be triggered UE still need the SI on the concern cell”). The Board’s opposite conclusion misapprehends this disclosure in Oppo.

In the Decision, the Board points to Patent Owner’s unsupported assertion that “[b]ecause Oppo discloses that the prohibit timer stops upon the UE’s receipt of the SI request acknowledgment from the network, Oppo will allow the sending of a second SI request even though it has not determined whether the UE has received the SI of the first request.” DI, 14 (quoting POPR, 14) (emphasis in original). This theory is contradicted by Oppo’s plain disclosure that its UE will “**not**” send a second SI request when the timer is stopped because the requested SI is already “available.” Ex.1007, 2; Pet., 25-27.

Specifically, Oppo indicates in its table that the timer will “Stop” if the UE receives a notification that the requested SI is “available” or an acknowledgment of the first SI request. Ex.1007, 2; Pet., 27.

Second SI request transmitted to BS only if the SI is still needed and the SI prohibit timer is at expiry

Timer	Start	Stop	At expiry
Txxx	Transmission of SI request by RRC signalling or trigger MAC to perform Random Access for SI request	Reception of SI request acknowledgement; The requested SI has been available in latest SIB1	Trigger another SI request if the SI is still needed in the concern cell

Pet., 27 (Ex.1007, 2 (annotated); Ex.1003, ¶60).

In other words, the timer is stopped because the UE knows that the SI request was

successful—*i.e.*, the requested SI is available or will soon be available. *Id.* Oppo is explicit that when the requested SI is “available,” it will “**not send another**” SI request. Ex.1007, 2 (emphasis added) (“after UE send one SI request to gNB, it should **not send another one** before check the latest SIB1 to know if the request[ed] SIB has been available, otherwise, there can be frequent SI request which is unnecessary”). Accordingly, when the timer is stopped, Oppo will “not send another” SI request because the requested SI is available, as explained the Petition. *Id.*; Pet., 25-27. Oppo will only send another SI request if: (i) the timer is expired and (ii) the requested SI is “still needed.” Pet., 25-27, 30-31 (quoting Ex.1007, 2; Ex.1003, ¶¶58-61, 69-70). Accordingly, the Decision misapprehended Oppo when it found that “a second SI request could occur without the prohibit timer having expired.” DI, 15.

Second, the Board's conclusion that Oppo may send a second SI request even if the first is successful overlooks the very purpose of Oppo—preventing “frequent SI request which is unnecessary.” Ex.1007, 2; Pet. 25. It would have been obvious to a POSITA that it is unnecessary and illogical for the UE to send “*a second SI request*” if the UE knows that the “*first SI request*” was successful. Pet., 25-27 (citing Ex.1007, 2; Ex.1003, ¶¶58-61). That is, it would have been obvious that if the UE receives from the base station (i) a notification that the requested SI is available or (ii) an acknowledgment of the “*first SI request*,” then the UE knows

that the base station will transmit the requested SI. *Id.* Either one obviates the need for a “*second SI request*” (which, again, is the reason the timer stops). *Id.* Indeed, under either of these scenarios, it would have been obvious that the UE would receive the requested SI from the base station, eliminating the need to send another SI request. *Id.* Reading Oppo otherwise would be inconsistent with Oppo’s stated goal of reducing unnecessary SI requests. Ex.1007, 2.

The Decision also noted that “Petitioner has not sufficiently shown that the requested SI having been ‘acknowledged’ is the same as the requested SI having been ‘received.’” DI, 14-15. But it would have been obvious that the *purpose* of requesting SI is to receive it. To treat acknowledgment as unrelated to receipt overlooks a POSITA’s understanding, as explained in the Petition. Pet., 30-31 (“[I]t would have been obvious to a POSITA that—following the SI request acknowledgment received from the BS, as taught by Oppo—the UE would actually receive the requested SIB. Ex.1003, ¶69. Indeed, this limitation was obvious to POSITAs, because the purpose of requesting SIBs is to receive them; and for a connected mode UE, it was obvious to send the SIBs reliably and efficiently via dedicated signaling[.]”).

In light of these misapprehensions, Petitioner respectfully requests the Board grant rehearing and institute the Petition.

