

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

TOGAIL TECHNOLOGIES, LTD.,
Patent Owner.

IPR2023-00720
Patent 10,791,502 B2

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

ANDERSON, *Administrative Patent Judge*.

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

I. INTRODUCTION

Apple Inc., (Petitioner) filed a Petition requesting *inter partes* review of claims 1–20 of U.S. Patent No. 10,791,502 B2 (Ex. 1001, the ’502 patent). Paper 2, 18–19 (Pet.). Togail Technologies, Ltd. (Patent Owner) filed a Preliminary Response. Paper 6 (Prelim. Resp.). Per our authorization, Petitioner filed a reply to the Preliminary Response and Patent Owner filed a Preliminary Sur-Reply. Paper 7 (Pet. Prelim. Reply); Paper 8 (PO Prelim. Sur-Reply).

We have authority under 35 U.S.C. § 314. Upon considering the record, for reasons discussed below, we do not institute *inter partes* review.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner states it is the real party-in-interest. Pet. 83. Patent Owner asserts it is the real party-in-interest. Paper 3, 2 (Patent Owner’s Mandatory Notices).

B. *Related Matters*

Both parties list two pending lawsuits filed by Patent Owner asserting the ’502 patent in the Western and Eastern Districts of Texas, respectively, captioned *Togail Technologies Ltd. v. Apple Inc.*, W.D. Tex. Case No. 6:22-cv-00326 and *Togail Technologies Ltd. v. TCL Technology Group Corp.*, E.D. Tex. Case No. 2:23-cv-00039. Pet. 83; Paper 3, 2. Petitioner also lists other lawsuits where the ’502 patent “is or was involved,” including: *Togail Technologies Ltd. v. Samsung Electronics Co., Ltd. et al.*, W.D. Tex. Case No. 6-22-cv-00328; *Togail Technologies Ltd. v. Motorola Mobility LLC*, N.D. Ill., Case No. 1-22-cv-02176; and *Togail Technologies Ltd. v. Google LLC*, W.D. Tex. Case No. 6-22-cv-00327. Pet. 83. Both parties list another *inter partes* review proceeding, *Unified Patents, LLC v. Togail Technologies*

Ltd., IPR2023-00338 ('338 IPR), which challenges claims of the '502 patent. Pet. 83; Paper 3, 2. We instituted trial in the '338 IPR. '338 IPR, Paper 7.

C. The '502 Patent

The application for the '502 patent was filed April 1, 2019, and claims the benefit of and priority to provisional U.S. Patent Application Ser. No. 62/651,312, filed on April 2, 2018. Ex. 1001 at codes (22), (60), 1:7–9.

1. Background Technology

“The concept of on-demand System Information (SI) request has been introduced in the next generation wireless network (e.g., a 5th generation (5G) new radio (NR) network).” Ex. 1001, 1:23–27. A one-bit indicator in the System Information Block Type 1 (SIB1) shows whether a SI message is currently broadcast or not. *Id.* at 1:27–31.

The UE (user equipment) may perform an on-demand SI request procedure to broadcast the required SIB(s) and/or SI message(s). Ex. 1001, 1:32–33, 1:44–45. The “UE may perform an on-demand SI request procedure to ask the network (also referred to as NW) to broadcast the required SIB (s) and/or SI message(s).” *Id.* at 1:31–33.

The problem identified in the '502 patent is that “the next generation wireless network lacks an efficient mechanism for error handling associated with the on-demand SI request procedure.” Ex. 1001, 1:33–36.

2. The “error handling procedure” of the '502 patent

The '502 patent describes and claims an “on-demand system information request procedure” for next generation wireless networks. Ex. 1001, 1:40–43. The UE performs an “on-demand SI request procedure in a first cell.” *Id.* at 1:45–48. If the on-demand request is unsuccessful, the SI request failure information is stored. *Id.* at 1:47–50. The UE

communicates with the network through a radio access network (RAN) established by one or more base stations. *Id.* at 3:43–48.

The on-demand SI request procedure may be implemented differently for the UEs that are in different Radio Resource Control (RRC) states.

Ex. 1001, 5:8–10. For a “UE that is in a connected state, the NW may deliver on-demand SI messages or SIB(s) via dedicated signaling to the UE after receiving an SI request from the UE.” *Id.* 1t 5:11–14. For a “UE that is in an idle state or an inactive state, the NW may deliver on-demand SI messages or SIB(s) via broadcasting.” *Id.* at 5:14–17.

