

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ERICSSON INC.,
Petitioner

v.

KONINKLIJKE KPN N.V.,
Patent Owner

IPR2023-00582
Patent No. 8,660,560 B2

PATENT OWNER'S RESPONSE

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EXHIBIT LIST

Exhibit No.	Description
2001	Expert Declaration of Dr. Radostin Pachamanov
2002	Curriculum Vitae of Dr. Radostin Pachamanov
2003	3GPP TS 36.300 V8.9.0 (2009-06), Release 8, June 18, 2009, available at https://www.3gpp.org/ftp/Specs/archive/36_series/36.300/36300-890.zip .
2004	File History of '560 Patent
2005	RESERVED
2006	RESERVED
2007	RESERVED
2008	RESERVED
2009	RESERVED
2010	First Amended Docket Control Order, Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson et al., No. 2:22-CV-282-JRG, Doc. 101 (E.D. Tex. May 24, 2023)
2011	Administrative Office District Court Statistics, March 31, 2023, available at https://www.uscourts.gov/file/71612/download (fcms_na_distprofile0331.2023.pdf)
2012	Docket Navigator Time to Trial, Eastern District of Texas (Jan. 1, 2018-June 9, 2023)
2013	Docket Navigator Time to Trial, Judge Gilstrap (Jan. 1, 2018-June 9, 2023)
2014	Docket Report, Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson et al., No. 2:22-CV-282-JRG, Doc. 101 (E.D. Tex.) (June 8, 2023)

Exhibit No.	Description
2015	Ericsson's P.R. 3-3 Invalidity Contentions (served March 16, 2023) (confidential information redacted)
2016	RESERVED
2017	Unopposed Motion for Issuance of Letter of Request for International Judicial Assistance, <i>Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson et al.</i> , No. 2:22-CV-282-JRG, Doc. 99 (E.D. Tex. May 19, 2023)
2018	Plaintiff's First Set of Requests for Admission (served Jan. 19, 2023)
2019	Plaintiff's First Set of Interrogatories (served Jan. 19, 2023)
2020	Defendants' First Set of Interrogatories (served February 3, 2023)
2021	Defendants' Second Set of Interrogatories (served May 15, 2023)
2022	Ericsson's Response in Opposition to KPN's Motion for Leave to Amend Infringement Contentions, <i>Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson et al.</i> , No. 2:22-CV-282-JRG, Doc. 115 (E.D. Tex. July 19, 2023)
2023	Claim Construction Order, <i>Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson et al.</i> , No. 2:22-CV-282-JRG, Doc. 176 (E.D. Tex. October 13, 2023)
2024	Supplemental Expert Declaration of Dr. Radostin Pachamanov

I. Introduction

Neither Petitioner's primary reference (*Amirijoo*) nor its secondary reference (*3GPP TR 32.816*), alone or in combination, disclose or suggest those aspects of independent claim 1 pertaining to detecting, selecting, and requesting from only specific user terminals to perform updating measurements. As all challenged claims depend from claim 1, Petitioner's single ground cannot render any challenged claim unpatentable. Further, Petitioner's references neither disclose nor suggest using the user terminal's location information (as required by claim 7), or a threshold for transferring user terminals between networks (as required by claim 8) to perform the required selection. The Board should therefore render a final written decision finding that Petitioner has failed to show any challenged claim is unpatentable.

II. Technological Background and Improvement over the Prior Art

A. The '560 Patent

Mobile user terminals (e.g., cellular telephones) are always scanning the frequency spectrum for certain signals to determine which cell they should use for transmissions. Exhibit 1001, 1:32-48. The base station for each cell of a wireless access network stores a neighbor cell list (NCL), which it broadcasts within the cell. The NCL, as its name suggests, generally contains a listing of the neighboring cells considered for "reselection" or "handover," and for which a user terminal connected to the first cell should send measurement reports. *Id.*; Exhibit 2001 ¶ 40. Cell

reselection and handover refer to the processes for a terminal moving to a new cell when in idle mode and active mode, respectively. Exhibit 1001, 1:32-48, 6:63-7:3; Exhibit 2001 ¶ 41. The measurements on cells on the NCL that are reported by user terminals can be used by the network to decide whether a mobile terminal should be moved to another cell, including to help maintain acceptable service. In some cases, a cell may maintain separate lists for neighbors within the same network (an intra-network NCL), and those in cooperating networks (an inter-network NCL). Exhibit 1001, 1:32-48.

Traditionally, populating and optimizing NCLs was done manually (off-line) using various tools, such as predictive optimization algorithms, when a new base station was installed. *Id.*, 1:49-51. These tools were not perfect, and required network operators to perform subsequent testing to determine appropriate handover areas and to update the NCL with the correct list of neighboring cells. Exhibit 1005 [0024]; Exhibit 2001 ¶ 42. This solution was flawed given that networks and conditions affecting signal quality would gradually change, rendering the once-optimized NCL out-of-date. Exhibit 1005 [0024]; Exhibit 2001 ¶ 42.

Thus, at the time of the invention, automated NCL optimization was being investigated. Exhibit 1001, 1:49-55. Certain automated processes were described in technical specifications of the 3rd Generation Partnership Project (3GPP), a consortium of telecommunications standards organizations. *Id.*, 1:51-58; Exhibit

2001 ¶ 43. Those specifications disclosed an automatic neighbor relation (ANR) function which finds new neighbors and removes outdated neighbors from a neighbor relations table (NRT). Exhibit 1001, 1:51-58; *see also* Exhibit 2001 ¶ 42 (citing Exhibit 2003). Here, the base station instructs a user terminal from a serving cell to look for neighbor cells, and the terminal first reports the physical cell identifier of the detected cells. The base station then instructs the terminal to read the cell global identifier (CGI) and further cell information from the neighboring cells. The terminal also reports this information to the serving cell. The base station may then update the NRT using the information reported from the user terminals. Exhibit 1001, 1:56-2:7.

The invention improved the state of the art by limiting, in a novel way, the group of user terminals that are requested to search for neighboring cell information. Exhibit 2001 ¶ 44. The invention allows requests for neighboring cell information to be directed to user terminals in the areas where cell reselection and handover may occur. Exhibit 1001, 3:37-47. In one embodiment, location information from the user terminals is used as a criterion for selecting the terminals requested to search for neighboring cell information. *Id.*, 5:25-27.

This feature is an improvement over the prior art because it controls or tunes the amount of cell information reporting. *Id.*, 5:11-24. This relates to a trade-off between the measurement overhead (signaling load) and the potential for neighbor

cell list optimization. *Id.* For example, if an operator wants to increase NCL optimization, the invention allows for selection of more terminals to report the required information, which increases the signaling those terminals must undertake (having additional effects such as shortened device battery life, etc.). Exhibit 2001 ¶ 45. Or, by limiting the number of cells reporting an operator may forgo increased optimization while achieving the benefit of reduced signaling over the network(s). *Id.*, 7:44-48.

B. The Asserted Prior Art

The primary asserted reference, U.S. Patent Publication No. 2009/0191862 (Exhibit 1005) (“*Amirijoo*”), relates to automatic (versus manual) updating of the neighbor relations list or neighbor cell list.¹ Exhibit 1005 [0024]-[0026]. *Amirijoo*’s disclosure applies to handovers between different radio access technologies (RATs), and handovers in radio access networks using different radio frequencies. *Id.* [0073]-[0074].

The ’560 Patent focuses on ways to lower the measurement and signaling load and radio resource usage imposed on user devices required for automatic list

¹ For purposes of this response only, the distinctions between these two lists (NCL and NRL) is ignored as they are immaterial to the deficiencies in the asserted grounds explained herein.

updating (*see* section II.A.). *Amirijoo* focuses instead on when the terminal and base station communicate to update the list. Exhibit 2001 ¶ 48. Thus, *Amirijoo* explains that the mobile station (user terminal) that meets appropriate triggering conditions performs the required measurements of signal quality during “reading gaps.” Exhibit 1005, Abstract, [0080]. The reading gap is a time period in which the mobile station does not receive information from the serving base station. *Id.*, Abstract, [0021], [0032]. In order to perform the required measurements, the mobile station must tune into the frequency it is measuring, and stop listening to the serving base station for the time needed to measure the desired information. *Id.* [0090]. *Amirijoo* details various ways in which the network and mobile terminal may coordinate the reading gap with transmission gaps (when the serving base station is not transmitting to the mobile terminal). *Id.* [0021], [0090]-[0098]. But *Amirijoo* does not disclose or suggest the solution of the ’560 Patent, which enables the “tuning” of cell list optimization traffic. This is shown in regard to the challenged claims in Section V. below.

