

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRADLEPOINT, INC., DELL INC., HONEYWELL INTERNATIONAL,
INC., SIERRA WIRELESS, INC., TCL COMMUNICATION
TECHNOLOGY HOLDINGS LIMITED, TCT MOBILE
INTERNATIONAL LIMITED, TCT MOBILE, INC., TCT MOBILE (US)
INC., TCT MOBILE (US) HOLDINGS INC., and
THALES DIS AIS DEUTSCHLAND GMBH,
Petitioner

v.

3G LICENSING S.A.,
Patent Owner.

IPR2021-00640
Patent 8,600,383 B2

Before JAMESON LEE, MONICA S. ULLAGADDI, and
AARON W. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

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I. INTRODUCTION

A. *Background*

Cradlepoint, Inc., Dell Inc., Honeywell International, Inc., Sierra Wireless, Inc., TCL Communication Technology Holdings Limited, TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., TCT Mobile (US) Holdings Inc., and Thales DIS AIS Deutschland GmbH (collectively, “Petitioner”) filed a petition (Paper 8, “Pet.”) requesting *inter partes* review of claims of claims 1, 2, 5, 9–12, 14, 15, 17, 18, 21, 25–27, 29, 30, 32–34, 37, 41–44, 46, 47, 49–51, 54, 58–61, 63, 64, 66, 67, 70, 74–77, 79, 80, 82, 83, 86, and 90–93 of U.S. Patent No. 8,600,383 B2 (“the ’383 patent”), owned by 3G Licensing S.A. (“Patent Owner”). Patent Owner filed a preliminary response (Paper 12, “Prelim. Resp.”) and, on October 20, 2021, we instituted an *inter partes* review of all challenged claims. *See* Paper 17 (“Decision”), 21–22.

Patent Owner filed a Response (Paper 24, “PO Resp.”), Petitioner filed a Reply (Paper 33, “Reply”), and Patent Owner filed a Sur-Reply (Paper 34, “Sur-Reply”).

An oral hearing was held on July 20, 2022, and a transcript of the hearing is included in the record, as are the demonstratives. *See* Paper 41 (Transcript), Paper 39 (Petitioner Demonstratives), 40 (Patent Owner Demonstratives).

We issue this Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 and, for the reasons that follow, determine that Petitioner has shown by a preponderance of the evidence that claims 1, 2, 5, 9–12, 14, 15, 17, 18, 21, 25–27, 29, 30, 32–34, 37, 41–44, 46, 47, 49–51, 54, 58–61, 63, 64, 66, 67, 70, 74–77, 79, 80, 82, 83, 86, 90–93, 95, and 96 are unpatentable.

B. Related Matters

Petitioner states that “Patent Owner has asserted claims 1, 9, 17, 25, 49, 58, 66, 74, 82, and 90 of the ’383 patent” against “certain Petitioners and/or Real-Parties-In-Interest . . . in the following lawsuits”: 3:20-cv-01289 (N.D. Tx.), 1:20-cv-00649 (D. Del.), 1:20-cv-00651 (D. Del.), 1:20-cv-00652 (D. Del.), 1:20-cv-00653 (D. Del.), 1:20-cv-00654 (D. Del.), 1:20-cv-00655 (D. Del.), 1:20-cv-00656 (D. Del.), 1:20-cv-00658 (D. Del.), 1:20-cv-00659, 1:20-cv-22051 (S.D. Fla.), and 1:20-cv-22054 (S.D. Fl.). Pet. viii-ix. Patent Owner identifies the same twelve cases. *See* Paper 10, 2.

C. The ’383 Patent

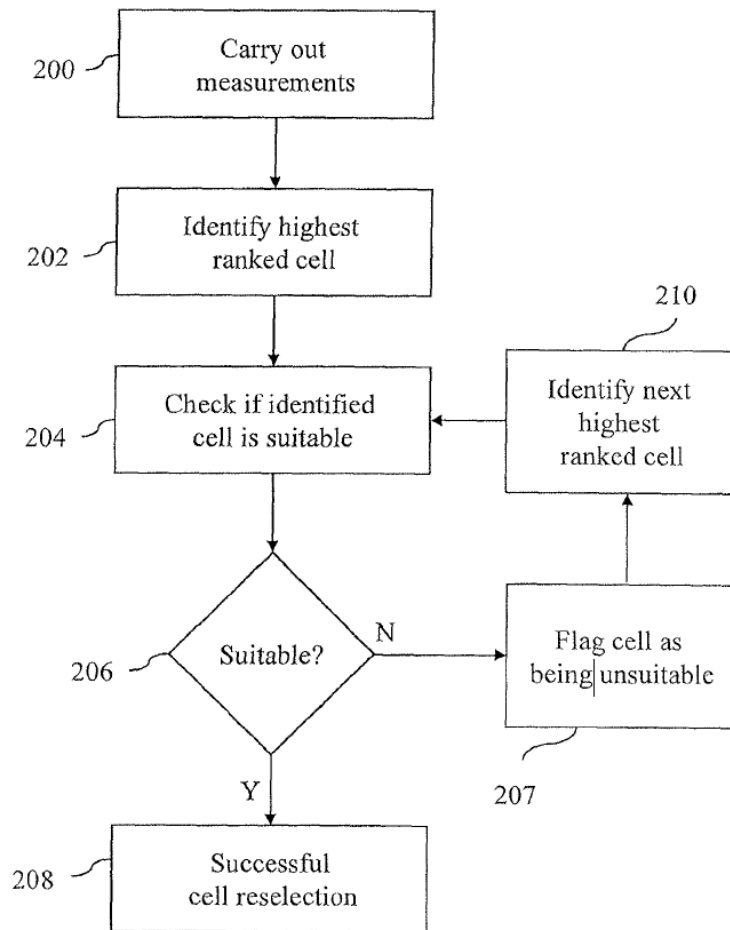
The ’383 Patent describes a “wireless mobile device, generally referred to as user equipment (UE), that complies with the 3GPP specifications for the UMTS and with GSM protocols.” Ex. 1001, 2:1–3. The patent explains that “[w]hen camped on a UMTS cell, the UE shall regularly search for a better cell according to the cell reselection criteria” and “[i]f a better cell is found, the UE should attempt to select that cell.” *Id.* at 2:22–25. The patent also explains that “[t]he 3GPP specifications allow a dual-mode UE to repeatedly attempt to camp on a cell using another RAT [Radio Access Technology] when the cell is known to be unavailable just because it happens to have the strongest available transmission signal.” *Id.* at 2:26–29.