Figure 1 is reproduced below.

FIG. 1

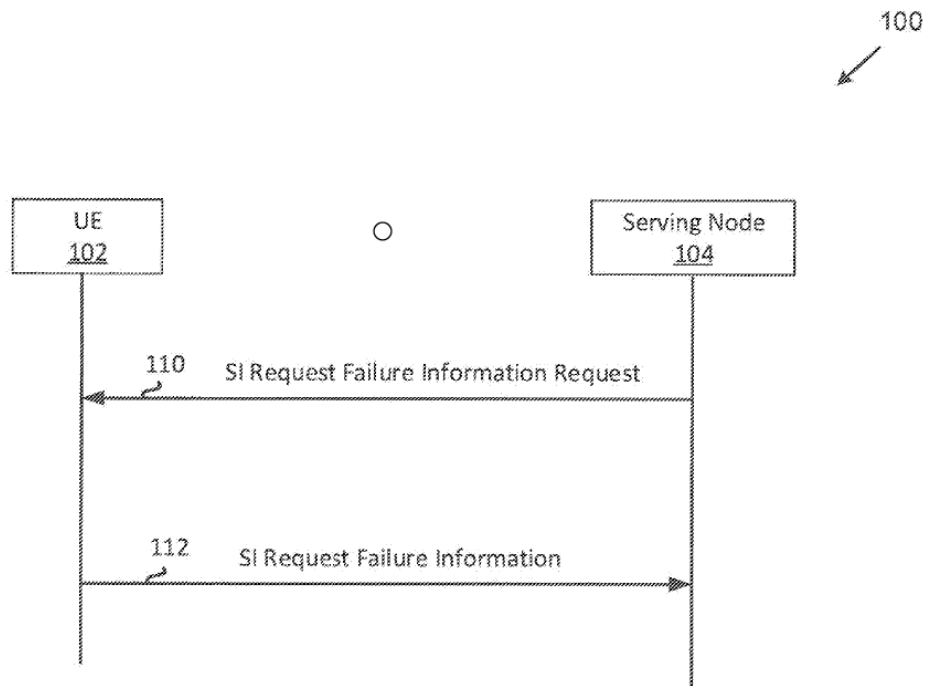


Figure 1 is a sequence diagram illustrating the transmission of SI request failure information.

Ex. 1001, 2:4–5. Figure 1 shows a “serving node 104 (e.g., a gNB) may send a request to UE 102 to provide the information related to SI request

failure.” *Id.* at 9:24–29. The UE 102 may inform serving node 104 that information related to the SI request failure is stored. *Id.* at 9:29–32. More specifically,

UE 102 may set one bit in an RRC message (e.g., in the RRC Connection Setup Complete message or in the RRC Connection Resume message) to true (or ‘1’) to inform serving node 104 that UE 102 supports storage of the SI request failure information and it has the SI request failure information stored. Serving node 104 may determine to request the SI request failure information after receiving such information from UE 102. In action 112, UE 102 may send a message including the SI request failure information to serving node 104.

Id. at 9:32–41.

The SI request failure information¹ may be “the message type of the failed SI request procedure (e.g., MSG1-based or MSG3-based), the timestamp (e.g., when to perform the SI request procedure).” Ex. 1001, 9:6–8. Using “the SI request failure information, serving node 104 may know how to adjust the SI request mechanism between the MSG1-based approach and the MSG3-based approach.” Ex. 1001, 9:43–46. If the failure is in MSG3, the MSG 1-based SI request may be adopted to “avoid an RA [Random Access] collision.” *Id.* at 9:46–51, 5:22–23 (RA). “Alternatively, serving node 104 may continue to adopt the MSG3-based SI request procedure when UE 102 reports the failure of the MSG3-based SI request procedure.” *Id.* at 9:51–53.

¹ SI request failure information may also include: 1) “the on-demand SIB(s) requested by the UE;” 2) “the on-demand SI message(s) requested by the UE;” 3) “the cell ID (of the cell in which the UE has performed the SI procedure but has failed;” or 4) “SSB Index(s) (Synchronization Signal Block Index(s)) to perform the SI request procedure.” Ex. 1001, 8:67–9:6.