Petitioner’s secondary reference, 3GPP TR 32.816 (Exhibit 1007) (“*TR 32.816*”), is a 3GPP technical report, intended to provide a study on reusing, changing, or abandoning UMTS (Universal Mobile Telecommunications System) management standards and practices. Exhibit 2001 ¶ 49. The Petition cites certain

references in *TR 32.816* related to input information used when optimizing NCLs and handovers. *Id.* ¶ 50; *see* Section V.B.

III. Claim Construction

Petitioner proposes construction for two terms, “updating means . . . using the received cell information” and “location information from . . . the detected user terminals.” Petition, 8-11. Petitioner asserts that no other terms require construction. *Id.* at 7. As Petitioner fails to establish that any challenged claim is unpatentable using the proposed constructions, neither these terms nor any others require construction to resolve any issues presented.

For the “location information” term, Petitioner also recognizes the possibility that the Board may adopt a narrower construction of the term, and makes conditional arguments under such a construction for Claim 7. Petition, 48. Although Petitioner does not explicitly provide the scope of the contemplated narrower construction, Petitioner argues that its proposed obviousness combination would “instruct mobile devices close to the coverage boundary to initiate ... measurements.” *Id.*, 49. Thus, the Petition contemplates using the actual location of the mobile devices as the claimed location information. Using either Petitioner’s primary or alternative constructions, Petitioner fails to show that the asserted ground renders claim 7 unpatentable. *See* Section V.B.

As discussed below, in its institution decision the Board identified a claim construction issue not raised by the parties with regard to the “selector” requirement of claim 1. Paper 10 (“DI”), 19. This issue is addressed below with regard to Claim 1[b]. *See* Section V.A.2.

In the parallel district court litigation, the district court entered a Claim Construction Order construing “configured for” (claims 1, 6, 7) by giving it its plain meaning. Exhibit 2023, 33-37. The court also construed “updating means” (claim 1) as “a means-plus-function term, the claimed function is ‘updating at least one of the first neighbour cell list and the second neighbour cell list using the received cell information,’ and the corresponding structure is ‘updater 14; and equivalents thereof.’” *Id.*, 38-41. Again, neither term requires construction to resolve the issues presented here.

IV. Level of Ordinary Skill In The Art

For purposes of this proceeding only, Patent Owner does not dispute Petitioner’s proposed qualifications for a person having ordinary skill in the art (“POSITA”). Petition, 11. All references to a POSITA are made using that definition. Ex-2001 ¶¶ 51-53. This response is supported by the testimony of Dr. Radostin Pachamanov, who is well qualified in the pertinent art. *See id.* ¶¶ 3-7, 52; Exhibit 2002.

V. The Asserted Ground Does not Render any Challenged Claim Unpatentable

As shown below, neither *Amirijoo* nor *TR 32.816* disclose or suggest, alone or in combination, all limitations of claim 1 or any of its dependents. Exhibit 2001 ¶¶ 56-59. Therefore, Ground 1 does not render any challenged claim unpatentable.

A. Independent Claim 1

Claim 1 requires the following elements, numbered using Petitioner's scheme:

1[pre] A system for updating a neighbour cell list in a telecommunications architecture comprising a first wireless access network having a first wireless access node for which at least one first neighbour cell list is defined and a second wireless access network having a second wireless access node for which at least one second neighbour cell list is defined, the system comprising:

[1a] a detector configured for detecting user terminals to be transferred from the first wireless access node of the first wireless access network to the second wireless access node of the second wireless access network;

[1b] a selector configured for selecting a part of the user terminals;

[1c] a request generator configured for requesting from the first wireless access node one or more of the selected user terminals to report cell information of a plurality of wireless access nodes

of at least one of the first wireless access network and the second wireless access network;

[1d] a receiver configured for receiving the cell information from the one or more of the selected user terminals;

[1e] and updating means configured for updating at least one of the first neighbour cell list and the second neighbour cell list using the received cell information.

Exhibit 1001, 11:50-12:5.

1. Ground 1 does not disclose a detector configured for detecting user terminals to be transferred – Claim 1[a].

Ground 1 relies solely on *Amirijoo* for element 1[a]. Petition, 28-30. The Petition identifies the serving base station's "data processing and control unit," component 36s in Figure 3, as the claimed detector. *Id.* at 30. Figure 3 is annotated below to highlight *Amirijoo*'s purported detector.

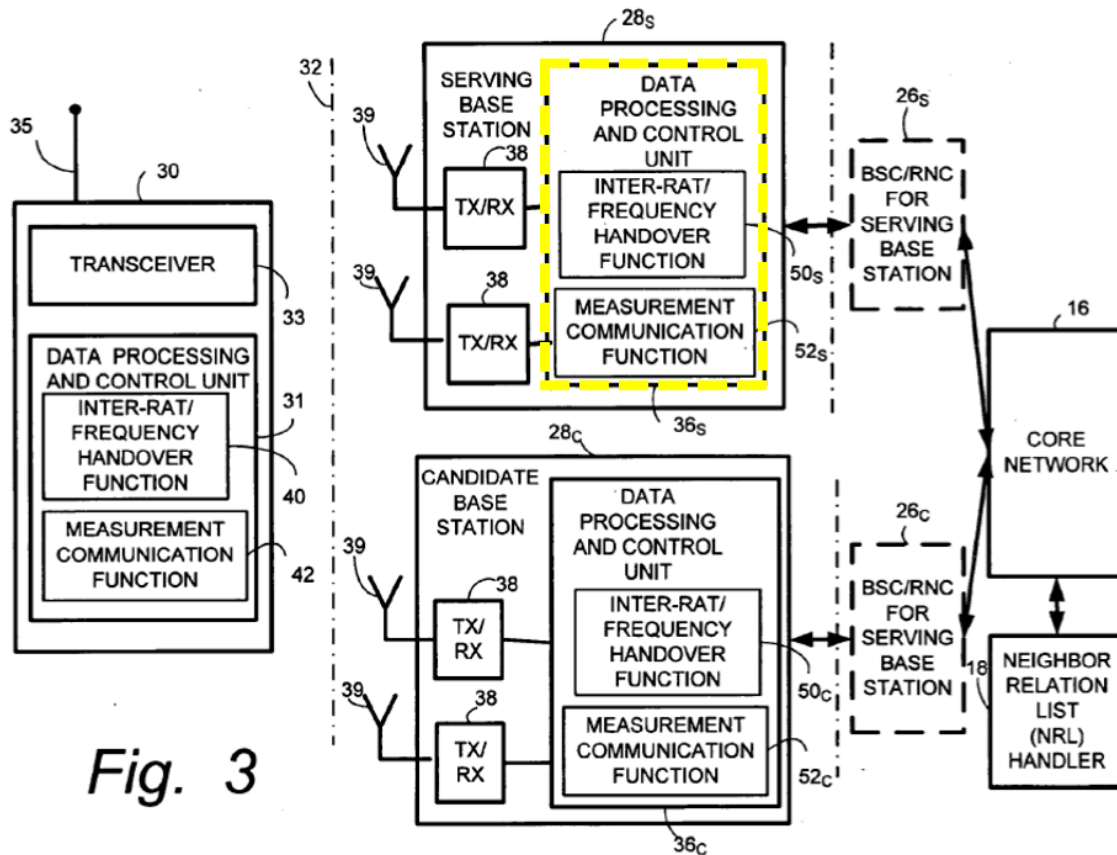


Fig. 3

This identification is based on *Amirijoo*'s teaching that this unit "comprise[s] inter-RAT/frequency handover function 50 and measurement communication function 52." *Id.* (quoting Exhibit 1005 [0077]). The inter-RAT/frequency handover function 50 "is invoked when it is determined that a handover is to occur." *Id.* The measurement communication function 52 "controls communications with mobile station (MS) 30 for requesting or obtaining measurements or information (e.g., measurements or information for potential handover purposes)." *Id.*

In its institution decision, the Board preliminarily determined that *Amirijoo* "sufficiently teaches [this] limitation for purposes of institution." DI, 27. The Board

identified the detector as the components (“the data processing and control units of the base station and mobile station, including the measurement communication function of the serving base station ... and the inter-RAT/frequency handover function of the serving base station”) that perform the handover process. *Id.*, 27-28. The Board noted that the handover process includes the serving base station triggering the mobile stations to measure signal quality, and then—if the signal quality of the serving base station falls below a set threshold, and the signal quality of a candidate base station is above a set threshold—the handover occurs. *Id.* (referencing the signal quality threshold in the triggering conditions and explaining that “Amirijoo discloses that, for handovers, the serving base station triggers mobile stations to make measurements, and based on those measurements, makes a handoff decision”) (citing Exhibit 1005 [0017]-[0020], Fig. 13).