The patent explains that if a dual-mode UE operating in UMTS idle mode finds that a GSM cell is the best cell, “problems can arise if the GSM cell is unsuitable or unavailable for selection, for example, if synchronization cannot be achieved or system information cannot be decoded” because “[e]ach unsuccessful attempt to reselect to the

unsuitable/unavailable GSM cell results in a short loss of service, and the UE will be unresponsive to attempts at incoming communication.” *Id.* at 2:30–38. In addition, “battery power in the UE can . . . be wasted by repeated attempts of the UE to change its operational mode between RATs every few seconds.” *Id.* at 41–43. The patent describes addressing these problems with a “method [that] comprises, at the user equipment device, when in UMTS mode, flagging in a neighboring cell list stored on the user equipment device information for a cell of a second RAT which is known to be unsuitable for selection.” *Id.* at 3:27–31.

More specifically, the patent describes how “[t]he GSM neighboring cell list, as transmitted by the [UMTS] Network Operator, does not take into account the status of the GSM cells; i.e. a cell may be temporarily barred but will still be listed in the GSM neighboring cell list.” *Id.* at 4:59–62. In the method described in the patent, “when the UE has determined that a GSM cell is barred, the GSM cell is removed by the UE from the GSM neighboring cell list stored locally at the UE until expiry of a time interval, T_{barred} ” and “[d]uring this time period, T_{barred} , the ‘barred’ cell is not to be considered as a candidate for reselection by the UE.” *Id.* at 4:63–5:2.

Figure 2 of the patent, reproduced below, illustrates a process in which a UE takes measurements and compiles a “ranking list of the various neighboring GSM and UMTS cells.” Ex. 1001, 5:48–49.



“FIG. 2 is a flow diagram illustrating a first embodiment of a process for cell selection.” Ex. 1001, 2:65–66.

The patent explains that “[a]t intervals the UE device carries out measurements,” shown as step 200. Ex. 1001, 5:16–18. The UE then “uses these measurement results to identify the highest ranked cell,” as shown at step 202. *Id.* at 5:52–53.

“The UE then checks whether the identified cell at the identified frequency is suitable” and “[i]f the identified cell at the identified frequency is suitable, step 206, successful cell reselection has occurred, step 208, and the UE continues operation.” *Id.* at 5:54–58.

However, if the identified cell is not suitable, “[f]or example, if the system information from a cell which informs the UE how to connect to the cell has an error in it, then the cell is deemed to be unsuitable.” *Id.* at 5:59–62. “[T]he UE then flags the identified cell as unsuitable, step 207, for instance using an identifier, or removes the unsuitable cell from the neighboring cell list.” *Id.* at 5:63–66.

“The UE then periodically repeats the search for a suitable cell omitting from the search any cells which are flagged as unsuitable,” such that “if a GSM cell is not suitable or is barred, the UE does not repeatedly attempt to camp on [that] cell.” *Id.* at 6:14–18.

We note that the term “barred” is used in two different ways in the record. First, the prior art references explain that a network can classify a cell as “barred,” which means that a UE is prohibited from using it. *See* Ex. 1006, 7 (“Barred Cell: A cell a UE is not allowed to camp on”); 12 (“barred cell: A cell is barred if it is so indicated in the system information”). Second, the ’383 patent describes how, if the UE determines that it cannot connect to a cell—either because it is classified as “barred” by the network or for any other reason—then it temporarily removes the cell from the UE’s candidate list, which the patent *also* calls being “barred.” *See* Ex. 1001, 6:66–7:7 (explaining that “if the cell is not suitable because it is barred for any reason . . . or not available because of transmission problems . . . , the cell is barred as a candidate for reselection for the time T_{barred} ”).

So, according to the specification, “barred” can mean both a cell status, as set by the network, and the fact that a cell is temporarily removed from the UE’s candidate list. We understand the term “suitable,” in determining if a cell is “suitable” and then not considering that cell for a

certain period of time, as referring to the second type of barring, which may or may not be a result of the first type of barring.

D. The Challenged Claims

Of the challenged claims, claims 1, 17, 32, 49, 66, and 82 are independent claims.

Claim 1 is directed to a method of cell reselection in which (a) the UE does not consider a cell of a second RAT as a candidate for reselection if that cell is not suitable for camping and (b) does not consider the cell for a time period. Claim 17 is directed to a UE that is operable to perform a method like that recited in claim 1.

Claim 32 is directed to a method in which “the UE consider[s] a cell of a second RAT as barred as a candidate for reselection for a time period if [the cell] is not suitable for camping.” Ex. 1001, 12:44–46. Claim 49 is directed to a UE that is operable to perform a method like that recited in claim 32.

