



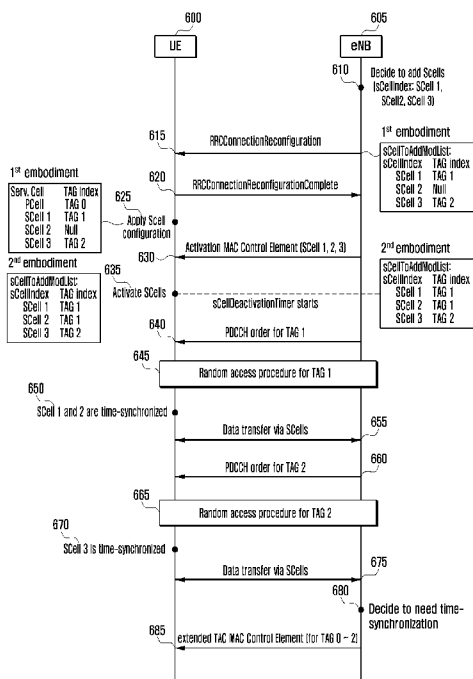
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(54) Title: METHOD AND APPARATUS FOR MANAGING MULTIPLE TIMING ADVANCE GROUPS IN MOBILE COMMUNICATION SYSTEM SUPPORTING CARRIER AGGREGATION PRIORITY

[Fig. 6]



(57) Abstract: A method and apparatus for managing multiple Timing Advance Groups (TAGs) operating with different timings are provided for use in a Long Term Evolution (LTE) system. The method for managing multiple TAGs at a base station of a wireless communication system supporting carrier aggregation according to an exemplary embodiment of the present invention includes categorizing a plurality of carriers into at least one TAG according to a predetermined rule, assigning a TAG index to each TAG, transmitting the TAG index to a terminal, generating a Timing Advance Command (TAC) for synchronization, and transmitting the TAC to the terminal in a random access process. The method and apparatus for managing TAGs according to exemplary embodiments of the present invention is capable of informing of the timing advance group to which each carrier belongs and managing multiple timing advance groups efficiently without signaling overhead.

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04J 11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: Timing Advance Group, TA, TAG, TAC, multiple TAGs

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NTT DOCOMO, INC., `CA support for multi-TA.` 3GPP TSG-RAN2#69, R2-101567, 22-26 February, 2010. (Retrieved from the Internet on 29 October 2012: < URL: http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_69/Docs/R2-101567.zip >) See sections 1, 2.	1-15
A	QUALCOMM INCORPORATED, `Supporting multiple timing advance groups.` 3GPP TSG-RAN WG2 meeting#68bis, R2-100423, 18-22 January 2010. (Retrieved from the Internet on 29 October 2012: < URL: http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_68bis/Docs/R2-100423.zip >) See section 2.	1-15
A	NOKIA CORPORATION et al., `RACH and carrier aggregation.` 3GPP TSG-RAN WG2 Meeting #68bis, R2-100372, 18-22 January 2010. (Retrieved from the Internet on 29 October 2012: < URL: http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_68bis/Docs/R2-100372.zip >) See section 2.	1-15

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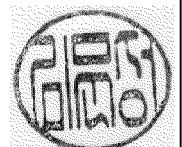
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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None