Amirijoo teaches that inter-RAT/frequency measurements are initiated when certain triggering conditions are met. Exhibit 1005 [0079]. But the Petition did not map any triggering conditions or their evaluation to the claimed detector or its detecting of user terminals to be transferred. *See* Petition, 28-30. Rather, Petitioner maps the triggering conditions that trigger inter-RAT/frequency measurements to the “selector” required by claim 1[b]. Petition, 30-34; *see also* Section V.A.2.

Under Petitioner’s mapping, none of the triggering conditions or their evaluation are part of the claimed detector. The ’560 Patent specification teaches

that the “detector 10 . . . recognizes that mobile terminal 3 requires a cell reselection or handover to [the second node].” Exhibit 1001, 7:31-36; Exhibit 2001 ¶ 63. But there is nothing in *Amirijoo* detailing that either the inter-RAT/frequency handover or the measurement communication functions identified by Petitioner actually **detect** user terminals to be transferred or handed over to another cell. Exhibit 2001 ¶ 64.

Amirijoo’s measurement communication function controls communications with mobile stations, for requesting or obtaining measurements or information, including for potential handover purposes. Exhibit 1005 [0077]. But merely controlling communications with mobile stations is different from detecting mobile stations “to be transferred from the first wireless access node to . . . the second wireless access node.” Exhibit 2001 ¶ 64. There is no suggestion in *Amirijoo* that, in controlling communications with mobile stations, this function detects or recognizes those mobile stations to be transferred. *Id.*

The inter-RAT/frequency handover function 50 is not described in *Amirijoo* except to state that it is “invoked when it is determined that a handover is to occur” and that it (as well as the measurement communication function 52) can comprise a controller or processor. Exhibit 1005 [0077]-[0078]. This description indicates that this function is used to **perform** the handover, not to **detect** whether the device is able to be handed over or whether a handover may need to occur. Exhibit 2001 ¶ 65.

Amirijoo never states (and Petitioner never argues) that this function recognizes or identifies user terminals to be handed over. *Id.*; see Petition, 30. Nor does *Amirijoo* identify what performs the function of determining that a device may be handed over in the future. Exhibit 2001 ¶ 65. Thus, as mapped by Petitioner, *Amirijoo* does not teach the claimed detector. Exhibit 2001 ¶¶ 66-67; Exhibit 2024 ¶ 123.

Assuming, however, that the use and evaluation of the triggering conditions with the identified components enables the claimed detector (as the Board found in its institution decision), then *Amirijoo* cannot also disclose the “selector” required by claim 1[b]. As discussed below for that element, the triggering conditions—which Petitioner mapped as the selector—cannot perform as both detector and selector. Thus, Ground 1 does not disclose all elements of claim 1, and cannot render any challenged claim unpatentable.

2. Ground 1 does not disclose a selector configured for selecting a part of the user terminals – Claim 1[b]

For element 1[b], Ground 1 relies on *Amirijoo*’s teaching that “Inter-RAT/frequency measurements from *certain mobile stations* chosen using the *triggering condition(s)* described in section 2.0 are used to detect new inter-RAT/frequency neighbors.” Petition, 30-31 (citing Exhibit 1005 [0079]) (emphasis in original). Petitioner asserts that the “triggering conditions disclosed in *Amirijoo*

map to the claimed ‘selector configured for selecting a part of the user terminals.’”

Id. at 33.

a. *Amirijoo*’s triggering conditions

Amirijoo teaches that “[i]nter-RAT/frequency measurements from certain mobile stations chosen using the triggering condition(s) described in Section 2.0² are used to detect new inter-RAT/frequency neighbors, as illustrated in FIG. 4, act (1).” Exhibit 1005 [0079]. Thus, once these conditions are triggered, a mobile station measures the signal quality of surrounding base stations and reports them to the serving base station. *Id.* [0080].

In its analysis of claim 1[b], Petitioner asserts that *Amirijoo* discloses three triggering conditions: (1) “the amount of data being consumed by the mobile devices,” (2) “the quality of the connection between the mobile devices and the serving base station” and (3) “characteristics of the subscriber or the mobile device itself.” *See* Petition, 34 (citing Exhibit 1005 [0084]-[0086], [0089]); Exhibit 2001 ¶ 82.

The first triggering condition is a data rate. Exhibit 1005 [0084]. The data rate depends on the services that the mobile station is using. For example, if a mobile station is streaming video, it may be using a higher data rate than a mobile station

² Section 2.0 of *Amirijoo* corresponds to paragraphs [0083]-[0089].

that is not. *Id.* [0086]; Exhibit 2001 ¶ 84. *Amirijoo* explains that there will be a greater effect on service for mobile stations having higher data rates when those mobile stations are also performing inter-RAT/frequency measurements. Exhibit 1005 [0086]. “As such, mobile stations with a low average number of scheduled scheduling blocks (SBs) [a measure of data rate] should perform inter-RAT/frequency measurements.” *Id.* Thus, this triggering condition is a specified data rate (“a low average number of scheduled scheduling blocks”), and if a mobile station has a lower data rate than the set rate, it will meet the triggering condition. *Id.*; Exhibit 2001 ¶ 84. The data rate is independent of the handover process, which turns on a comparison of the estimated signal quality of the serving base station and the candidate base station. Exhibit 1005 [0017]-[0020].

The second triggering condition is a threshold estimated signal quality. Exhibit 1005 [0085]. This threshold is explained with reference to Figure 6, which shows “that an inter-RAT/frequency measurement threshold may be set higher than the corresponding handover [HO] threshold”:

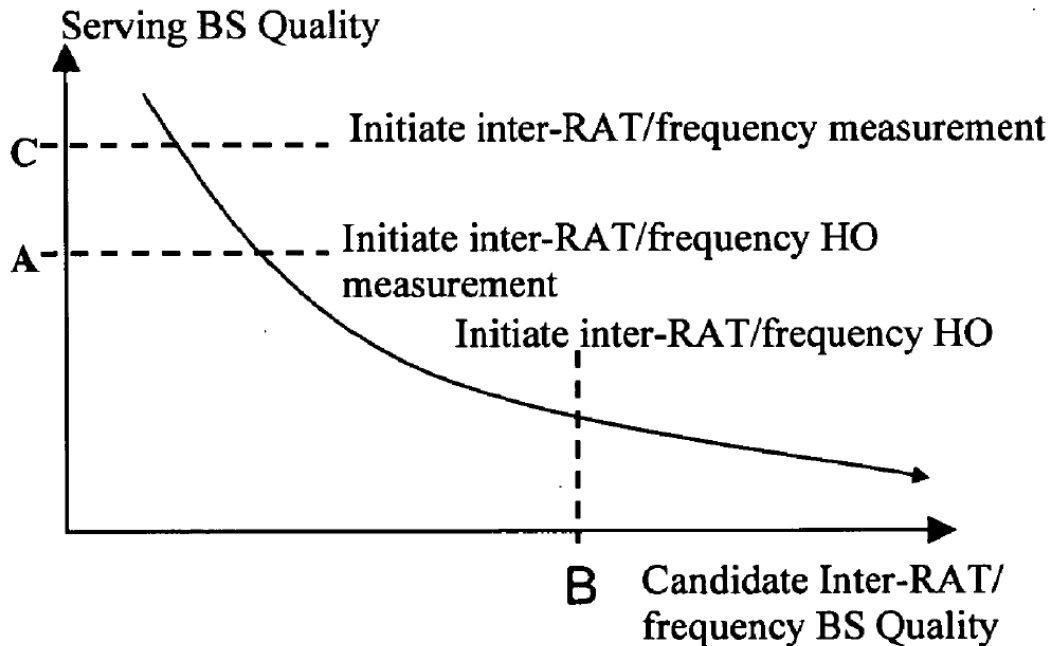


Fig. 6

c

Id. [0053], [0085], [0087], Fig. 6. *Amirijoo* explains that this threshold can either (1) “be the same threshold as used for inter-RAT/frequency handover measurements (e.g., threshold A in Fig. 6)” or (2) “it can be set higher than the handover threshold (e.g., higher than threshold A of Fig. 6, such as threshold C in Fig. 6)) to make sure that an inter-RAT/frequency neighbor is found before the mobile station (MS) falls out of coverage.” *Id.* [0087].