Claim 66 is directed to a method of cell reselection in which “the UE exclud[es] [a] cell of [a] second RAT as a candidate for reselection for a time period if [the cell] is not suitable for camping.” *Id.* at 14:29–31. Claim 82 is directed to a UE that is operable to perform a method like that recited in claim 66.

Claims 1, 32, and 66 are thus representative of the subject matter challenged in the Petition. Those claims read as follows:

1. A method of cell reselection by a user equipment device (UE), the UE operable with a first cellular Radio Access Technology (RAT) and a second cellular RAT, the method comprising:

when the UE is camped on a cell of the first RAT,

determining whether a cell of a second RAT is suitable for camping,

the UE not considering said cell of the second RAT as a candidate for reselection if said cell of the second RAT is not suitable for camping, and further not considering said cell of the second RAT for a time period.

32. A method of cell reselection by a user equipment device (UE), the UE operable with a first cellular Radio Access Technology (RAT) and a second cellular RAT, the method comprising:

when the UE is camped on a cell of the first RAT,

the UE considering a cell of a second RAT as barred as a candidate for reselection for a time period if said cell of the second RAT is not suitable for camping.

66. A method of cell reselection by a user equipment device (UE), the UE operable with a first cellular Radio Access Technology (RAT) and a second cellular RAT, the method comprising:

when the UE is camped on a cell of the first RAT,

determining whether a cell of a second RAT is suitable for camping,

the UE excluding said cell of the second RAT as a candidate for reselection for a time period if said cell of the second RAT is not suitable for camping.

Ex. 1001, 10:59–11:2, 12:39–46, 14:22–31.

II. LEVEL OF ORDINARY SKILL IN THE ART

The level of skill in the art is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis. *See Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1323 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). The level of skill in the art also informs the claim construction analysis. *See Teva Pharms. USA, Inc. v.*

Sandoz, Inc., 574 U.S. 318, 332 (2015) (explaining that claim construction seeks the meaning “a skilled artisan would ascribe” to the claim term “in the context of the specific patent claim”).

Petitioner asserts that a person of ordinary skill in the art “would have had a bachelor’s degree in electrical engineering or a similar discipline, with at least three years of relevant industry or research experience (or additional education), including experience with cellular telecommunication systems,” that such experience would have included “designing or implementing user equipment or network equipment or signaling protocols,” and that such a person “would have [had] a working understanding of the then-existing wireless communications standards.” Pet. 16–17 (citing Ex. 1004 ¶¶ 20–24). Patent Owner “concurs with Petitioner[] on the proposed level of ordinary skill in the art at the time of invention.” PO Resp. 7–8.

Because the ’383 patent “relates to a dual mode mobile telecommunication device in general (for instance a UMTS (Universal Mobile Telecommunications System) and GSM (Global System for Mobile Communications) dual mode device), and to an apparatus and method for selecting cells in mobile telecommunications system user equipment” (Ex. 1001, 1:21–26), and in view of the parties’ agreement, we find Petitioner’s formulation appropriate, and adopt it.

III. CLAIM CONSTRUCTION

The parties do not raise any claim construction issues and we, accordingly, do not construe any claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (explaining that construction is needed only for terms that are in dispute, and only as necessary to resolve the controversy).

IV. ANALYSIS

The Petition asserts that independent *method* claims 1, 32, and 66, and some of their dependents, would have been obvious in view of TS 45.008¹ and TS 25.304.² The Petition then asserts that independent *device* claims 17, 49, and 82, and some of their dependents, would have been obvious in view of those two references with the addition of Japenga.³ The Petition then adds TS 25.331⁴ for the rest of the dependent claims.

The Petition next asserts that all of the independent claims (method and device) and some of the dependent claims would have been obvious in view of Japenga and TS 25.304. The Petition then adds TS 25.331 for the rest of the dependent claims.

¹ 3GPP TS 45.008 V5.11.0, *3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Radio subsystem link control (Release 5)* (June 2003) (Ex. 1005).

² 3GPP TS 25.304 V5.3.0, *3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment (UE) procedures in idle mode and procedures for cell reselection in connected mode (Release 5)* (June 2003) (Ex. 1006).

³ US 6,978,138 B2, issued Dec. 20, 2005 (Ex. 1008).

⁴ 3GPP TS 25.331 V5.5.0, *3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Resource Control (RRC); Protocol Specification (Release 5)* (June 2003) (Ex. 1007).

The challenges are summarized in the table below.

Claims	35 U.S.C. §	References
1, 2, 5, 11, 12, 14, 15, 32–34, 37, 43, 44, 46, 47, 66, 67, 70, 76, 77, 79, 80	103	TS 45.008, TS 25.304
17, 18, 21, 27, 29, 30, 49–51, 54, 60, 61, 63, 64, 82, 83, 86, 92, 93, 95, 96	103	TS 45.008, TS 25.304, Japenga
9–12, 41–44, 74–77	103	TS 45.008, TS 25.304, TS 25.331
25–27, 58–61, 90–93	103	TS 45.008, TS 25.304, Japenga, TS 25.331
1, 2, 5, 11, 12, 14, 15, 17, 18, 21, 27, 29, 30, 32–34, 37, 43, 44, 46, 47, 49–51, 54, 60, 61, 63, 64, 66, 67, 70, 76, 77, 79, 80, 82, 83, 86, 92, 93, 95, 96	103	Japenga, TS 25.304
9–12, 25–27, 41–44, 58–61, 76, 77, 90–93	103	Japenga, TS 25.304, TS 25.331

