

REMARKS/ARGUMENTS

After the foregoing Amendment, claims 21-34 are currently pending in this application. Claims 1-20 were previously canceled. Claims 21, 25, 28 and 32 are amended.

Claim Rejections - 35 U.S.C. § 103

Claims 21-34 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over IEEE: "IEEE P802.16m/D6 May 2010 Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access System" (hereinafter "IEEE") in view of U.S. Patent Publication No. 2011/0090856 A1 to Cho et al. (hereinafter Cho). The Applicants respectfully traverse this rejection.

Claim 21, as amended, recites:

A method for detecting coverage loss at a base station (BS), the method comprising:

starting a coverage loss detection (CLD) timer for a subscriber station (SS) to commence a CLD procedure;
on a condition that the CLD timer for the SS expires during the CLD procedure:

allocating an uplink (UL) grant to the SS to enable identification of the status of the SS during the CLD procedure;
receiving an UL data burst from the SS via the allocated UL grant during the CLD procedure;
resetting the CLD timer for the SS based on the received UL data burst from the SS during the CLD procedure; and

transmitting a unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure, wherein the unicast RNG-ACK enables the SS to reset a periodic ranging timer of the SS associated with a periodic ranging procedure.

(Emphasis added).

Support for the amendment may be found in at least Fig. 6A and paragraphs [0097] and [0098] of the present application.

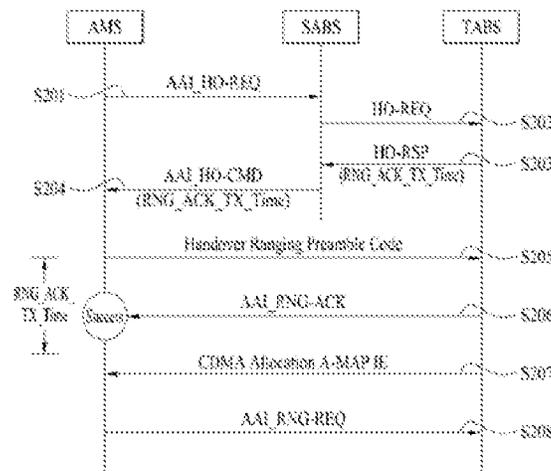
Neither IEEE or Cho, alone or in any combination, teaches “transmitting a unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure, wherein the unicast RNG-ACK enables the SS to reset a periodic ranging timer of the SS associated with a periodic ranging procedure”, as claimed.

The Office Action states, and the Applicants agree, that “IEEE fails to explicitly teach the RNG-ACK message is sent based on the received UL data burst from the SS as in the present application.” *Office Action, pg. 4*. The Office Action cites Cho as allegedly teaching this deficiency. The Applicants submit that it does not.

Cho is concerned with the transmission timing of a RNG-ACK message from a target base station to a mobile station during a handover ranging procedure. *Cho, para. [0016]*. The handover ranging procedure of Cho occurs in two phases, a handover preparation phase and a handover execution phase. *Cho, para. [0090]-[0091]*. In the preparation phase, a serving base station and a target base station perform a parameter negotiation for handover, in which the target base station provides the serving base station with an indication of transmission timing of a

RNG-ACK message. *Cho, para. [0090]*. This information is relayed to the mobile station, so that the mobile station may detect a failure in the handover execution phase (i.e., a timer expiration based on the indicated transmission timing for receiving a RNG-ACK) and restart the handover ranging procedure if such a failure occurs. *Cho, para. [0090]*. The preparation phase is depicted in steps S201-S205 of FIG. 2, reproduced below for the Examiner’s convenience.

FIG. 2



To start the handover execution phase, Cho discloses that the mobile station “transmits a ranging preamble code to the target base station.” *Cho, para. [0091]*. This is also shown in FIG. 2, above, as step S205. In a successful scenario, the target base station in Cho will send a RNG-ACK message **in response to the**

ranging preamble code to the mobile station. This is distinguishable from “transmitting a unicast ranging acknowledgement (RNG-ACK) to the SS **based on the received UL data burst** from the SS **during the CLD procedure.**” Cho does not disclose the performance of any coverage loss detection procedure, nor does Cho disclose the cooperation between a coverage loss detection procedure and a periodic ranging procedure. In Cho, the RNG-ACK is only sent in response to a ranging preamble code, which is part of a handover ranging procedure. A handover ranging procedure is not the same as a coverage loss detection procedure. It is also not the same as a periodic ranging procedure, as Cho explicitly recognizes. *See Cho, para. [0007]*. For at least these reasons, the handover ranging procedure of Cho cannot be used to modify IEEE.

Furthermore, paragraphs [0091]-[0095] of Cho, provide multiple conditions, that if present, will cause the mobile station to restart the handover ranging procedure. None of these conditions include the mobile station receiving “a unicast ranging acknowledgement (RNG-ACK) ... based on the [transmitted] UL data burst from the [mobile station] during the CLD procedure”, as claimed. Specifically, all of the conditions disclosed by Cho involve a failure to receive a message. *See Cho, paras. [0091]-[0095]*. For example, Cho provides that the handover ranging procedure will be reset if an “UL_grant for transmitting an AAI_RNG-ACK message or AAI_RNG-REQ message ... to which the mobile station has transmitted the ranging preamble code, fails to be received before the time set on the T3 timer

expires.” *Cho*, [para. 0092]. (Emphasis added). This first condition is a timeout condition independent of any received message. In other examples, the handover ranging procedure is restarted if an AAI_RNG-RSP message fails to be received by the base station before a timer expiration or if an AAI_RNG-REQ/RSP exchange is not complete within 128 frames. *Cho*, para. [0093]-[0094].

Accordingly, IEEE or Cho, either alone or in any combination, fail to disclose each and every feature recited in independent claim 21, as amended. Independent claim 28 recites similar elements as independent claim 21 and the Applicants submit that claim 28 is allowable for at least the same reasons provided above.

In view of the above, withdrawal of the 35 U.S.C. § 103 rejection of claims 21 and 28 is respectfully requested. Claims 22-27 and 29-34 are directly or indirectly dependent upon either claim 21 or 28, and the Applicants believe these claims are allowable over the combination of IEEE and Cho at least by virtue of their dependencies.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephonic interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

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Application No.: 13/173,858

In view of the foregoing, Applicants respectfully submit that the present application is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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