

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

**SUPPLEMENTAL EXPERT DECLARATION
OF DR. RADOSTIN PACHAMANOV**

TABLE OF CONTENTS

I.	INTRODUCTION	3
II.	BASES FOR OPINIONS	3
III.	SUPPLEMENTAL OPINIONS ON VALIDITY	3
A.	Claim Elements 1[a] and 1[b]	3
B.	Claim Element [1c] –Measurement of Surrounding Base Station Signal Quality (reported with Local ID Information).....	7
C.	Claim Element 1[c] – CGI Measurement Request.....	9
IV.	CONCLUSION.....	12

I. INTRODUCTION

115. This declaration is a supplement to my original declaration in this matter (Exhibit 2001), which is incorporated here by reference.

II. BASES FOR OPINIONS

116. The opinions set forth in this Declaration are my own. In forming the opinions herein, I have considered the exhibits to the Petition for *Inter Partes Review* filed against the '560 Patent, as well as the additional materials cited in this Declaration (including Patent Owner's exhibits cited herein), and my education, training, and experience.

117. My analysis of the materials relating to this matter is ongoing and I will continue to review any new material that is provided to me. This Declaration represents certain opinions that I have formed to date and the bases for those opinions. I reserve the right to revise, supplement, and/or amend my opinions based on new information presented to me and on my continuing analysis of the materials cited herein or later provided to me.

III. SUPPLEMENTAL OPINIONS ON VALIDITY

A. Claim Elements 1[a] and 1[b]

118. I understand that in its institution decision with regard to the “detector” required by claim element 1[a], the Board stated that Amirijoo “sufficiently teaches [this] limitation for purposes of institution.” Decision Granting Institution of *Inter*

Partes Review, Paper 10 (“DI”), at 27. The Board identified the detector as the components (the data processing and control units with measurement communication and handover functions) that perform the handover process. *Id.*, 27-28. The Board stated:

Amirijoo discloses that, for handovers, the serving base station triggers mobile stations to make measurements, and based on those measurements, makes a handoff decision. Ex. 1005 ¶ 17. If the signal quality of the serving base station measured by a mobile station falls below a set threshold, and the signal quality of a candidate base station measured by that mobile station is above a threshold, then handoff of the mobile station from the serving base station to the candidate base station occurs. *Id.* at Fig. 13, ¶¶ 18–20. The handover process is performed by the data processing and control units of the base station and mobile station, including the measurement communication function of the serving base station requesting “measurements or information for potential handover purpose” from the mobile station, and the inter-RAT/frequency handover function of the serving base station that “is invoked when it is determined that a handover is to occur.” *Id.* at Fig. 3, ¶¶ 75–77.

Id. Thus, I understand the Board to have identified the “detected” user terminals in Amirijoo as those that are triggered to make inter-RAT/frequency measurements when the estimated signal quality of the serving base station falls below a certain threshold (threshold A in Fig. 13). *Id.*; Exhibit 1005 [0018].

119. I also understand that, in its institution decision, the Board identified “an additional claim construction issue, not raised by the parties” for claim element 1[b], which requires “a selector configured for selecting a part of the user terminals.” DI, 19. The Board 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 further stated 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.*, 29-30.

120. As discussed in my original declaration, Petitioner mapped Amirijoo’s triggering conditions to the selector of claim 1[b]. Those triggering conditions are a data rate (which has nothing to do with whether the mobile station requires or will require reselection or handover to another base station) and a threshold estimated signal quality, which may be at minimum threshold “A” or a different higher threshold “C” as shown in Amirijoo Fig. 6.

121. Assuming that the Board’s identification of Amirijoo’s detector discussed above is correct, the triggering conditions disclosed in Amirijoo select (at best) the same user terminals previously detected by the detector. That is, if the triggering condition is threshold “A,” then the selector selects exactly the same user terminals detected for transfer. If the triggering condition is threshold “C,” which is higher than threshold “A,” the “selected” terminals still include all of the terminals meeting threshold “A” and thus all of the same user terminals detected for transfer. Additional terminals, not detected for transfer, would also be “selected” (because they do not yet have a signal quality at threshold “A”), but this is not material to the claim. The triggering condition based on data rates has no relationship to the terminals detected for transfer. If this triggering condition is used, this “selection” is not of “terminals that have first been detected as user terminals to be transferred.” DI, 19. Thus, any “selection” using this condition would not meet element 1[b].

122. Accordingly, assuming the Board’s analysis of the claimed detector is correct, the “selector” identified by Petitioner—Amirijoo’s triggering conditions—is not “configured for selecting a part of the user terminals” as required by claim element 1[b], because any such “selection” will be at most a selection of all of the user terminals detected by the “detector” of element 1[a].

123. However, if Amirijoo’s alleged detector does not detect those user terminals by reference to the triggering conditions, then Ground 1 does not disclose

a detector configured for detecting user terminals to be transferred as required by claim element 1[a]. In either case, Amirijoo (and Ground 1) cannot and does not disclose all elements of claim 1.