TS 45.008 is a 3rd Generation Partnership Project (3GPP) specification that “specifies the Radio sub-system link control implemented in the Mobile Station (MS), Base Station System (BSS) and Mobile Switching Centre (MSC) of the digital cellular telecommunications systems GSM.” Ex. 1005, 8.⁵ The radio sub-system link control aspects addressed by TS 45.008 include handover, RF power control, radio link failure, cell

⁵ Petitioner relies on the Declaration of Craig Bishop (Ex. 1016) to establish the prior art status of the 3GPP documents. *See* Pet. 9–13. We find that testimony sufficient on its face, and Patent Owner does not argue these documents are not available as prior art.

selection and reselection, and CTS mode tasks. *See id.* at 9. The reference explains that “[f]or a multi-RAT MS, i.e. an MS supporting multiple radio access technologies, handover is allowed between GSM and other radio access technologies.” *Id.* at 10. It identifies the then-current versions of 3GPP TS 25.304 and 3GPP TS 25.331 as “contain[ing] provisions which . . . constitute provisions of the present document.” *Id.* at 8.

TS 25.304 is a 3GPP specification that “specifies the Access Stratum (AS) part of the Idle Mode procedures applicable to a UE.” Ex. 1006, 6. It “applies to all UEs that support at least UTRA, including multi-RAT UEs as described in 3GPP specifications,” when “the UE is camped on a UTRA cell” or “the UE is searching for a cell to camp on.” *Id.* It identifies the then-current versions of 3GPP TS 45.008 and 3GPP TS 25.331 as “contain[ing] provisions which . . . constitute provisions of the present document.” *Id.* at 6.

TS 25.331 is a 3GPP specification that “specifies the Radio Resource Control protocol for the UE-UTRAN radio interface.” Ex. 1007, 27. It identifies the then-current versions of 3GPP TS 45.008 and 3GPP TS 25.304 as a “contain[ing] provisions which . . . constitute provisions of the present document.” *Id.* at 27–28.

Japenga is a United States patent titled “Inter-Rat Cell Reselection In A Wireless Communication Network.” According to Petitioner, “Japenga describes a UE that implements inter-RAT cell reselection from GSM to UMTS and explicitly cites to 3GPP TS 25.304 v3.5.0 as specifying additional cell selection criteria that an identified UTRAN cell must satisfy before the UE may camp on it.” Pet. 51.

A. Grounds Based on TS 45.008 and TS 25.304

1. Independent Claim 1

a. Preamble

The preamble of claim 1 is “[a] method of cell reselection by a user equipment device (UE), the UE operable with a first cellular Radio Access Technology (RAT) and a second cellular RAT.” Petitioner argues that “TS 45.008 describes procedures for ‘cell selection and re-selection’ by ‘a multi-RAT MS.’” Pet. 20 (citing Ex. 1005, 10; Ex. 1004 ¶ 192). Patent Owner does not argue that TS 45.008 does not teach or suggest the subject matter of the preamble.

Without deciding whether the preamble is limiting, we agree that TS 45.008 describes a method of cell reselection by a UE operable with a first cellular RAT and a second cellular RAT, as claimed.

b. “when the UE is camped on a cell of the first RAT, determining whether a cell of a second RAT is suitable for camping”

Petitioner argues that “TS 45.008 states that the ‘procedures for cell selection and re-selection . . . are specified in order to ensure that a mobile is camped on a cell with which it can reliably communicate on both the radio uplink and downlink’” and that “[t]his involves a UE performing tasks, such as monitoring and measuring signals of other cells, including cells of other RATs, to determine a better cell to camp on.” Pet. 22 (citing Ex. 1005, 9, 17–24; Ex. 1004 ¶ 197). Petitioner further argues that “TS 45.008 teaches that an MS that has selected a GSM cell for service (‘camped on a cell of the first RAT’) is to follow the procedures of section 6.6.5 to possibly select an identified UTRAN cell (‘cell of a second RAT’) for camping if the UTRAN

cell is ‘suitable’ to select for service (‘camping’).” *Id.* at 24 (citing Ex. 1005, 24; Ex. 1004 ¶ 198). Patent Owner does not argue that TS 45.008 does not teach or suggest the subject matter of this limitation.

Section 6.6 of TS 45.008, titled “Measurements for Cell Reselection,” states that “[u]pon completion of cell selection and when starting the cell reselection tasks, the MS shall synchronize to and read the BCCH information for the 6 strongest non-serving carriers (in the BA) as quickly as possible” and that “[f]or multi band MSs the strongest non-serving carriers may belong to different frequency bands.” Ex. 1005, 20. Section 6.6.4, titled “Measurements on cells of other radio access technologies” explains that “[f]or a multi-RAT MS, cells or frequencies with other radio access technologies may be included in 3G Cell Reselection list.” *Id.* at 22.

Section 6.6.5, titled “Algorithm for cell re-selection from GSM to UTRAN,” further explains that the UE “shall . . . reselect a suitable (see 3GPP TS 25.304) UTRAN cell” if the measured parameters exceed those of the serving cell and all the suitable non-serving cells and that “[t]he parameters required to determine if the UTRAN cell is suitable are broadcast on BCCH of the UTRAN cell.” *Id.* at 24.