D. Illustrative Claim

Claims 1–20 of the ’502 patent are challenged. Pet. 19. Claims 1 and 11 are independent and claim a method and a “user equipment” respectively. Claims 2–10 depend directly or indirectly from claim 1. Claims 12–20 depend directly or indirectly from claim 11. Claim 1 is illustrative and is reproduced below.

[1.0]² A method of an on-demand system information (SI) request procedure performed by a user equipment (UE), the method comprising:

[1.1] transmitting a first SI request message to a base station (BS) after determining that the UE is in a connected state,

[1.2] the first SI request message including at least one requested system information block (SIB);

[1.3] activating a prohibit timer; and

[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.

Ex. 1001, 17:24–34.

E. Evidence of Record

This proceeding relies on the following prior art reference and expert testimony:

² Petitioner uses the claim number followed by a number for the limitations. *See, e.g.,* Pet. 21–22 ([1.0] and [1.1]). We adopt this format for this Decision.

OPPO,³ *Discussion on SI Request Prohibit Timer*, 3GPP TSG-RAN WG2#101, R2-1801795, Athens, Greece (Feb. 26–Mar. 2, 2018) (Ex. 1007, “Oppo”);

VIVO, *Remaining issues on Demand SI*, 3GPP TSG-RAN WG2#101, R2-1802094, Athens, Greece (Feb. 26–Mar. 2, 2018) (Ex. 1008, “Vivo”);

Deenoo, U.S. Patent No. 11,357,059, issued January 7, 2022 (Ex. 1009, “Deenoo”);

Futaki, U.S. Patent No. 11,252,643, issued February 15, 2022, (Ex. 1011, “Futaki”);

ASUSTek, *Discussion on On-demand system information request in NR*, 3GPP TSG-RAN WG2 Meeting #Ad-hoc1801, Vancouver, Canada (Jan. 22–26, 2018) (Ex. 1012, “Asustek”);

Huawei, *On demand SI acquisition and failure handling*, 3GPP TSG-RAN WG2#99 Meeting, R2-1708072, Berlin, Germany (Aug. 21–25, 2017) (Ex. 1013, “Huawei”);

Petitioner relies on the Declaration of Dr. Zhi Ding (Ex. 1003, “Ding Declaration”) and the Declaration of Craig Bishop (Ex. 1005, “Bishop Declaration”).

F. Asserted Grounds

Petitioner asserts the following grounds. Pet. 19.

³ Petitioner alleges, through the Bishop Declaration that Oppo, Vivo, Austek, and Huawei are all prior art to the ’502 patent. Pet. 19–21; *see also* Ex. 1005 ¶¶ 53 (Oppo), 61 (Vivo), 69 (Asustek), 77 (Huawei). Patent Owner does not dispute Petitioner’s allegations in the Preliminary Response. Because we decline to institute trial, we make no finding on whether the references are prior art.

Claim(s) Challenged	35 U.S.C. ⁴ §	Reference(s)/Basis
1	103	Oppo
5–6	103	Oppo, Vivo
11, 15, 16	103	Oppo, Vivo, Deenoo
1–2, 5–6, 11–12, 15, 16	103	Deenoo
3, 13	103	Deenoo, Futaki
4, 7, 14, 17	103	Deenoo, Asustek
8–10, 18–20	103	Deenoo, Huawei

III. 35 U.S.C. § 314(a)

Patent Owner argues we should exercise our discretion to deny institution under Section 314(a) based on the filing of serial petitions challenging the same patent is a factual determination. Prelim. Resp. 1 (citing *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, Case IPR2016-01357, Paper 19 (Sept. 6, 2017) (Precedential as to § II.B.4.i) (*General Plastic*)). Patent Owner argues the ’338 IPR challenges the ’502 patent and challenges substantially all of the same claims based on “closely-related art.” *Id.*

We find that Petitioner has not shown a reasonable likelihood that any claim of the ’502 patent is unpatentable. *See* Section IV below.

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-129, 125 Stat. 284, 285–288 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the challenged patent was filed after March 16, 2013, we refer to the current version of these statutes.

Accordingly, we need not reach serial petition issue applying *General Plastic*.

IV. PATENTABILITY ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner proposes that a person of ordinary skill in the art in the field of the '502 patent, as of April 2, 2018, would have been someone knowledgeable and familiar with the cellular telecommunications arts that are pertinent to the '502 patent. That person 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. 16 (citing Ex. 1003 ¶¶ 20–22).