As discussed above, Petitioner references a third triggering condition, asserting that it “selects a part of the mobile devices based, at least in part, on characteristics of the subscriber or the mobile device itself.” Petition, 34 (citing Exhibit 1005 [0089]). It is more accurate to say that the so-called third triggering condition is merely a type of the second triggering condition, as it also uses a

threshold estimated signal quality, but based on such characteristics such as “service, subscription type, [user equipment] type etc.” Exhibit 1005 [0089]; Exhibit 2001 ¶ 86. Therefore, depending on the service, subscription type, or device type, *Amirijoo* teaches assigning a different signal quality threshold, above the “A” threshold, to trigger measurement and reporting. Exhibit 1005 [0089]. Accordingly, a “Gold subscription” user may be assigned a “lower threshold C **than ordinary subscription users.**”³ *Id.* For example, referencing Figure 6, ordinary subscription users may be assigned the “C” threshold, while “Gold subscription” users would be assigned a lower “C” threshold (but never lower than the “A” threshold). Exhibit 2001 ¶ 86; Exhibit 1005 [0085], [0087]-[0089]. Using a lower threshold means that the “Gold subscription” mobile station will not meet the triggering conditions for performing the inter-RAT/frequency measurements set for ordinary users. This allows the “Gold subscription” devices to avoid conducting the measurements (which as *Amirijoo* explains, may impair service), at least until the signal quality reaches the lower “Gold” threshold. *Id.* [0087], [0089]; Exhibit 2001 ¶ 86.

Thus, contrary to Petitioner’s assertion, *Amirijoo* does not teach choosing the devices of “Gold subscription users” to conduct the inter-RAT/frequency

³ All emphasis herein is added unless otherwise noted.

measurements, it rather teaches preferentially **not** using those devices, so as to avoid placing the measurement burden on them. Exhibit 2001 ¶ 86.

b. Petitioner fails to explain how *Amirijoo*'s triggering conditions satisfy both claim elements 1[a] and 1[b].

The institution decision identifies “an additional claim construction issue, not raised by the parties” for claim 1[b], which requires “a selector configured for selecting a part of the user terminals.” DI, 19. The decision stated that “the ‘user terminals’ referred to in this requirement are the user terminals that are detected in the claim 1 requirement, ‘a detector configured for detecting user terminals to be transferred ...’” and that “the selected user terminals must be selected from the set of user terminals that have first been detected for transfer as claimed.” *Id.* The decision concludes that “[o]n this record, merely selecting user terminals that happen to be in the wireless access network without regard to whether or not they have been detected is not encompassed by claim 1.” *Id.* The institution decision also explains that “Amirijoo’s selection process does not appear to necessarily select terminals that have first been detected as user terminals to be transferred.” *Id.* at 29-30.

As discussed for claim element 1[a] above, the Board has identified a fundamental deficiency in the Petition. In its preliminary response, Patent Owner focused on the failure of the identified detector in Ground 1 to perform the required detection, rather than the selector. Paper 6, 23-26. The Board’s institution decision

noted that *Amirijoo*'s triggering conditions enabled *Amirijoo*'s alleged detector (as mapped by Petitioner) to detect "user terminals to be transferred" as required by claim 1[a] and as discussed above. *See* Section V.A.1. Assuming (without agreement) that the Board's identification of the detector in *Amirijoo* is correct, however, then *Amirijoo* cannot also disclose the selector required by claim 1[b]. This is because, if the triggering conditions are the selector, they necessarily identify only the same user terminals that were previously detected. Exhibit 2024 ¶¶ 121-122. Thus, under the Board's preliminary analysis, Petitioner fails to show that Ground 1 teaches claim 1[b] because the triggering conditions do not perform the required selection ("a selector configured for selecting a part of the user terminals").

As discussed in Section V.A.1. above, the Board identified *Amirijoo*'s detector as the data processing and control units that perform the handover process, which uses the signal quality threshold triggering condition to make the handoff decision. DI, 27-28; Exhibit 1005 [0017]-[0020]. Petitioner identified the following trigger conditions as the claimed selector: (a) a data rate; (b) a threshold estimated signal quality "A" (the signal quality threshold for a user terminal to begin conducting inter-RAT/frequency handover measurements) or (c) a threshold estimated signal quality threshold "C," a higher signal quality threshold than threshold "A," but similarly used to begin conducting measurements "to make sure

that an inter-RAT/frequency neighbor is found before the mobile station (MS) falls out of coverage.” See Section V.A.2.a. above.

Using the Board’s identification of *Amirijoo*’s detector, the triggering conditions disclosed in *Amirijoo* at best can “select” only the same user terminals previously detected by the detector. In other words, if the triggering condition is threshold “A,” then the selector selects exactly the same user terminals detected for transfer (not “a part of the user terminals”). Exhibit 2024 ¶ 121. If the triggering condition is threshold “C,” which is higher than threshold “A” and thus includes all of the terminals meeting threshold “A,” then the selector also selects all of the same user terminals detected for transfer, as well as additional terminals that were not detected for transfer. Exhibit 2024 ¶¶ 120-122. Finally, the triggering condition based on data rates has no relationship to the terminals detected for handover at all. Thus, any selection using this condition is not “selecting a part of the user terminals” detected in claim 1[a]. *Id.*

Petitioner fails to present a *prima facie* case of unpatentability of Claim 1 in its Petition, as it provides no explanation or supporting evidence that the triggering conditions satisfy claim 1[b], given that the triggering conditions cannot perform any selection different than that of *Amirijoo*’s detector. To the extent Petitioner’s Reply explains how the asserted ground meets claim 1 consistent with the *prima facie* case presented in the Petition, Patent Owner will respond in its sur-reply.

Patent Owner notes that Petitioner is barred from altering its *prima facie* unpatentability case, and introducing improper new reply evidence, which would properly be disregarded by the Board. Consolidated Trial Practice Guide, 73-74 (“Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a *prima facie* case of unpatentability.... [A] reply ... that ... belatedly presents evidence may not be considered. The Board is not required to attempt to sort proper from improper portions of the reply”). This is because a petitioner must make its case in the petition. *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015) (“[T]he challenger [is] obliged to make an adequate case in its Petition and the Reply [is] limited to a true rebuttal role.... [Thus,] a challenge can fail even if different evidence and arguments might have led to success.”). It is the petition, and not any reply, that must “identif[y], in writing and with particularity ... the evidence that supports the grounds for the challenge.” 35 U.S.C. § 312(a)(3); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

3. Ground 1 does not disclose a request generator configured for requesting one or more of the selected user terminals to report cell information of a plurality of wireless access nodes

Ground 1 relies on *Amirijoo* as disclosing the request generator required by element 1[c]. Petition, at 34-37. The Petition identifies the serving base station’s “data processing and control unit,” component 36_s in Figure 3, as the claimed request

generator. *Id.*, 34-35. Petitioner points to this unit’s measurement communication function, which controls communications with the mobile station 30 “for *requesting* or obtaining measurements or information . . . for potential handover purposes.” *Id.*, 35 (quoting Exhibit 1005 [0077]) (italics and ellipsis in original). Petitioner identifies the requested cell information as the local IDs and CGIs of candidate base stations reported by those mobile stations that meet *Amirijoo*’s triggering conditions. *Id.*, 35-36, 37 (“*Amirijoo* teaches that the serving base station comprises a request generator configured to request at least two types of cell information—local IDs and CGIs—of candidate base stations”).