In view of these disclosures, we find that TS 45.008 describes a UE camped on a cell of a first RAT determining whether a cell of a second RAT is suitable for camping. Specifically, we find that Section 6.6.5 discloses that a UE camped on a cell of a GSM network (a first RAT) will receive suitability parameters for candidate cells in a UTRAN network (a second RAT), and that the receipt and subsequent use of such information constitutes the UE “determining” whether the cell of the UTRAN network is suitable for camping.

Petitioner has not shown that the prior art discloses a UE itself determining that a cell should be not considered due to, for example, the UE's own measurements, but we find the claims broad enough to cover the UE determining that a cell is not suitable based on the network status only.

c. *“the UE not considering said cell of the second RAT as a candidate for reselection if said cell of the second RAT is not suitable for camping”*

Petitioner argues that “TS 25.304 states that when the cell status of the UTRAN/UTRA cell being considered for camping is indicated to be ‘barred,’ then ‘[t]he UE is not permitted to select/re-select [the] cell’” and “[t]he UE shall select another cell.” Pet. 25–26 (citing Ex. 1006, 26; Ex. 1004 ¶ 201). Petitioner contends that “if the cell status of the UTRAN cell is indicated to be barred (not suitable for camping), then the UTRAN cell is not permitted to be reselected and is no longer considered as a candidate for reselection.” *Id.* at 26.⁶

Patent Owner argues that “[t]he claims of the ’383 patent require that the UE not consider the cell of a second RAT as a candidate for reselection if said cell of the second RAT is not suitable for camping” but that “TS

⁶ Petitioner also contends that this step “is not required if a cell of a second RAT is suitable for camping” and that “[c]onditional limitations in a method claim are optional and do not have to be met for validity.” Pet. 25 n.10 (citing *Ex Parte Schulhauser*, Appeal No. 2013-007847 (Apr. 28, 2016), 8–10; *Marvell Semiconductor, Inc. v. Uniloc 2017 LLC*, IPR2019-01350, Paper 24, 36–39 (PTAB February 1, 2021)). We conclude that we need not address that issue because we agree that TS 25.304 describes how the UE will not consider the cell of the second RAT as a candidate for reselection if that cell is not suitable for camping.

25.304, in contrast, discloses the consideration of cells not suitable for camping.” PO Resp. 11 (citing Ex. 1006, 25–26).

According to Patent Owner, TS 25.304 describes four different types of cells:

(1) acceptable cells, used for limited service, such as making emergency calls, (2) suitable cells, ‘on which the UE may camp on to obtain normal service,’ (3) barred cells, which are indicated in the system information and which are excluded from the neighboring cell list, and (4) reserved cells, which, similar to barred cells, are indicated as such in the system information and generally behave as barred cells under most common user conditions.

PO Resp. 11–12 (citing Ex. 1006, 12; Ex. 2005 ¶ 26). Patent Owner asserts that we “preliminarily accepted Petitioners’ argument that ‘[e]xclusion from the neighbor cell list means that the cell will not be considered’” but that “TS 25.304 discloses . . . that only ‘barred’ and ‘reserved’ cells should be excluded from the neighboring cell list.” *Id.* at 12 (citing Decision 14; Ex. 1006, 25–26). Patent Owner contends that “[b]y Petitioners’ argument . . . only barred and reserved cells are not considered as candidates for reselection” but that “the ’383 patent teaches—and the claims explicitly require (*see, e.g.*, Ex. 1001 at claim 1)—that any cell not determined to be suitable for camping (i.e., for normal use), such as an ‘acceptable’ cell, will not be considered as a candidate for reselection.” *Id.* (citing Ex. 2005 ¶ 27).

This argument is not persuasive because it is not consonant with the language of the claims, which recite only “determining whether a cell of a second RAT is suitable for camping” and then “the UE not considering said cell of the second RAT as a candidate for reselection if said cell of the second RAT is not suitable for camping.” The claims thus are met by a system in which it is determined whether or not at least one cell is “suitable”

for camping and then not considering that cell if it is not suitable. That would be the case in TS 25.304, as barred cells, which are not “suitable,” are excluded from the neighboring cell list. The plain language of the claims does not require that “any cell not determined to be suitable for camping” not be considered as a candidate for reselection.

Patent Owner also argues that the ’383 patent describes how, “if the system information from a cell which informs the UE how to connect to the cell has an error in it, then the cell is deemed to be unsuitable” and that “a cell may be not suitable for camping ‘owing to cell information . . . as that selected by the UE, or not available because of transmission problems” PO Resp. 12–13 (citing Ex. 1001, 5:59–62). According to Patent Owner, “TS 25.304 fails to take into account these scenarios, and would not exclude such cells from consideration, thus incurring the same interruptions in service and superfluous spending of resources that resulting from re-examining cells not suitable for camping that the ’383 patent seeks to eliminate.” *Id.* at 13 (citing Ex. 1006 at 25–26; Ex. 1001, 2:30–43; Ex. 2001 ¶ 130; Ex. 2005 ¶ 29).

We find this argument unpersuasive because Patent Owner does not explain how the description of these different potential problems described in the specification would mean that the claims do not cover the TS 25.304 system. The problems identified by Patent Owner correspond to those that the specification describes as being identified by the UE itself, but, as noted above, the claims do not exclude a situation in which the non-consideration of the cell is a result of the cell being barred by the network.

