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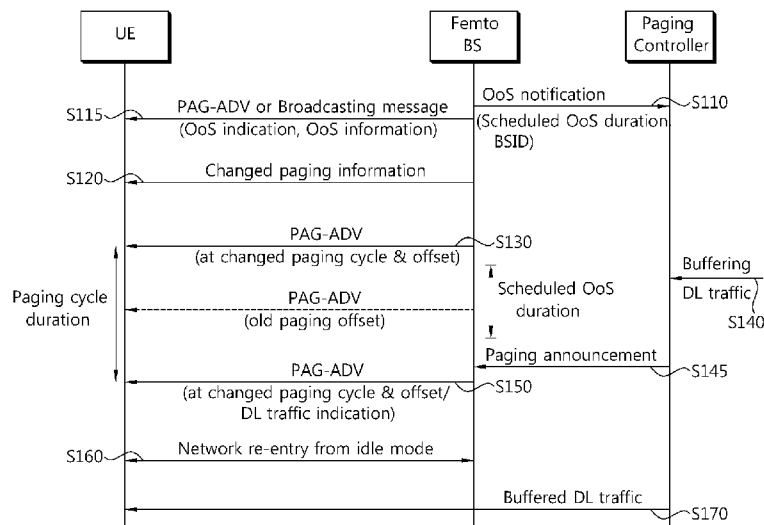
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(54) Title: METHOD AND APPARATUS OF OPERATING FEMTO BASE STATION IN WIRELESS COMMUNICATION SYSTEM

[Fig. 3]



(57) Abstract: A method and apparatus of operating a femto base station in a wireless communication system is provided. A first announcement message indicating service interruption is transmitted. A second announcement message indicating service recovery is transmitted. The second announcement message is transmitted to a user equipment or a macro base station having a wider cell area than the femto base station. Reliability of a communication service can be maintained for a user equipment even if a service of a femto base station is temporarily interrupted.

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INTERNATIONAL SEARCH REPORT

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PCT/KR2009/007679**A. CLASSIFICATION OF SUBJECT MATTER****H04B 7/26(2006.01)i**

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)

H04B 7/26; H04L 12/24; H04L 12/28; H04L 12/56; H04L 12/58

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: message, interrupt, recover, femto

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2000-0032681 A (KOREA ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE; KOREA TELECOM) 15 June 2000 See the Abstract; Figs. 1-6; Claims 1-8.	1, 10
A	JP 2007-318629 A (NIPPON TELEGRAPH & TELEPHONE CORP.) 06 December 2007 See the Abstract; Figs. 1-5; Claims 1-8.	1-15
A	JP 2000-036818 A (NEC CORP.) 02 February 2000 See the Abstract; Figs. 1-10; Claims 1-16.	1-15
A	WO 2008-046351 A1 (HUAWEI TECHNOLOGIES CO., LTD.) 24 April 2008 See the Abstract; Figs. 1-4; Claims 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 10-2000-0032681 A	15.06.2000	None	
JP 2007-318629 A	06.12.2007	None	
JP 2000-036818 A	02.02.2000	JP 3072728 B2 US 6421316 B1	07.08.2000 16.07.2002
WO 2008-046351 A1	24.04.2008	CN 100456701 C CN 101043373 A	28.01.2009 26.09.2007