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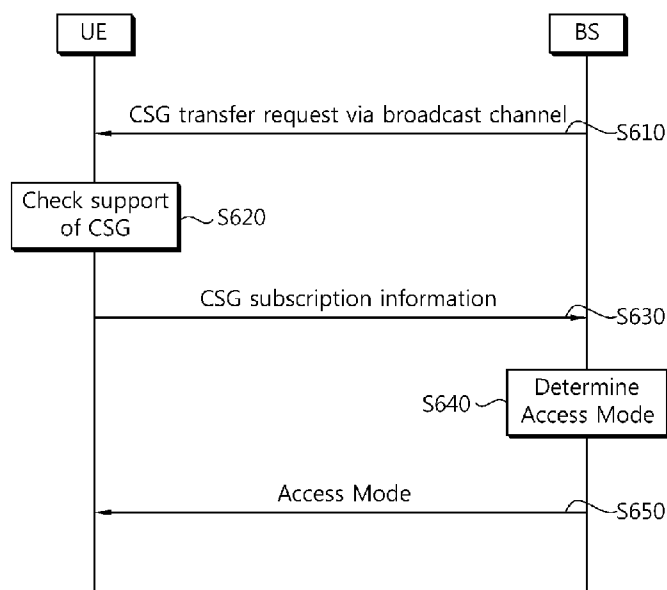
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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR SUPPORTING CSG SERVICE IN WIRELESS COMMUNICATION SYSTEM

[Fig. 6]



(57) Abstract: A method and apparatus for supporting a closed subscriber group (CSG) service is provided. The apparatus includes a radio frequency unit to transmit and receive radio signals, a memory configured to store CSG subscription information, and a processor operatively coupled to the RF unit and the memory and to implement a radio interface protocol. The processor is configured to access to a base station (BS), transmit the CSG subscription information to the BS, receive an access mode from the BS, wherein the access mode is determined based on the CSG subscription information, and negotiate with the BS on a CSG service if the access mode supports a CSG to which the apparatus belongs.



MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM,
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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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: CSG , Access mode

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2008-0086413 A (INNOVATIVE SONIC LIMITED) 25 September 2008 See claims 1-29 and figures 1-8.	1-15
A	US 2008-0267153 A1 (MUKHERJEE, RAJAT P. et al.) 30 October 2008 See claims 1-42 and figures 1-6.	1-15
A	KR 10-2005-0098372 A (SAMSUNG ELECTRONICS CO., LTD.) 12 October 2005 See claims 1-6 and figures 1-10.	1-15

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2008-0086413 A	25.09.2008	CN 101272336 A	24.09.2008
		CN 101272336 C0	24.09.2008
		CN 101272561 A	24.09.2008
		CN 101272561 C0	24.09.2008
		CN 101272562 A	24.09.2008
		CN 101272562 C0	24.09.2008
		EP 1973281 A2	24.09.2008
		EP 1973281 A3	05.08.2009
		EP 1973365 A2	24.09.2008
		EP 1973365 A3	31.12.2008
		EP 1973366 A2	24.09.2008
		EP 1973366 A3	31.12.2008
		JP 2008-252889 A	16.10.2008
		JP 2008-263600 A	30.10.2008
		JP 2008-278473 A	13.11.2008
		KR 10-2008-0086415 A	25.09.2008
		KR 10-2008-0086416 A	25.09.2008
		KR 10-2010-0076919 A	06.07.2010
US 2008-0267153 A1	30.10.2008	AR 066279 A1	12.08.2009
		CA 2685187 A1	06.11.2008
		EP 2137899 A2	30.12.2009
		WO 2008-134281 A2	06.11.2008
		WO 2008-134281 A3	28.05.2009
KR 10-2005-0098372 A	12.10.2005	None	