Patent Owner does not provide 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 as it is consistent with the '502 patent and the prior art before us. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. Claim Construction

In an *inter partes* review, a claim shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100 (2019); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

Petitioner asserts no term requires construction because “only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy.” Pet. 16–17 (citing *inter alia* *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017)). “Petitioner submits that for the purposes of this proceeding, the terms of the challenged claims should be given their plain and ordinary meaning, and no terms require specific construction in this proceeding.” *Id.* at 17 (citing Ex.1003 ¶ 37).

Patent Owner does not propose a construction for any claim term. *See* generally Prelim. Resp. Patent Owner argues, however, that Petitioner has failed to show that Oppo discloses Limitations [1.3] and [1.4], respectively reciting “activating a prohibit timer” and “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.” Prelim. Resp. 14–15. Patent Owner also argues Petitioner has failed to show that Deenoo fails to disclose or teaches Limitation [1.1] “transmitting a first SI request message to a base station (BS) after determining that the UE is in a connected state.” *Id.* at 15–16. As we discuss below, our consideration of these claim terms is based on the plain and ordinary meaning of the claim terms and phrases that are the subject of these arguments. *See* Section IV.D and F below.

C. Legal Standard for Obviousness

A patent claim is invalid as obvious 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.” 35 U.S.C. § 103(a).

The ultimate determination of obviousness is a question of law, but that determination is based on underlying factual findings. . . . The underlying factual findings include (1) “the scope and content of the prior art,” (2) “differences between the prior art and the claims at issue,” (3) “the level of ordinary skill in the pertinent art,” and (4) the presence of secondary considerations of nonobviousness such “as commercial success, long felt but unsolved needs, failure of others,” and unexpected results.

In re Nuvasive, Inc., 842 F.3d 1376, 1381 (Fed. Cir. 2016) (citing *inter alia* *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966)).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Furthermore, in assessing the prior art, the Board must consider whether a person of ordinary skill would have been motivated to combine the prior art to achieve the claimed invention. *Nuvasive*, 842 F.3d at 1381.

As the Federal Circuit found, in quoting from the Supreme Court’s decision in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–419 (2007),

because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known,” “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

Personal Web Techs., LLC v. Apple, Inc., 848 F.3d 987, 991–92 (Fed. Cir. 2017).

D. Claim 1 as Obvious over Oppo

Petitioner alleges claim 1 would have been obvious over Oppo. Pet. 21–27. Petitioner also relies on the Ding Declaration. Ex. 1003 ¶¶ 38–61.

1. Oppo (Ex. 1007)

Oppo discusses a “prohibit timer for On-Demand SI request.” Ex. 1007, 002. Oppo describes how a “UE can try to send SI request” and “after certain time of retrying, SI can still not be acquired, then UE can decide whether the cell is barred depends on whether this SI is essential or not.” *Id.* at 1. Oppo discloses “Transmission of SI request by RRC signaling.” *Id.* at 2.

A table from Oppo is reproduced below.

Proposal 3 The SI prohibit timer is configured by RRC.
Proposal 4 The SI prohibit timer is started when SI request is initiated and stopped when the request SI has been available or the SI request has been acknowledged.
Proposal 5 When the timer expires, SI request can be triggered UE still need the SI on the concern cell.

The following table summarize proposal 4 and proposal 5.

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 SIB ₁	Trigger another SI request if the SI is still needed in the concern cell

Table summarizing how a SI Prohibit Timer Works.

Ex. 1007, 2. The RRC “configure[s] the SI prohibit timer.” *Id.* The “timer is started when SI request is initiated.” *Id.* Oppo discloses that “[f]or RRC-based SI request for RRC_Connected UEs, after UE send one SI request to gNB, it should not send another one before check the latest SIB1 to know if the request SIB has been available, otherwise, there can be frequent SI request which is unnecessary.” *Id.*

2. Analysis

Limitations [1.3] and [1.4] recite
[1.3] activating a prohibit timer; and

[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.

For Limitation [1.3], Petitioner argues that Oppo “teaches that for an ‘on-demand SI request,’ the ‘UE refrains from trying until a certain time. **The prohibit timer** [] might be specified or be configurable etc.” Pet. 24 (citing Ex.1007, 1; Ex.1003, ¶¶ 54–55).

