

REMARKS/ARGUMENTS

After the foregoing Amendment, claims 21-34 are currently pending in this application. Claims 21 and 28 are amended.

Examiner Interview

Applicants thank the Examiner for granting a telephonic interview with the Applicants' representative on Tuesday, June 7, 2016. During the telephonic interview the Examiner and Applicants' representative discussed the applicability of the Son reference and the amendments being entered in this Response.

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. 2008/0123576 A1 to Son et al. (hereinafter "Son"). 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 perform 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 an unsolicited unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure, wherein the unsolicited 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 paragraph [0095] of the present application.

Neither IEEE or Son, alone or in any possible combination, teach, suggest, disclose or render obvious “transmitting an unsolicited unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure, wherein the unsolicited 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 teach the following limitation of transmitting a ranging acknowledgement to reset a periodic ranging timer.” *Office Action*, pg. 4. As a result, IEEE must fail to teach “transmitting an unsolicited unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure, wherein the unsolicited unicast RNG-ACK enables the SS to reset a periodic

ranging timer of the SS associated with a periodic ranging procedure,” as recited in amended claim 21.

The Office Action cites figure 4 and paragraphs [0048], [0057], and [0064]-[0065] of Son as teaching the deficiencies of IEEE. *See Office Action*, pgs. 4-5. The Applicants respectfully disagree, and submit that Son, in combination with IEEE, does not teach, suggest, disclose, or render obvious “transmitting an **unsolicited unicast ranging acknowledgement (RNG-ACK) to the SS based on the received UL data burst from the SS during the CLD procedure**, wherein the unsolicited unicast RNG-ACK enables the SS to reset a periodic ranging timer of the SS associated with a periodic ranging procedure” as claimed.

Son teaches a periodic ranging operation. *Son*, para. [0062]-[0067]. In Son’s periodic ranging operation, the MS transitions to an awake mode from a sleep mode and activates Timer_MS_PR_error. *Son*, para. [0063]. The Timer_MS_PR_error is an MS-managed timer activated when the MS starts periodic ranging with the BS at a predetermined time. *Son*, para. [0060]. The BS also activates Timer_BS_PR_error at the same time. *Son*, para. [0063]. The Timer_BS_PR_error is a BS-managed timer activated when the BS starts periodic ranging with a sleep-mode MS. *Son*, para. [0057]. After timer activation, the BS allocates an uplink burst for periodic ranging to the MS (step 431). *Son*, para. [0063]. Upon detection of the uplink burst allocation, the MS transmits a RNG-REQ message to the BS (step 439). *Son*, para. [0063]. In response, the BS transmits a RNG-RSP and

allocates an uplink burst to the MS to support an additional RNG-REQ transmission from the MS (step 441).

This is NOT the same as “transmitting an **unsolicited unicast ranging acknowledgement (RNG-ACK)** to the SS based on the received UL data burst from the SS **during the CLD procedure**, wherein the unsolicited unicast RNG-ACK enables the SS to reset a periodic ranging timer of the SS associated with a periodic ranging procedure” as claimed. The RNG-RSP of Son (which the Office Action alleges is the same as Applicants’ RNG-ACK) is sent by the BS in **RESPONSE** to a RNG-REQ message from the MS. *Son*, Fig. 4, para. [0064]. It is therefore NOT an “unsolicited unicast RNG-ACK” as claimed. The RNG-RSP is also NOT transmitted “based on the received UL data burst from the SS **during the CLD procedure,**” as Son is only concerned with a periodic ranging procedure, not a coverage loss detection procedure.

Applicants note that the Office Action’s citation to paragraph [0065] of Son as teaching a RNG-ACK is transmitted “based on the received UL data burst, from the SS during the CLD procedure” is in error. The uplink burst for the additional RNG-REQ transmission is sent from the BS to the MS with the RNG-RSP. *Son*, Fig. 4. Based on the receipt of this transmission, the MS transmits an additional RNG-REQ. Thus, it is impossible for the RNG-RSP (which the Office Action alleges is the same as Applicants’ RNG-ACK) to be transmitted based on a subsequent uplink burst allocation.

For at least these reasons, IEEE or Son, alone or in any possible combination, fail to teach, suggest, disclose, or render obvious Applicants' 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 for the combination of IEEE and Son 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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