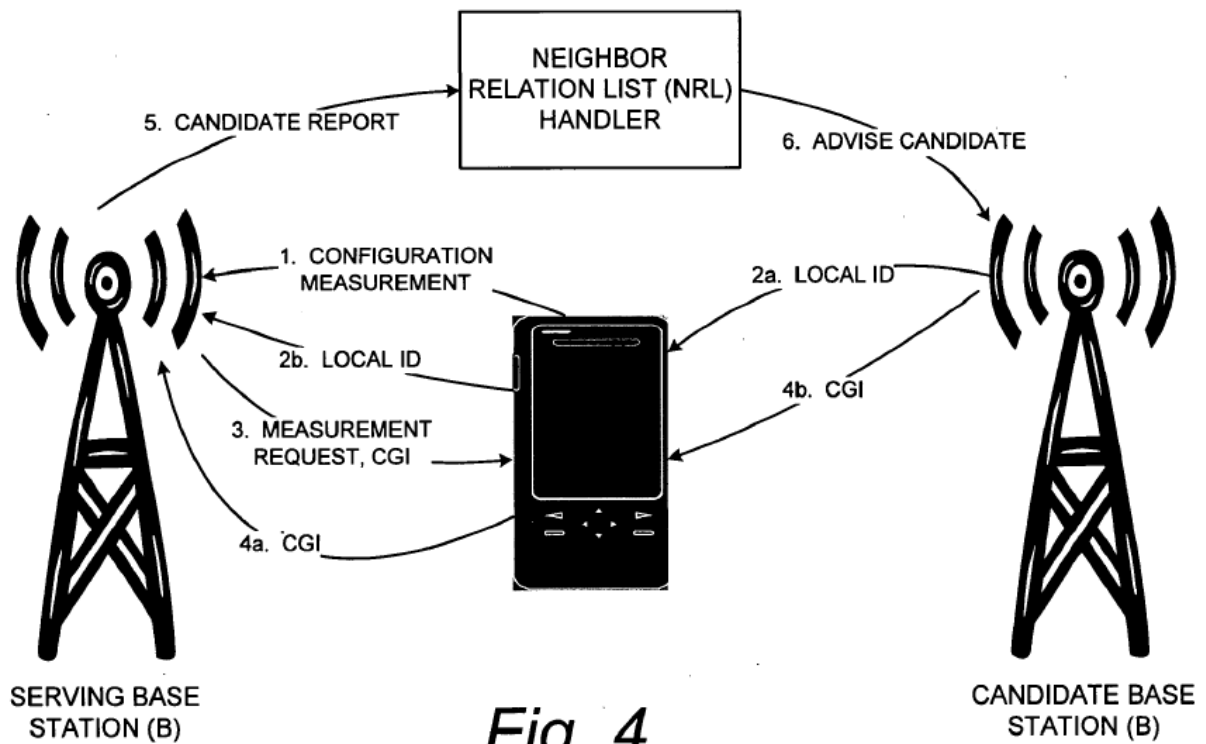
But nothing in *Amirijoo* shows that it ever issues a request for one or more of the selected user terminals to report cell information—including the local ID or CGI—of a plurality of wireless access nodes, as required by the claim. Exhibit 2001 ¶¶ 68-76.

a. *Amirijoo* does not disclose a request for measurement of surrounding base station signal quality or local IDs.

While the base station local IDs are cell information, there is nothing in *Amirijoo* suggesting that they are reported per any *request* from the base station (including the measurement communication function of the data processing and control unit). *Amirijoo* explains that mobile stations measure the signal quality of neighbor base stations, and report the measurement result and local ID to the serving

base station, once the triggering conditions are met. Exhibit 1005 [0079]-[0080]. There are two disclosed modes of operation: the triggering conditions may be evaluated (1) at the mobile station, or (2) at the base station. Exhibit 2001 ¶ 70.

When evaluated at the mobile station, the “base station (BS) informs the mobile station (MS) regarding the triggering conditions and the mobile station (MS) evaluates the conditions and starts inter-RAT/frequency measurements once they are triggered.” *Id.* [0079]. Referencing Figure 4 (reproduced below), *Amirijoo* explains that “[i]n the measurement configuration sent from the base station (BS) to the mobile station (MS) (Fig. 4, act (1)), the base station (BS) may include information needed to perform the measurement” *Id.*



Noticeably absent from this description, as well as from the Petition, is any identified *request* to the mobile station to report anything. *See* Petition, 36 (explaining that the mobile station measures and reports, but not identifying any request). Rather, here (in act 1) the mobile station itself evaluates the triggering conditions, and if they are met, undertakes the needed measurements. Exhibit 1005 [0079]-[0080]. Any mobile station where the triggering conditions are satisfied will thus start the measurements without a request from the base station. Exhibit 2001 ¶¶ 71-72. At best, *Amirijoo* discloses that the base station provides the mobile station with information that it may need to perform measurements, which is not a request. *Id.*; Exhibit 1005 [0079].

When the base station evaluates the triggering conditions, *Amirijoo* discloses only that the “base station (BS) *receives* measurements from the mobile station (MS) and evaluates the triggering conditions.” *Id.* [0079]. This is *Amirijoo*’s only disclosure relating to this embodiment. *Id.* There is no reference to any request that a user terminal (much less a “selected” user terminal) report the local IDs of the surrounding base stations. *See id.*; Exhibit 2001 ¶ 73.

In its institution decision, the Board preliminarily determined that *Amirijoo* sufficiently teaches the request generator when the serving base station performs the evaluation of triggering conditions, because “if the serving base station performs the evaluation, the occurrence of a triggering event must be conveyed from the base

station to the mobile station – *i.e.*, a request.” DI, 28-29. But there is no explicit disclosure that this would be a request in *Amirijoo*; the Board’s analysis only infers that this notification qualifies as a request. There is no evidence that this inference is justified or that a request must inherently be present, even assuming there is some notification from the serving base station to the mobile station that the triggering conditions are met (as determined by the serving base station). Exhibit 2024 ¶¶ 124-129.

Amirijoo’s disclosure undermines any inference or characterization of any such communication as an inherent request. *Amirijoo* explains:

2G and 3G systems, including E-UTRAN, make use of Mobile Assisted handover (MAHO). **Each mobile station (MS) periodically monitors the signal quality of the serving base station (BS) as well as the signal quality of base stations in its surroundings and may report the measurements back to the serving radio base station.** The radio network typically initiates handovers based on these measurements.

Exhibit 1005 [0013]. This passage teaches that each mobile station is, without a specific request, periodically monitoring the signal quality of the surrounding base stations and may report those measurements back to the serving base station. Exhibit 2024 ¶¶ 127-128. This indicates that when the base station is evaluating *Amirijoo*’s triggering conditions, there is no need for a separate request “to report cell information” of a plurality of the surrounding base stations. *Id.* This periodic

measurement and reporting would make a separate request from the serving base station redundant, because the mobile stations will measure and report measurement at the appropriate time according to the Mobile Assisted handover process. *Id.* This teaches away from the claimed invention.

As discussed above, *Amirijoo* only teaches that the base station provides a measurement configuration to the mobile station which “may include information needed to perform the measurement.” Exhibit 1005 [0079]; Exhibit 2024 ¶ 129. However, construing this as a request, or inferring the presence of such a request, is not supported or taught by *Amirijoo*. *Id.* *Amirijoo* does not explicitly or inherently disclose the required “request generator configured for requesting ... one or more of the selected user terminals to report cell information of a plurality of wireless access nodes,” based on requests for either measurement reports or the reporting of local ID cell information.

b. *Amirijoo* does not disclose a request for the Cell Global Identity “of a plurality of wireless access nodes.”