For Limitation [1.4] Petitioner first argues “Oppo discloses ‘*transmitting a second SI request message to the BS only when the at least one requested SIB is not received.*’” Pet. 25 (citing Ex.1007, 2). Petitioner cites to Oppo as teaching “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.” *Id.* (quoting Ex.1007, 2). Second, Petitioner argues “Oppo renders obvious ‘*transmitting a second SI request message to the BS only when . . . the prohibit timer expires.*’” Pet. 26 (citing Ex.1007, 2). Furthermore, Petitioner contends that “‘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.’” *Id.* (quoting Ex.1007, 2).

Patent Owner disputes that Petitioner has sufficiently shown that Oppo teaches Limitations [1.3] and [1.4]. Prelim. Resp. 14. Patent Owner argues the claim language requires “that the second request may be transmitted ‘***only when*** the at least one requested SIB is not received **and** the prohibit timer expires.’” *Id.* at 14–15 (citing Ex. 1001, 17:31–34 (’502

patent Limitations [1.3] and [1.4]). More specifically, Patent Owner's argument regarding Oppo's failure to disclose the limitations is that

Because *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. Ex. 1005, at 2 (Timer stops on "[r]eception of SI request acknowledgement").

Id. at 14.

As to Limitation [1.4], Petitioner argues "Oppo renders obvious '*transmitting a second SI request message to the BS only when . . . the prohibit timer expires.*'" Pet. 26. This argument that the limitation is obvious is conclusory. The Ding Declaration is repetitive of the Petition without any additional support cited for the conclusions. *See* Ex. 1003 ¶ 59 (citing Ex. 1007, 2). We give the Ding Declaration little weight where it contains an exact restatement of the petition's unsupported, conclusory assertions without any additional supporting evidence or reasoning. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15–17 (PTAB August 24, 2022) (precedential).

We agree with Patent Owner. Petitioner's citations to Oppo show that the SI can be sent regardless of whether or not the timer has expired. For example, the table above shows that a second SI request transmission event may occur without the prohibit timer having expired. Specifically, there is a check as to whether the SI request is "available" or "acknowledged," and if so, the prohibit timer is stopped, and thus would not run to expiration. *See* Ex. 1007, table (Proposal 4). Petitioner has not sufficiently shown that the requested SI having been "acknowledged" is the same as the requested SI

having been “received.” Thus, a second SI request could occur without the prohibit timer having expired.

Separate and apart from expiration of the prohibit timer, Oppo teaches “transmitting a second SI request message to the BS only when the at least one requested SIB is not received.” Ex.1007, 2. However, the claim language requires “that the second request may be transmitted ‘only when the at least one requested SIB is not received and the prohibit timer expires.” Both are required for a second request.

We determine that Petitioner has not shown a reasonable likelihood that claim 1 would have been obvious over Oppo.

E. Remaining Grounds Relying on Oppo

Petitioner numbered Grounds 1–3 all rely on Oppo to teach Limitations [1.3] and [1.4] or the equivalent in claim 11, Limitation [11.3]. Ground 1 is discussed above. *See* Section IV.D above.

In Ground 2, Petitioner alleges claims 5 and 6 would have been obvious over Oppo and Vivo (Ex. 1008). Pet. 27–34. Ground 2’s challenge to claims 5 and 6, which both depend from claim 1, fails for the reasons discussed above in connection with claim 1.

In Ground 3, Petitioner alleges claims 11 and 15–16 would have been obvious over Oppo, Vivo, and Deenoo. Pet. 34–44. Ground 3 challenges independent claim 11, where Limitation [11.3] is identical to Limitations [1.3] and [1.4]. *Compare* Pet. 24–25 (Limitations [1.3] and [1.4]) *with* Pet. 43 (Limitation [11.3]).

Petitioner relies upon the teachings of Oppo as to Limitation [11.3], which we have found to be insufficient. *See* Pet. 43–44, 24–26 (Limitations [1.3] and [1.4]). Petitioner also relies on the teaching of Deenoo as to Limitation [11.2], where Deenoo is relied upon only as to its teachings on

instructions in memory executable by a processor and not on its timer operation. *Id.* at 42–43; *see also* Ex. 1009, 1:62–65, 39:44–47; Ex. 1003 ¶¶ 95–97.