We accordingly agree with Petitioner that TS 25.304 describes the UE not considering a cell of a second RAT as a candidate for reselection if that cell is not suitable for camping.⁷

d. “not considering said cell of the second RAT for a time period”

For this limitation, Petitioner also relies on TS 25.304, which states that “[w]hen cell status ‘barred’ is indicated,” then “[i]f the UE is camping on another cell, the UE shall exclude the barred cell from the neighbouring cell list until the expiry of a time interval Tbarred.” Pet. 27 (citing Ex. 1006, 26; Ex. 1004 ¶ 202). Petitioner further cites TS 25.304 as explaining “that the UE may select another cell during the time interval Tbarred and if not, then ‘the UE shall after expiry of the time interval Tbarred again check whether the status of the barred cell has changed.’” *Id.* (citing Ex. 1006, 26; Ex. 1004 ¶ 203).

Patent Owner does not argue that TS 25.304 does not teach or suggest the subject matter of this limitation, and we conclude that TS 25.304 describes not considering the cell of the second network for a time period, as claimed.

e. Motivation to Combine TS 25.008 and TS 25.304

Petitioner argues that one of skill in the art “would have been motivated to combine the teachings of TS 45.008 and TS 25.304 to arrive at a multi-RAT UE that performs cell reselection according to the procedures in both of these standards documents” and that the combination “would have

⁷ Patent Owner argued in the Response that we improperly relied on TS 45.088 for this step. *See* PO Resp. 8–10. As we explained at the hearing, however, that was not the case. *See* Paper 41, 35–36.

been obvious based on the specific motivation to combine provided by the documents themselves.” Pet. 18–20. Petitioner further argues that the combination would have been nothing more than applying a known technique—“TS 25.304’s procedures for determining if a specific UTRAN cell is barred and therefore may not be camped on for a period”—to a known method ready for improvement—“TS 45.008’s procedures for identifying a UTRAN cell to reselect for camping when camped on a GSM cell”—to yield predictable results—“a multi-RAT UE capable of determining that a particular UTRAN cell should not be reselected to camp on for a period if the UTRAN cell is barred).” *Id.* at 19–20 (citing Ex. 1004 ¶ 187).

Patent Owner does not argue that there would not have been a motivation to combine.

As noted above, these references expressly incorporate each other, and are all parts of the larger standard, so it is not clear that any additional motivation would be needed but, if one is, we find Petitioner’s stated motivations sufficiently supported by rational underpinning.

f. Conclusion on Claim 1

We find that the asserted combination teaches or suggests a system in which a UE that is camped on a cell of a first network: (1) determines whether a cell of a second network is suitable for camping, because TS 45.008 describes a UE on GSM network receiving suitability parameters for candidate cells in a UTRAN network; (2) does not consider the cell of the second network a candidate for reselection if the cell is not suitable for camping, because TS 25.304 states that the UE is not permitted to select a barred cell, which would not be suitable; and (3) does not consider that cell for a time period, because TS 25.304 states that the UE will recheck whether

the status of the barred cell after the time interval T_{barred} . We thus conclude that Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable.

2. *Independent Claim 32*

Claim 32 is similar to claim 1, but instead of reciting that the UE does not consider a cell of a second RAT as a candidate if that cell is not suitable for camping and does not consider the cell for a time period, it recites that “the UE consider[s] a cell of a second RAT as barred as a candidate for reselection for a time period if [the cell] is not suitable for camping.”

Patent Owner does not offer independent arguments for claim 32 and, for the reasons described above, we agree with Petitioner that TS 45.008 and TS 25.304 describe how the UE will consider the cell barred as a candidate for reselection for a time period if the cell is not suitable for camping. *See* Pet. 31–33.

3. *Independent Claim 66*

Claim 66 is also similar to claim 1, but instead of reciting that the UE does not consider a cell of a second RAT as a candidate if that cell is not suitable for camping and does not consider the cell for a time period, it recites “determining whether a cell of a second RAT is suitable for camping,” and that the UE “exclud[es] [the] . . . as a candidate for reselection for a time period if said cell of the second RAT is not suitable for camping.”

Patent Owner does not offer independent arguments for claim 66 and, for the reasons described above, we agree with Petitioner that TS 45.008 and TS 25.304 describe how the UE will determine whether a cell of a second

RAT is suitable for camping and exclude it as a candidate for reselection for a time period if it is not suitable. *See* Pet. 33–34.

4. *Independent Claims 17, 49, and 82*

Claims 17, 49, and 82 correspond to claims 1, 32, and 66, respectively, but are drafted to cover a “user equipment device” with a processor and memory that is operable to perform a method corresponding to that of the corresponding method claim.

Petitioner argues that a person of skill in the art “would have used Japenga’s inter-RAT UE having a processor and memory to execute the cell reselection procedures taught by TS 45.008 and TS 25.304 because Japenga instructs that its UE is compatible with those standards, and more generally because compliance with 3G standards was important to the commercial use of an inter-RAT UE.” Pet. 36.

We find it apparent that a person of ordinary skill in the art would recognize that the methods described in TS 45.008 and TS 25.304 would be implemented in a UE with a processor and memory, but, even if that were not the case, we agree with Petitioner that doing so would have been obvious in view of, for example, Japenga, for the reasons identified by Petitioner. *See* Pet. 35–37.

Patent Owner argues that Japenga “teaches away” because “Japenga’s methods create the exact problem sought to be remedied by the ’383 patent: the unnecessary expenditure of energy and interruptions in service that come-about when re-examining unsuitable cells.” PO Resp. 14.