As for the CGI information, *Amirijoo* states that “the serving base station (BS) may send a CGI measurement request to the mobile station (MS), as illustrated by act (3) in Fig. 4.” Exhibit 1005 [0081]. This request is sent only when the serving base station, after receiving the local ID from the mobile station (Fig. 4, act 2b.), determines that it has no prior knowledge of a neighboring base station. *Id.* [0080]-

[0081]. The request is then sent (Fig. 4, act 3) to that reporting mobile station, which “measures the Cell Global Identity (CGI) of the candidate base station (BS).” *Id.* This is therefore a request to the mobile station that sent the unknown base station local ID that it provide the CGI of only a single candidate base station—specifically, the one having the previously unknown local ID. Exhibit 2001 ¶ 74.

This request does not meet the requirements of element 1[c], which requires “a request generator configured for requesting . . . one or more of the selected user terminals to report cell information **of a plurality of wireless access nodes**” Exhibit 1001, 11:63-67. The claim requires a request to report cell information of a plurality of wireless access nodes, but the “Measurement Request, CGI” of *Amirijoo* relates only to a **single** wireless access node, the one that is unknown to the serving base station. *See* Exhibit 1005 [0081]; Exhibit 2001 ¶ 75. Therefore, *Amirijoo* teaches that the CGI request is a request sent from the serving base station to a mobile station to report information on a single base station that has been identified as a candidate for handover. This is not a plurality of nodes or base stations.

In its institution decision, the Board found this request was enough to satisfy the claim, explaining that

Even if each such request is directed to a single node, *Amirijoo* discloses that mobile stations, once triggered, measure the signal quality of a plurality of nodes.... If the serving base station has no prior knowledge of the CGI of a particular neighbor base station,

a follow-up request for the CGI is made. We understand from this disclosure that a CGI request issues for each newly-discovered base station. Claim 1 only requires the request generator to issue multiple requests for information of multiple nodes – it does not require that a single request be directed to multiple nodes.

DI, 29 (citations omitted). First, the fact that the *Amirijoo*’s “mobile stations, once triggered, measure the signal quality of a plurality of nodes” is irrelevant to the CGI request. These measurements, as explained above, are not done in response to any request from the base station. And the CGI request is a separate, subsequent request that must itself satisfy the claim language. Exhibit 2024 ¶ 131.

With respect, the Board’s preliminary analysis finding that the CGI request satisfies the claim language contradicts the plain language of claim 1. Claim 1[c] requires the request generator to request from “**one or more** of the selected user terminals” to report “cell information **of a plurality** of wireless access nodes.” Exhibit 1001, 11:63-67. But whether sent to one terminal or more than one terminal, the requested cell information is for “a plurality” of nodes. The claim thus requires that the request **must** be to report cell information of a **plurality** of nodes. Thus, contrary to the Board’s preliminary analysis, the plain language of the claim specifies a “single request [] directed to multiple nodes.” *See* DI, 29; Ex. 2024 ¶¶ 132-133. Because *Amirijoo*’s follow-up CGI request is only for a single unknown

neighbor base station, it is not a request for “cell information of **a plurality** of wireless access nodes.”

The specification fully supports this understanding of the plain meaning of the claim language. The '560 patent relates to updating the neighbor cell list (NCL). *See* Section II.A. The specification explains that “[a]t present, standardization does not allow mobile terminals to measure cells not present in the NCL.” Exhibit 1001, 2:57-59. That is, user terminals (in the prior art) would report back to the serving base station only information about cells which are in the NCL. Therefore, the inventive system “performs a complete scan for **all cells** [in the first and/or second wireless access network] ... to obtain **a complete picture** of the available cells around the first wireless access node. This complete information **containing the scan of all cells** may then be used for updating the NCL(s).” *Id.*, 3:14-22. Thus, the specification repeatedly and uniformly references the reporting of cell information of “the **plurality** of wireless access nodes,” i.e., of more than one cell. *See id.*, Abstract, 2:26, 2:41, 2:50, 3:3, 3:6, 3:64, 4:15, 4:32, 4:40, 4:57, 4:65, 5:4, 5:11, 5:58, 5:66, 8:30, 8:32, 8:34, 8:45, 9:9. In discussing the “missing neighbour” effect (a neighbor missing from the NCL), although using the singular “neighbour,” the specification specifically states that “present embodiments may reduce this problem by instructing the user terminals to also scan for cell information of wireless access **nodes** ... being absent in the neighbour cell list.” *Id.*, 4:20-37. As can be seen, the specification

confirms throughout that this request is for information about more than one node or cell, not merely a single node or cell.

Again, *Amirijoo*'s CGI request relates only to a single wireless access node – the “candidate” base station selected for handover, and that is unknown to the serving base station. No matter how many requests *Amirijoo*'s system sends, each request is only for CGI of a single unknown node, not a plurality of nodes. Accordingly, Ground 1 does not disclose this element and cannot render any challenged claim unpatentable.

B. Claim 7

Claim 7 further limits claim 1 with regard to the “selector” of claim 1[b]. Claim 1[b] requires “a selector configured for selecting a part of the user terminals,” while Claim 7 further requires “receiving location information from one or more of the detected user terminals, . . . wherein the location information is used as a selection parameter for selecting the part of the detected user terminals.” Exhibit 1001, 12:60-65.

Petitioner asserts Ground 1 against Claim 7 in two ways. First—relying on its proposed claim construction that the cell identity where the user terminal is operating is “location information”—Petitioner asserts that *Amirijoo* alone “discloses selecting a part of the mobile devices to participate in the process of updating the neighbor relation list based, at least in part, on [the current cell identity].” Petition, 47-48

(citing Exhibit 1005, [0083]-[0088]). Second, Petitioner relies on certain references to location in *TR 32.816* as suggesting the use of location “as an input to update the neighbor cell list.” *Id.*, 48-49. According to Petitioner, based on these suggestions a POSITA would have considered it obvious “to use location information as a selection parameter for selecting a part of the user terminals in the context of *Amirijoo*’s system.” *Id.* As shown below, neither *Amirijoo* nor *TR 32.816* teach or suggest, alone or in combination, using the location information of the user terminals as a parameter for selecting the part of the detected user terminals. Exhibit 2001 ¶¶ 79-103.

1. *Amirijoo* does not teach using cell identity for selecting the part of the detected user terminals.

Petitioner first asserts that *Amirijoo* teaches using location information, in the form of cell identity, as a parameter for selecting a part of the mobile devices to participate in the process of updating the neighbor relation list, citing specifically to *Amirijoo*’s discussion of triggering conditions. Petition, 48 (citing Exhibit 1005 [0083]-[0088]). Petitioner also maps these triggering conditions to the selector of claim 1[b]. Petition, 33-34. That is, Petitioner asserts that cell identity is one of *Amirijoo*’s triggering conditions.

In its institution decision, the Board disagreed with Petitioner’s proposed construction of location information as the cell identity (“information regarding the

cell in which a terminal is operating”). DI, 34. Yet even if this construction is later adopted, *Amirijoo* does not teach or suggest using that information to select user terminals for measurement, as shown below.

a. *Amirijoo*’s triggering conditions

Amirijoo’s triggering conditions are discussed above. *See* Section V.A.2.a. In short, *Amirijoo* teaches two types of triggering conditions: (a) a data rate and (b) a threshold estimated signal quality. The signal quality threshold may be, at minimum, the same threshold used for inter-RAT/frequency handover measurements (e.g., threshold A in Fig. 6) or alternatively, a higher threshold (e.g., threshold C in Fig. 6). This higher threshold may be based on characteristics such as service, subscription type, or user equipment type.

b. Cell identity is not included as one of *Amirijoo*’s triggering conditions.

As shown above, none of *Amirijoo*’s triggering conditions include cell identity; nor does *Amirijoo* ever disclose or suggest using cell identity as part of the triggering conditions. Exhibit 2001 ¶ 88. Instead, *Amirijoo* teaches only that a cell is a geographical area, and that the identity of each cell is broadcast in the cell. Exhibit 1005 [0006]. But *Amirijoo* never references this information in explaining its triggering conditions, much less explain or provide any detail about how such information is used to distinguish between mobile stations that meet the conditions

and those that do not. Exhibit 2001 ¶ 88. Rather, as discussed, the triggering conditions are based on data rates and estimated signal quality of the serving base station. Neither of these is the broadcast cell identity, which is not referenced. *See* Exhibit 1005 [0083]-[0088].