B. Claim Element [1c] –Measurement of Surrounding Base Station Signal Quality (reported with Local ID Information)

124. I understand that in its institution decision, the Board determined that “Amirijoo sufficiently teaches the request generator requirement of claim 1 for purposes of institution.” DI, 28. The Board explained that, in the embodiment discussed in Amirijoo where the serving base station performs the evaluation of triggering conditions, “the occurrence of a triggering event must be conveyed from the base station to the mobile station – i.e., a request.” *Id.*, 28-29.

125. As discussed in my original declaration, there is no disclosure of such a request in Amirijoo, and I understand the Board’s analysis to be premised on an inference that Amirijoo teaches that such a request was necessarily sent. This inference is not justified as explained below.

126. First, even if one infers that the base station necessarily conveys information about the occurrence of a triggering event to the user terminals (which is likewise not explicitly taught in Amirijoo), this is not equivalent to a request sent by the serving base station to a selected user terminal to report cell information about a plurality of wireless access nodes. Based on the limited disclosure of this

embodiment in Amirijoo, at most Amirijoo discloses a notification from the serving base station to the mobile station that the triggering conditions are met, as determined by the serving base station. It is not necessary that this notification be a request that selected user terminals report cell information of a plurality of wireless access nodes, as required by the claim.

127. This conclusion is supported by Amirijoo's disclosure of the standard way in which handovers are performed by various RATs. Amirijoo teaches that "2G and 3G systems, including E-UTRAN, make use of Mobile Assisted handover (MAHO)." Ex. 1005 [0013]. Under MAHO, "[e]ach 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.**"

128. A POSITA would understand this passage to teach that each mobile station is periodically monitoring the signal quality of the surrounding base stations and may report those measurements back to the serving base station, without a request from the serving base station. Thus, a POSITA would conclude that even when the base station is evaluating the triggering conditions in Amirijoo, there is no need for a separate request "to report cell information" of a plurality of the surrounding base stations. The periodic measurement and reporting makes any separate request from the serving base station redundant, because the mobile stations

will measure and report measurement at the appropriate time according to the standard MAHO process.

129. Thus, assuming that Amirijoo even suggests that the base station communicates to the mobile station the occurrence of the triggering condition, this would at most be understood as communicating to the mobile station “the information needed to perform the measurement.” Ex. 1005 [0079]. However, Amirijoo does not support construing this as a request to report cell information since according to the MAHO process discussed in Amirijoo, measurement and reporting of signal quality information of neighboring cells is set to occur periodically. Therefore, Amirijoo does not explicitly or inherently disclose the required request generator based on requests for either measurement reports or the reporting of local ID cell information.

C. Claim Element 1[c] – CGI Measurement Request

130. I understand that in its institution decision, the Board also found that Amirijoo’s requests for CGIs (Cell Global Identities) satisfy the claim’s requirement for requests to report information for a plurality of nodes. The Board stated 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. Ex. 1005 ¶ 80. 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. *Id.* ¶ 81. 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.

131. As an initial matter, the first reference here, to measurement of the signal quality of a plurality of nodes (after the mobile station is triggered by the triggering condition) does not refer to the CGI request as disclosed in Amirijoo. The CGI measurements are a separate request, subsequent to these measurements. These signal quality measurements are reported to the serving base station as shown in act 2b in Figure 4. Exhibit 1005 [0081], Fig. 4. The CGI measurement is only requested when, after receiving those earlier 2b measurements, the serving base station has no prior knowledge of a neighbor base station. *Id.* The CGI measurement request is then initiated as shown in act 3 of Fig. 4, while the measurement of the CGI (singular) of the candidate base station is shown in act 4b, and the report of the CGI to the serving base station is shown in act 4a. *Id.*

132. Second, the Board’s determination that Claim 1 “does not require that a single request be directed to multiple nodes” is contrary to the plain language of the claim as understood by a POSITA, based on the claim language and the specification.

133. Claim 1[c] requires the request generator to request 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.” Exhibit 1001, 11:63-67. Here, the claim explicitly states the request may be to “one or more” of the selected terminals. This plainly means that a request to only one terminal, or more than one terminal, would meet the claim. But the requested report uses different language, requiring a report of cell information “of a plurality of nodes.” Thus, the claim plainly requires that the requested report is for multiple nodes, contrary to the Board’s initial determination.

134. The specification supports this plain reading of claim. As discussed in my original declaration, the ’560 patent relates to updating the neighbor cell list (NCL). The specification explains that “at 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. Each of these passages

references reports of information, or scans, for “cells” (plural), and not a “cell” (singular).

135. In fact, the specification repeatedly and uniformly references the reporting of cell information of a plurality of wireless access nodes (that is, more than one cell). *See* Ex. 1001, 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. The specification consistently describes requests for information about more than one node or cell, not merely a single node or cell.

136. Therefore, because Amirijoo’s CGI request relates only to a single wireless access node—the “candidate” base station unknown to the serving base station—the request is only for CGI of a single unknown node, not a plurality of nodes. For this additional reason, Ground 1 does not disclose claim element 1[c], and therefore cannot render any challenged claim unpatentable.

IV. CONCLUSION

137. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that

these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code. I further declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: December 4, 2023

A handwritten signature in black ink, appearing to read 'Radostin', is written over a horizontal line. The signature is stylized with a large initial 'R' and a trailing flourish.

Radostin Pachamanov, Ph.D.