This argument is not persuasive because Petitioner is not relying on Japenga’s teachings about cell selection for this ground based on TS 45.008 and TS 25.304. Instead, Petitioner relies on Japenga only for the processor

and memory limitations. *See* Pet. 35 (“In the TS 45.008-TS 25.304-Japenga combination presented herein, Japenga’s UE having a processor and memory is the UE performing the cell reselection procedures of TS 45.008-TS 25.304.”). Even if Japenga teaches a different—and even entirely inconsistent—method of cell selection, that would not make it non-obvious to use hardware like that disclosed in Japenga (i.e., just a generic processor and memory) to implement the cell selection techniques described in TS 45.008 and TS 25.304.⁸

5. *Dependent Claims 2, 18, 34, 51, 67, and 83*

Claim 2 recites that the method of claim 1 “further compris[es] considering said cell of the second RAT as a candidate for reselection after expiry of the time period.” Ex. 1001, 11:3–5. Claims 18, 34, 51, 67, and 83 similarly limit their independent claims. Petitioner argues “TS 25.304 teaches that a barred cell may be considered as a candidate for reselection after the time period T_{barred} , and may actually be selected if its status has changed.” Pet. 28 (citing Ex. 1004 ¶ 205).

Patent Owner does not offer separate arguments for these claims, and we agree, on this record, that the combination teaches or suggests considering the cell of the second RAT as a candidate for reselection after expiry of the time period.

⁸ As explained below, we also disagree with Petitioner’s argument that Japenga’s cell selection methods would “create the exact problem sought to be remedied by the ’383 patent.” *See* Section IV.B.

6. *Dependent Claims 5, 21, 37, 54, 70, and 86*

Claim 5 adds to claim 1 that the “cell of the second RAT is not suitable when it is barred.” Ex. 1001, 11:12–13. Claims 21, 37, 54, 70, and 86 similarly limit their independent claims. Petitioner argues “TS 25.304 teaches that a UTRAN cell (claimed ‘cell of the second RAT’) is considered not suitable when it is barred, because a UTRAN cell indicated as barred may not be reselected for camping.” Pet. 29 (citing Ex. 1006, 8, 12, 25–26; Ex. 1004 ¶ 206).

Patent Owner does not offer separate arguments for these claims, and we agree, on this record, that the combination teaches or suggests that the cell of the second RAT is not suitable when it is barred.

7. *Dependent Claims 9–12, 25–27, 41–44, 58–61, 74–77, and 90–93*

Claims 9–12 present recitations regarding the duration of the “time period” of claim 1 and claims 25–27, 41–44, 58–61, 74–77, and 90–93 similarly limit their independent claims. Claim 9, for example, recites that “the time period is a maximum of 300 seconds.” Ex. 1001, 11:24–25. Petitioner argues that TS 25.331 “discloses multiple different values for Tbarred (e.g., 10, 20, 40, 80, or 160 seconds) that fall within the claimed range of greater than zero seconds and less than or equal to 300 seconds.” Pet. 46 (citing Ex. 1007, 408–409; Ex. 1004 ¶ 275). Petitioner makes similar arguments for the other “time period” claims. *See, e.g.*, Pet. 47–49.

Patent Owner does not offer separate arguments for these claims, and we agree, on this record, that the combination teaches or suggests the time periods recited in these claims.

8. *Dependent Claims 14, 29, 46, 63, and 79*

Claim 14 adds to claim 1 that “the first RAT is selected from a group including UMTS, GSM, or CDMA; and the second RAT is different from the first RAT and selected from the group including UMTS, GSM, or CDMA.” Ex. 1001, 11:35–38. Claims 29, 46, 63, and 79 similarly limit their independent claims. Petitioner argues that “TS 45.008 explicitly discloses procedures for a UE camped on a GSM (‘first RAT’) cell to reselect a UTRAN cell to camp on if the UTRAN cell is determined to be suitable, and TS 45.008–TS 25.304 teaches that a UTRAN cell is part of UMTS (‘second RAT’).” Pet. 30 (citing Ex. 1005, 24; Ex. 1004 ¶ 209).

Patent Owner does not offer separate arguments for these claims, and we agree, on this record, that the combination teaches or suggests the recited first and second RATs.

9. *Dependent Claims 15, 33, 47, 50, 64, 80, and 82*

Claim 15 recites that “the reselection” of claim 1 “is for camping.” Ex. 1001, 11:39–40. Claims 33, 47, 50, 64, 80, and 82 similarly limit their independent claims. Petitioner argues that TS 25.304 “teaches that determining whether a UTRAN cell is barred or not is for purposes of determining if the UTRAN cell may be camped on” and the combination “therefore teaches that reselection to the UTRAN cell is for camping.” Pet. 31 (citing Ex. 1006, 7–9, 12, 25–26; Ex. 1004 ¶ 210).

Patent Owner does not offer separate arguments for these claims, and we agree, on this record, that the combination teaches or suggests that the reselection is for camping.

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For the foregoing reasons, we find that Petitioner has shown, by a preponderance of the evidence, that claims 1, 2, 5, 11, 12, 14, 15, 32–34, 37, 43, 44, 46, 47, 66, 67, 70, 76, 77, 79, and 80 of the ’383 patent are unpatentable over TS 45.008 and TS 25.304; that claims 17, 18, 21, 27, 29, 30, 49–51, 54, 60, 61, 63, 64, 82, 83, 86, 92, 93, 95, and 96 are unpatentable over TS 45.008, TS 25.304, and Japenga; that claims 9–12, 41–44, and 74–77 are unpatentable over TS 45.008, TS 25.304, and TS 25.33; and that claims 25–27, 58–61, and 90–93 are unpatentable over TS 45.008, TS 25.304, TS 25.331, and Japenga.