Simply put, nothing in *Amirijoo* suggests that the specific cell that a user terminal is connected to is considered a parameter for selecting devices to perform inter-RAT/frequency measurements. Exhibit 2001 ¶¶ 87-89. Rather, any terminal reporting to a base station, upon meeting the triggering conditions, will start measuring and reporting the signals from neighboring cells. *Id.* ¶ 88. There is no disclosure or even a suggestion in *Amirijoo* that specific terminals may be selected and requested to perform measurements on neighboring cells based on the cell identity. *Id.* Therefore, even adopting Petitioner’s construction of “location information” as including cell identity, *Amirijoo* does not disclose or suggest using that cell identity as a selection parameter for selecting the part of the detected user terminals. *Id.* ¶ 89.

2. The combination of *Amirijoo* and 3GPP TR 32.816 does not disclose or suggest using location information as a selection parameter.

The Board disagreed with Petitioner’s argument that “location information” encompasses the cell identity (Petition, 48), although the Board did not expressly adopt a narrower construction. DI, 34-35. Petitioner’s alternative argument

implicitly construes “location information” to refer to the actual location of the mobile devices/user terminals. *See* Section III.

Petitioner’s alternative construction is consistent with the specification and claims. The specification teaches that:

One embodiment of tuning the amount of cell list optimization traffic is to use the location information from the user terminals as a selection criterion as defined in Claim 7. The location information may e.g. be obtained from a GPS module in the user terminal or by means of measurements using the first and/or the second wireless access network.

Exhibit 1001, 5:25-30; *see also id.*, 9:54-62 (explaining that the mobile terminal 3 may transmit “other information” which may comprise “location information **of the mobile terminal 3**,” which is “obtained using GPS module 25”). Therefore, “location information” in Claim 7 refers to the location of the user terminal itself, which is sent from the user terminal (which obtains it, for example, from a GPS module located in the user terminal). Exhibit 2001 ¶ 91.

Petitioner’s argument relies on certain references in *TR 32.816* as suggesting the use of location “as an input to update the neighbor cell list.” *Petition*, 48-49. Based on these suggestions, Petitioner asserts that a POSITA would have considered it obvious “to use location information as a selection parameter for selecting a part of the user terminals in the context of Amirijoo’s system.” *Id.*

Petitioner's arguments fail for several reasons. The Petition cites two uses of "location" within *TR 32.816*. Yet neither discloses or suggest that the location of the user terminals should be collected before performing measurements, and then used as a parameter to select certain terminals to perform the measurements, as required by claim 7. Exhibit 2001 ¶¶ 92-99.

Petitioner first cites to a proposed algorithm for updating neighbor cell lists using information about "location of the neighbours." Petition, 48 (citing Exhibit 1007, 11). The actual passage from *TR 32.816* is reproduced and highlighted below:

Scenario description: Neighbour cell list optimisation

- Objective: Optimisation of neighbour cell list of self-configuration instance
- Scheduling: On demand or periodic
- Input information (all input optional depending on algorithm):
 - Location of the neighbours (distance),
 - UE measurement reporting or eNodeB radio scanning for neighbours,
 - Field strength information,
 - Event measurements like cell specific call drops or handover failures
 - NMS/EMS configuration data
 - Planning tool data
 -

Exhibit 1007, 11. But the "location of the neighbors (distance)," would be understood by a POSITA to reference the location of neighboring cells (or base stations) and respectively the distance to those neighboring cells/base stations, not

the location of the user terminal. Exhibit 2001 ¶¶ 94-95. Nor is there any indication that this information is even known by the user terminals, or reported to the base station/telecommunications system. *See* Exhibit 1007 at 11; Exhibit 2001 ¶ 94 (explaining that a POSITA would not understand user equipment to have such information).

Petitioner next relies on a reference to linking “all measurements” with “correct location information” when optimizing handover parameters such as the neighbor list. Petition, 48; Exhibit 1007, 13-14. The precise passage is highlighted in context below.

Scenario description: Optimisation of handover parameter like HO neighbour list, neighbour specific thresholds, margins and hysteric parameter

- Objective: Description of procedures to optimise a certain HO parameter
- Scheduling: triggered either by network problems related to this parameter or on demand

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- Input source (input optional depending on algorithm):
 - HO trigger reasons
 - KPIs: cell and neighbour specific HO success/failure rate, cell and neighbour specific Path Loss, Received signal strength and interference measurements before HO events
 - In ideal: all measurements can be linked with correct location information
 - Planning data like maps, location of cells, theoretical path loss/interference
 - Drive test results in proprietary/standardised form
 - Traces of interfaces (like Abis, Iub, Iu, A)

Exhibit 1007, 13-14. Again, while this reference is in the context of a procedure to optimize handover parameters, nothing suggests that the listed input sources comprise information known by user terminals that could be reported as required by claim 7. *See id.*; Exhibit 2001 ¶ 97. In fact, the optimization procedure appears to be manual, as it also references “drive test results,” and “[p]lanning data like maps, location of cells, theoretical path loss/interference.” Exhibit 1007 at 14; Exhibit 2001 ¶ 97. This is the prior art process which the ’560 Patent improves upon. *See* Section II.A.

Even so, if the “correct location information” is assumed to be the location of the user terminal, this passage merely suggests **linking** the location where data was collected to reported measurement data. Exhibit 2001 ¶ 98. But this is different from claim 7. There is nothing disclosing or suggesting (in either *TR 32.816* or *Amirijoo*) further using the user terminal location as a criterion for actually “selecting the part of the detected user terminals” to report cell information, as claim 7 requires. *Id.* In other words, there is nothing here suggesting that the location of the user terminals should be collected before performing measurements, and then used as a selection parameter to select some part of the user terminals to perform measurements. *Id.* ¶ 99.

Therefore, none of these instances of “location information” satisfy the claim limitation. As neither *Amirijoo* or *TR 32.816* independently disclose the use of the

user terminal's location to decide or select which terminals perform measurements and report them back to the network, the combination of the two necessarily fails to disclose it, regardless of any motivation to combine the two references.

Petitioner's obviousness analysis is also flawed. Petitioner argues that *TR 32.816* suggests using "location information as an input to update the neighbor cell list," and therefore "it would have been obvious for a POSITA to use location information as a selection parameter for selecting a part of the user terminals in the context of *Amirijoo*'s system." Petition, 48. This is a clear jump in logic. At best, a POSITA would understand these references to location to conclude that location information can be used to optimize neighbor cell lists. Exhibit 2001 ¶ 100. That is, a POSITA would be motivated to include neighbor location as an input to determine whether to include the neighbor in the NCL. *Id.* (citing Exhibit 1007 at 11). But this is simply different from using the user terminal's location as a parameter for determining whether to select the terminal to even report neighboring cell information. *Id.*

Petitioner contrives a motivation for such a selection, asserting that "[a] skilled artisan would know that selecting a subset of mobile devices based on their location information would help ensure that an inter-RAT/frequency neighbor is found before the mobile station (MS) falls out of coverage." Petition, 49. This is clearly hindsight-driven analysis. Nothing in *Amirijoo* or *TR 32.816* references

selecting only a “subset” of mobile devices based on their location information to perform measurements. Exhibit 2001 ¶ 101. This idea comes from the claim, which requires “selecting the part of the detected user terminals.” *Id.*

Nor does this asserted motivation hold up to logical scrutiny. Petitioner tries to tie device location to coverage by referencing “mobile devices close to the coverage boundary.” Petition, 49. But a device’s physical location near a “coverage boundary” does not determine whether it would require cell reselection or handover, as not all such devices are necessarily moving out of coverage or have poor signal quality. Exhibit 2001 ¶ 101. Some such devices may be stationary, while others may be moving further **into** coverage. *Id.* Indeed, *Amirijoo* itself contemplates that a device using its system that begins measurements may then stop such measurements when the estimated signal quality of the serving base station rises back above the measurement threshold. Exhibit 1005 [0019]. A POSITA therefore understood that such location information does not suggest the user terminal would fall out of coverage. Exhibit 2001 ¶ 101.