B. The Board misapprehended and overlooked aspects of the Deenoo ground.

The Board also found in its Institution Decision that “Petitioner has not shown a reasonable likelihood that claim 1 would have been obvious over Deenoo” based on claim element [1.1]: “*transmitting a first SI request message to a base station (BS) after determining that the UE is in a connected state.*” DI, 17-19. The Board analyzed the portion of the Petition mapping Deenoo to this claim element and concluded that “Petitioner’s citations to Deenoo do not show that the SI is sent ‘after determining that the UE is in a connected state.’” DI, 18. As part of its analysis, the Board noted that “[w]e are not persuaded that being in a ‘connected state’ necessarily means a connected state was previously determined.” *Id.* This statement indicates that the Board misapprehended the purpose of the Petitioner’s citations to Deenoo regarding transmitting an SI request in connected mode. The Petition did not rely on the cited portions of Deenoo to show that being in a “connected state” means a connected state was previously determined. Rather, the cited portions of Deenoo *teach* a POSITA (or at least render obvious) that Deenoo’s UE makes a determination that the UE is in a connected state, rendering this element obvious. Pet., 45-47. Portions of Deenoo cited in the Petition and overlooked by the Board confirm this.

1. The Board misapprehended the purpose of the Petition's cites to Deenoo and overlooked how Deenoo determines uplink resources for SI requests.

The Petition first establishes that Deenoo's UE triggers an SI request after it transitions to one of three states, including the "connected" state. Pet., 46 (quoting Ex.1009, 39:38-39). Specifically, the Petition explains that Deenoo's UE "may trigger a system information request procedure in any state (e.g., idle, inactive, and/or **connected**)." *Id.* The Petition next explains that when Deenoo's UE transmits an SI request in a connected state, it may do so "using a dedicated resource." Pet., 46 (quoting Ex.1009, 39:39-43). In particular, the Petition states that that "the UE 'may perform a system information request by for example **using a dedicated resource**,' which are only available to connected-mode UEs.'" Pet., 46 (citing Ex.1009, 39:39-43; Ex.1003, ¶104); *see also* Ex.1009, 43:19-23 ("... the WTRU may transition to the connected state and acquire the system information using dedicated resources"). The above portions of Deenoo and supporting evidence cited in the Petition render obvious to a POSITA that Deenoo's UE determines that the UE is in a connected state before transmitting the SI request on the dedicated resource in the connected state. Pet. 46-47 ("Deenoo's UE that transmits on-demand SI messages to a base station in a connected state renders obvious '*transmitting a first SI request message to a base station (BS) after determining that the UE is in a connected state.*'").

The Board misapprehended the purpose of the above citations because it overlooked the previous explanation in the Petition regarding how Deenoo determines uplink resources for SI requests. *See, e.g.*, Pet. 35. As explained in the summary of Deenoo, Deenoo's UE is "configured to determine one or more uplink (UL) resources with which to communicate information for the WTRU reception of the one or more on-demand SI messages." Pet. 35 (quoting Ex.1009, 2:17, 2:29-32). This determination of uplink resources is important because, as noted above, Deenoo's UE uses a "dedicated resource" to send SI requests, and a dedicated resource is ***only available in a connected state***. Pet., 46 (citing Ex.1009, 39:39-43; Ex.1003, ¶104). In other words, it would have been obvious that when the UE determines to use a dedicated resource to send the SI request, that determination includes a determination that the UE is in a connected state—because the dedicated resource is only available in a connected state. Pet. 35, 46 (citing Ex.1009, 2:17, 2:29-32, 39:39-43; Ex.1003, ¶104). Accordingly, the Deenoo citations in the Petition's mapping of element [1.1] render obvious that Deenoo's UE first determines that it is in a connected state before transmitting an SI request on a dedicated resource.

Petitioner respectfully submits that it is an oversight to evaluate the Petition's mapping of element [1.1] without considering how Deenoo determines uplink resources for SI requests, as explained in the summary of Deenoo. Pet. 35.

The purpose of such summary is to establish the background knowledge possessed by a POSITA, against which obviousness should be assessed. *See, e.g., Koninklijke Philips NV v. Google LLC*, 948 F.3d 1330, 1337 (Fed. Cir. 2020) (whether the “prior art would have rendered the invention obvious to a skilled artisan **necessarily depends on such artisan’s knowledge**”); *Dow Jones & Co. v. Abblaise Ltd.*, 606 F.3d 1338, 1349 (Fed. Cir. 2010) (an obviousness “**analysis requires an assessment of the ‘... background knowledge** possessed by a person having ordinary skill in the art’” (quoting *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 401 (2007))).

For at least this reason, the Board should grant rehearing and institute.

III. CONCLUSION

Petitioner respectfully requests that the Board grant rehearing and institute for the above reasons.

Respectfully submitted,

Date: October 16, 2023

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CERTIFICATE OF SERVICE

The undersigned certifies, under 37 C.F.R. § 42.6, that service was made on the Patent Owner as detailed below.

Date of service October 16, 2023

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