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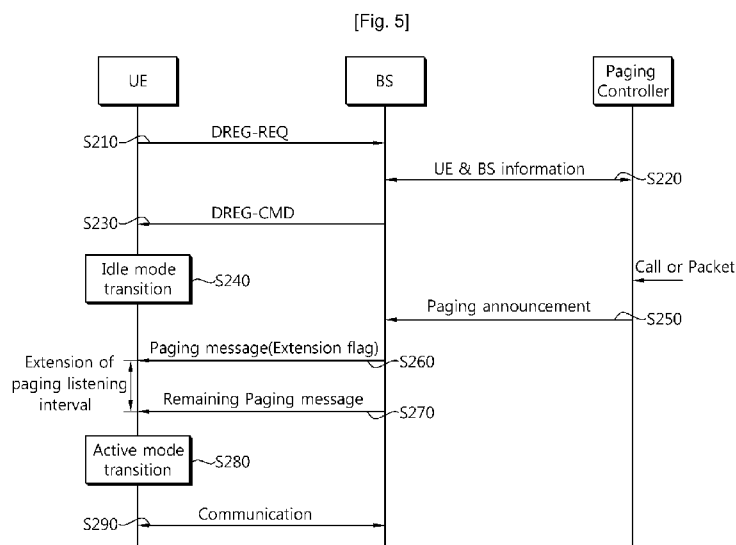
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(54) Title: METHOD AND APPARATUS OF OPERATING IN IDLE MODE IN WIRELESS COMMUNICATION SYSTEM



(57) Abstract: A method and apparatus of operating in an idle mode to receive a paging message is provided. The user equipment wakes during a paging listening interval and receives a first part of the paging message during the paging listening interval from a base station. The paging message comprises an extension flag indicating extension of the paging listening interval. The user equipment receives a second part of the paging message during the extended paging listening interval.

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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)

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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) &amp; Keywords: "paging message, paging listening interval, extension flag"

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008-0051109 A1 (WILLIAM DANIEL WILLEY) 28 February 2008 See abstract, figures 1,8, paragraphs [0034], [0037], [0039], [0060]-[0062], and claims 1-3.	1-15
A	US 2003-0054820 A1 (WOO SEOK KANG et al.) 20 March 2003 See abstract, figures 1-3, paragraphs [0053]-[0058], and claims 1-3,7.	1-15
A	US 2006-0154663 A1 (YEONG-MOON SON et al.) 13 July 2006 See abstract, figure 5, paragraphs [0067]-[0071], and claims 1,12.	1-15
A	US 2005-0049013 A1 (SUN-NY CHANG et al.) 03 March 2005 See abstract, figures 1,8, paragraphs [0009]-[0014], [0081], and claims 1-4.	1-15

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

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
US 2008-0051109 A1	28.02.2008	AU 2007-211859 A1	13.03.2008		
		BR P10705690 A	03.06.2008		
		CA 2598257 A1	22.02.2008		
		CN 101150873 A	26.03.2008		
		EP 1892982 A1	27.02.2008		
		EP 1892982 B1	17.06.2009		
		EP 2096894 A1	02.09.2009		
		JP 2008-054316 A	06.03.2008		
		KR 10-2008-0019175 A	03.03.2008		
		MX 2007010184 A	30.01.2009		
		SG 140562 A1	28.03.2008		
		US 7742441 B2	22.06.2010		
		US 2003-0054820 A1	20.03.2003	CN 1364035 A	14.08.2002
				KR 10-0531362 B1	29.11.2005
KR 10-0860021 B1	25.09.2008				
US 6990341 B2	24.01.2006				
US 2006-0154663 A1	13.07.2006	AU 2006-204210 A1	13.07.2006		
		AU 2006-204210 B2	29.01.2009		
		BR P10606726 A2	14.07.2009		
		CA 2594381 A1	13.07.2006		
		CN 101103557 A	09.01.2008		
		EP 1679930 A2	12.07.2006		
		EP 1679930 A3	10.02.2010		
		JP 2008-524956 A	10.07.2008		
		KR 10-0665426 B1	04.01.2007		
		KR 10-2006-0081877 A	13.07.2006		
		RU 2007125980 A	20.01.2009		
		RU 2367120 C2	10.09.2009		
		US 7738869 B2	15.06.2010		
		WO 2006-073297 A1	13.07.2006		
US 2005-0049013 A1	03.03.2005	CN 1592439 A	09.03.2005		
		EP 1511335 A2	02.03.2005		
		EP 1511335 A3	14.09.2005		
		JP 03-967344 B2	29.08.2007		
		JP 2005-080287 A	24.03.2005		
		KR 10-2005-0025039 A	11.03.2005		
		US 7130668 B2	31.10.2006		