B. Grounds Based on Japenga and TS 25.304⁹

Petitioner contends that the grounds based on Japenga and TS 25.304 “combine[] prior art elements (TS 25.304’s cell reselection requirements for determining the suitability of an identified UTRAN cell for camping and Japenga’s UE for implementing inter-RAT cell reselection from GSM to UMTS) according to known methods (implementing inter-RAT cell reselection according to the relevant standards) to yield predictable results (Japenga’s UE performing inter-RAT cell reselection based on criteria in TS 25.304).” Pet. 52.

These grounds essentially replace teachings of TS 45.008 regarding inter-RAT cell reselection with similar teachings found in Japenga. *See* Pet. 53–56. Specifically, Petitioner argues that Japenga discloses how a UE on a GSM network may identify a UTRAN cell for reselection, and that the cell must satisfy the selection criteria of the then-current TS 25.304, which

⁹ The grounds based on Japenga and TS 25.304 are Grounds 5 and 6. *See* Pet. 14. Japenga is included in Ground 2 and 4, but only for its disclosures concerning the UE hardware.

required that it be a suitable cell that is not barred. *Compare id.* at 53–54 (relying on Japenga for this subject matter in Ground 5), *with id.* at 22–23 (relying on TS 45.008 for the same subject matter in Ground 1). The concept of not considering the unsuitable cell for a period of time is found in TS 25.304, just as in the grounds based on TS 45.008 and TS 25.304. *See* Section IV.A.1.c.

For these grounds, Patent Owner argues only that “Japenga’s methods create the exact problem sought to be remedied by the ’383 patent: the unnecessary expenditure of energy and interruptions in service that come-about when re-examining unsuitable cells.” PO Resp. 14. This argument is unpersuasive because, as explained above (*see* Section IV.A.1.c), the claims require only determining whether “a cell” of a second RAT is suitable for camping and not considering that cell as a candidate for reselection if it is not suitable for camping. The claims do not exclude a situation in which, for example, a cell that is “barred” by the network is the only cell not considered.

We accordingly find that, for the reasons articulated in the Petition (*see* Pet. 51–61), Petitioner has shown, by a preponderance of the evidence, that claims 1, 2, 5, 11, 12, 14, 15, 17, 18, 21, 27, 29, 30, 32–34, 37, 43–44, 46, 47, 49–51, 54, 60, 61, 63, 64, 66, 67, 70, 76, 77, 79, 80, 82, 83, 86, 92, 93, 95, and 96 are unpatentable over Japenga and TS 25.304. Petitioner also has shown, by a preponderance of the evidence, that claims 9–12, 25–27, 41–44, 58–61, 76, 77, and 90–93 are unpatentable over Japenga, TS 25.304, and TS 25.331.

V. CONCLUSION

Claims 1, 2, 5, 9–12, 14, 15, 17, 18, 21, 25–27, 29, 30, 32–34, 37, 41–44, 46, 47, 49–51, 54, 58–61, 63, 64, 66, 67, 70, 74–77, 79, 80, 82, 83, 86, and 90–93 of the '383 patent have been shown to be unpatentable. The results are summarized below.

Claims	35 U.S.C. §	Reference/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 5, 11, 12, 14, 15, 32–34, 37, 43, 44, 46, 47, 66, 67, 70, 76, 77, 79, 80	103	TS 45.008, TS 25.304	1, 2, 5, 11–12, 14, 15, 32–34, 37, 43, 44, 46–47, 66, 67, 70, 76, 77, 79, 80	
17, 18, 21, 27, 29, 30, 49–51, 54, 60, 61, 63, 64, 82, 83, 86, 92, 93, 95, 96	103	TS 45.008, TS 25.304, Japenga	17, 18, 21, 27, 29, 30, 49–51, 54, 60, 61, 63, 64, 82, 83, 86, 92, 93, 95, 96	
9–12, 41–44, 74–77	103	TS 45.008, TS 25.304, TS 25.331	9–12, 41–44, 74–77	
25–27, 58–61, 90–93	103	TS 45.008, TS 25.304, Japenga, TS 25.331	25–27, 58–61, 90–93	
1, 2, 5, 11, 12, 14, 15, 17, 18, 21, 27, 29, 30, 32, 34, 37, 43, 44, 46, 47, 49–51, 54, 60, 61, 63, 64, 66, 67, 70, 76, 77, 79,	103	Japenga, TS 25.304	1, 2, 5, 11, 12, 14, 15, 17, 18, 21, 27, 29, 30, 32, 34, 37, 43, 44, 46, 47, 49–51, 54, 60, 61, 63, 64, 66, 67, 70, 76, 77, 79,	

80, 82, 83, 86, 92, 93, 95, 96			80, 82, 83, 86, 92, 93, 95, 96	
9–12, 25–27, 41–44, 58– 61, 76–77, 90–93	103	Japenga, TS 25.304, TS 25.331	9–12, 25–27, 41–44, 58–61, 7–77, 90–93	
Overall Outcome			1, 2, 5, 9–12, 14, 15, 17, 18, 21, 25–27, 29, 30, 32–34, 37, 41– 44, 46, 47, 49– 51, 54, 58–61, 63, 64, 66, 67, 70, 74–77, 79– 80, 82, 83, 86, and 90–93	

VI. ORDER

For the reasons given, it is:

ORDERED that claims 1, 2, 5, 9–12, 14, 15, 17, 18, 21, 25–27, 29, 30, 32–34, 37, 41–44, 46, 47, 49–51, 54, 58–61, 63, 64, 66, 67, 70, 74–77, 79, 80, 82, 83, 86, and 90–93 of U.S. Patent 8,600,383 B2 have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.¹⁰

¹⁰ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

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