For the reasons discussed above in connection with claims 1 and 11, we determine that Petitioner has not shown a reasonable likelihood that claims 5–6 would have been obvious over Oppo in combination with Vivo, or that claims 11, 15, and 16 would have been obvious over Oppo, Vivo and Deenoo.

F. Obviousness of Claims 1–2, 5–6, 11–12, 15, and 16 over Deenoo

Petitioner alleges claims 1–2, 5–6, 11–12, 15, and 16 would have been obvious over Deenoo. Pet. 44–54.

1. Deenoo (Ex. 1009)

Deenooo describes a “wireless transmit/receive unit (WTRU)” or UE that 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.” Ex.1009, 2:17, 2:29–32.

Deenooo further teaches an SI request method where a UE “may start a timer” when an “other-SI request message is transmitted” (*i.e.*, the UE may start a prohibit timer). Ex.1009, 41:5–7. The UE may use “timer A and/or a timer B (e.g., where timer A time > timer B time).” *Id.* at 41:5–7. Then, “[u]pon expiry of timer B, a WTRU may retransmit the other-SI request message and/or restart timer B.” *Id.* at 41:9–10. Further, a UE “may be configured with a predefined number of retransmissions to acquire the other-SI until expiry of timer A. Upon expiry of timer A, a [UE] may consider the cell [BS] to be barred.” *Id.* at 41:10–14.

Figure 1B of Deenoo is reproduced below.

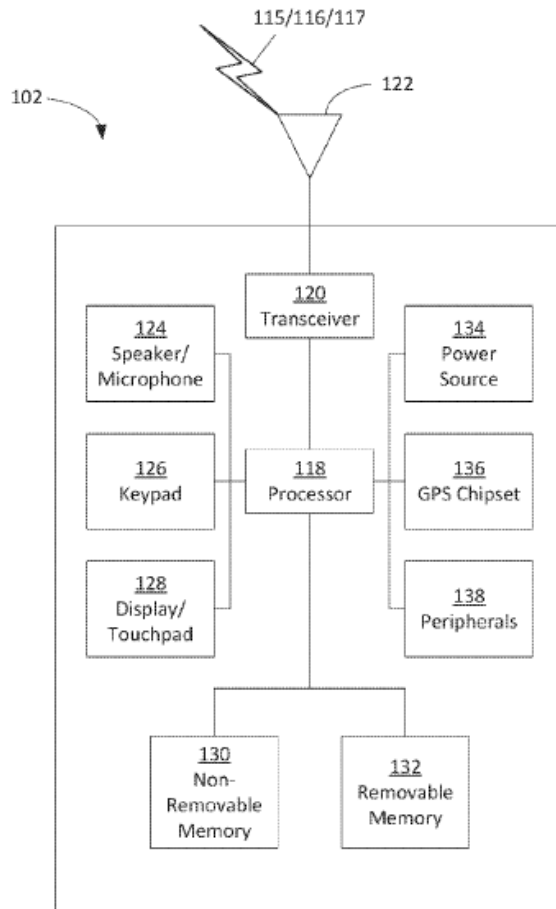


FIG. 1B

Figure 1B is a system diagram of a WTRU.

Ex. 1009, 3:35–37. As shown in Figure 1B, Deenoo’s hardware and software for the UE includes a processor 118 and memories 130/132. *Id.* at 6:29. Deenooo explains that the UE “may be configured with one or more rules for transmission of on-demand system information request that may be saved in memory as instructions executable by a processor.” *Id.* at 39:44–47.

2. Claim 1

Limitation [1.1] recites “transmitting a first SI request message to a base station (BS) after determining that the UE is in a connected state.”

Petitioner argues that Deenoo teaches that a UE “may trigger a **system information request procedure in any state (e.g., idle, inactive, and/or connected).**” Pet. 46 (citing Ex.1009, 39:38–39). Petitioner argues this is exemplified in Deenoo because the UE ““may perform a system information request by for example **using a dedicated resource,**’ which are only available to connected mode UEs.” *Id.* (quoting Ex.1009, 39:39-43, Fig. 1A (annotated at Pet. 46); citing Ex.1003 ¶¶ 104). Petitioner concludes by arguing that “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.*’” *Id.* at 46–47 (citing Ex.1003 ¶ 105).