Further, Petitioner’s motivation to combine is based on *Amirijoo*’s expressed desire to “make sure that an inter-RAT/frequency neighbor is found before the mobile station (MS) falls out of coverage.” Petition, 49. But *Amirijoo* ensures this by setting a signal quality triggering threshold higher than the threshold for handover measurements (“A” in Fig. 6). Exhibit 1005 [0087]; Exhibit 2001 ¶ 102. *Amirijoo*

thus uses the serving base station signal quality—which is the sole determining factor for coverage—to find a neighbor before the mobile station falls out of coverage. Exhibit 2001 ¶ 102. Using Petitioner’s logic, location information is merely a substitute or secondary indicator of coverage (signal quality). *Id.* It simply makes no sense for a POSITA to modify *Amirijoo* to use a **substitute** indication of coverage (the device’s location), when *Amirijoo* already teaches using the signal quality itself to make sure that a neighbor is found before the mobile station falls out of coverage. Exhibit 2001 ¶ 102.

Accordingly, nothing in *TR 32.816* discloses or suggests using the location of the user terminals (the claimed location information) as a selection parameter for selecting the part of the detected user terminals, nor was it obvious to use that location information with *Amirijoo*’s triggering conditions. Exhibit 2001 ¶ 103. Accordingly, Ground 1 does not possess or render obvious the limitations of claim 7.

C. Claim 8

1. Claim 8 Requires a Transfer Threshold Between Networks

The system of claim 1 detects user terminals to be transferred “**from the first** wireless access node of the first wireless access network **to the second** wireless access node of the second wireless access network,” and then selects a part of the user terminals. Exhibit 1001, 11:57-62. This is detection of terminals to be

transferred **from** a first network **to** a second network—a one-way transfer. Exhibit 2001 ¶ 104. Claim 8 further limits claim 1 by specifying criteria to be used for selecting the part of the detected user terminals:

8. The system according to claim 1, wherein **one or more thresholds, possibly service-dependent**, are defined in the telecommunications system **for transferring the user terminals *between* the first wireless access network and the second wireless access network** and wherein at least one of the thresholds is used as a selection parameter for selecting the part of the detected user terminals.

Exhibit 1001, 12:66-13:5. The claimed threshold (or thresholds) must be for initiating cell reselection or handover from each network to the other—in other words, for at least transfer both *from* and *to* the cell, not merely the one-way transfer of Claim 1. Exhibit 2001 ¶ 104.

As stated in the '560 Patent's specification, the transfer threshold **between** networks may be different, or asymmetric, depending on whether a user terminal is moving from the first network to the second, or from the second network to the first:

Another advantageous selection criterion for determining which user terminals should report cell information is the transfer threshold that may have been set by the operator(s) of the telecommunication system, as defined in claim 8. . . . The transfer threshold for cell reselection or handover from the first wireless access network to the second wireless access network **may be**

asymmetric (i.e. a different transfer threshold Th2 applies for a transfer from the second to the first wireless access network) and may also be dependent on the service type of the service received by the user terminal when connected to the first wireless access node.

Exhibit 1001, 5:38-50; *see also* 7:65-8:11. The specification elaborates on why the thresholds might be asymmetric:

As an example, a user terminal provided with a voice service by a cell of an LTE network that is handed over to a GSM network might not be handed over back to the LTE network. This is because the operator chooses this mode of operation. In such a case, although this user terminal is a detected user terminal in the sense that it is about to be transferred to the second wireless access network (GSM), it is not selected for reporting requested to report [sic] cell information of the plurality of wireless access nodes of the first wireless access network (the LTE network), since the handover in the direction back to the first network (the LTE network) will generally not be made. On the other hand, for a user terminal using a data service that is temporarily handed over from an LTE network to a GSM network, a handover back to the LTE network is generally preferred and such user terminals can be selected to report cell information of the plurality of wireless access nodes of the second network.

Id., 5:50-67; *see also id.*, 8:12-23.

Accordingly, the patented system may consider the different transfer thresholds in determining which detected terminals are selected for providing cell information. Using the above framework as an example, when the LTE network detects a user terminal to be transferred to the GSM network (transfer from LTE to GSM), it may use the reverse transfer threshold—GSM to LTE—as a parameter to decide whether to select that user terminal to provide relevant information. Exhibit 2001 ¶¶ 106-108.

In its institution decision, the Board did not agree that the claim requires thresholds for two-way transfer as explained above, because the claim states that it requires “one or more thresholds” where “at least one of the thresholds is used as a selection parameter.” DI, 35. The Board explained that “[i]n the case of a single threshold, one-way transfer is a covered example.” *Id.*

This preliminary analysis overlooks the fact that, although the claim can encompass using only a single threshold, that single threshold must be “for transferring the user terminals **between** the first ... and second wireless access networks.” Exhibit 1001, 12:66-13:3. This is different from the language of claim 1 as discussed above, which describes a transfer “from” the first network “to” the second—a one-way transfer. That is, even when only one threshold is used as the selection parameter in claim 8, the specified threshold must still be a threshold for transferring **between** the networks, a two-way transfer.

Such as single threshold corresponds to the “symmetric” threshold mentioned above. In the case of symmetric thresholds, the threshold for transferring from the first network to the second network will be the same as the threshold for transferring from the second network to the first network. Exhibit 1001, 5:38-50; *see also* 7:65-8:11. In the symmetric case, there is thus only one threshold, but it is still a threshold for a two-way transfer between networks.

The claim language requires the presence of thresholds (symmetric or asymmetric) for transferring between the networks. If symmetric, the thresholds will be the same, resulting in considering only one threshold. Thus, merely because the claim encompasses a single threshold as noted by the Board, the claim requires that single threshold be for transferring **between** networks, and not merely from the first network to the second network.

2. *Amirijoo*’s threshold “A” is not a two-way threshold.

Petitioner asserts that *Amirijoo*’s triggering conditions, which include as a minimum the threshold used to start inter-RAT/frequency measurements (threshold A in Fig. 6), are used to select detected user terminals, based on the same analysis as element 1[b]. Petition, 50 (citing § X(B)(1)(c), which relates to element 1[b]). That argument fails for the same reasons discussed for element 1[b]. *See* Section V.A.2.

In the institution decision, the Board preliminarily determined that the triggering condition using the signal quality threshold “A,” corresponding to the threshold for performing handover measurements, sufficiently teaches the subject matter of claim 8 for purposes of institution. DI, 35. The Board explained that, in its preliminary view, threshold “A” corresponded to the threshold at issue in claim 8 (“the threshold causing the mobile terminal to make measurements of the signal quality ... for purposes of initiating handover”). *Id.*

Even if this analysis is correct, threshold “A” is not a threshold for transferring **between** networks as required by the claim. Exhibit 2001 ¶¶ 109-110; Exhibit 1005 [0083]-[0089]. *Amirijoo* only teaches using a threshold of estimated signal quality of the serving base station—the y-axis of Figure 6. Exhibit 2001 ¶ 110; Exhibit 1005 [0085], [0087-88]. *Amirijoo* does not disclose or suggest that this threshold is also a threshold used to transfer from the second network to the first network (which would make it a symmetric threshold). Exhibit 2001 ¶ 110. Nor does *Amirijoo* disclose any other threshold for doing so. Exhibit 2001 ¶ 112. In fact, *Amirijoo* never discusses a threshold for transferring **between** networks at all, much less using such a threshold or thresholds to select detected user terminals. *Id.*

Accordingly, Ground 1 does not disclose the use of a threshold for transferring user terminals between wireless access nodes as a selection parameter, as required by Claim 8.

VI. Conclusion

As Petitioner has failed to show that any challenged claim is unpatentable, Patent Owner respectfully requests the Board enter a final written decision upholding the patentability of all challenged claims.

Dated: December 4, 2023

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

The undersigned certifies that this document complies with the type-volume limitations set forth in 37 C.F.R. § 42.24 *et seq.* This document, excluding those portions excluded pursuant to § 42.24(a)(1), contains 9687 words as calculated by the program used in creating it.

/James H. Hall/

James H. Hall

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e)(4), the undersigned certifies that on December 4, 2023, copies of Patent Owner's Response and Exhibits 2023-2024 were served via email on the following attorneys of record at the below email address, at which Petitioner has consented to email service pursuant to its current mandatory notices:

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