Patent Owner argues the showing for Limitation [1.1] based on the insufficiency of Deenoo. Prelim. Resp. 15. Patent Owner argues

the Petition merely addresses that *Deenoo* discloses a UE that can send SI requests in the connected state, in addition to the idle and inactive states. This fails to address the complete requirement of the claims of “transmitting ... ***after determining that the UE is in a connected state.***”
Id.

We agree with Patent Owner. Petitioner’s citations to Deenoo do not show that the SI is sent “after determining that the UE is in a connected state.” The question is not whether or not Deenoo teaches that a UE is in a “connected state” when the SI is sent. Rather, it is that the transmission takes place “after *determining* the UE is in a connected state.” We are not persuaded that being in a “connected state” necessarily means a connected state was previously determined. Regardless, Petitioner does not argue that point. Rather, Petitioner simply concludes that the “after determining” step would have been obvious. *See* Pet. 46–47 (citing Ex.1003 ¶ 105). The

citation to the Ding Declaration does not change our analysis because it is a copy of what the Petition alleges and is conclusory. As such, absent factual support, the opinion of Dr. Ding is entitled to little weight. *See Xerox*, Paper 9 at 15–17.

We determine that Petitioner has not shown a reasonable likelihood that claim 1 would have been obvious over Deenoo.

3. Claims 2, 5–6, 11–12, and 15–16

Claims 2 and 5–6 depend from claim 1. The challenge to those claims fails for the same reasons as discussed above in connection with claim 1.

Claim 11 is an independent claim to “user equipment (UE).” Limitation [11.3] includes identical claim language to Limitation [1.1]. *Compare* Pet. 45 (Limitation [1.1]) *with* Pet. 53 (Limitation [11.3]). Petitioner relies on its showing for claim 1 to challenge claim 11 adding a citation to paragraph 127 of the Ding Dec. Pet. 53 (citing Ex. 1003 ¶ 12[7]). However, paragraph 127 has no additional evidence relative to Limitation [11.3]. The entirety of paragraph 127 states “Deenoo teaches this element; see Ground #4 [1.1]–[1.4] above.” Ex. 1003 ¶ 127.

Claims 12 and 15–16 depend from claim 11. The challenge to those claims fails for the same reasons as discussed above in connection with claims 1 and 11.

For the reasons discussed above in connection with claims 1 and 11, we determine that Petitioner has not shown a reasonable likelihood that claims 2, 5–6, 11–12, and 15–16 would have been obvious over Deenoo.

G. Remaining Grounds Relying on Deenoo

Petitioner numbered Grounds 4–7 all rely on Deenoo to teach Limitation [1.1] or the equivalent in claim 11, Limitation [11.3]. Ground 4

as it pertains to claims 1–2, 5–6, 11–12, and 15–16 is discussed above. *See* Section IV.F.2 and 3 above.

In Ground 5, Petitioner alleges claims 3 and 13 would have been obvious over Deenoo and Futaki (Ex. 1011). Pet. 54–58. Ground 5’s challenge to claims 3 and 13, which depend from claims 1 and 11 respectively, fails for the reasons discussed above in connection with claims 1 and 11.

In Ground 6, Petitioner alleges claims 4, 7, 14, and 17 would have been obvious over Deenoo and Asustek. Pet. 58–64. Ground 6’s challenge to claims 4, 7, 14, and 17, which depend from claims 1 (claims 4 and 7) and 11 (claims 14 and 17), fails for the reasons discussed above in connection with claims 1 and 11.

In Ground 7 Petitioner alleges claims 8–10 and 18–20 would have been obvious over Deenoo and Huawei. Pet. 64–74. Ground 7’s challenge to claims 8–10 and 18–20, which depend from claims 1 (claims 8–10) and 11 (claims 18–20), fails for the reasons discussed above in connection with claims 1 and 11.

For the reasons discussed above in connection with claims 1 and 11, we determine that Petitioner has not shown a reasonable likelihood that claims 3, 4, 7–10, 13–14, and 17–20 would have been obvious over Deenoo in combination with Vivo, Futaki, Asustek, or Huawei.

V. CONCLUSION

As explained above, we determine that Petitioner has not established a reasonable likelihood of prevailing in its challenge that at least one claim of the ’502 patent is unpatentable.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review is not instituted with respect to any grounds of unpatentability raised in the Petition.

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