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(74) Agent: KWOK, Edward C.; Haynes and Boone, LLP,
2323 Victory Avenue, Suite 700, Dallas, Texas 75219
(US).

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(71) Applicant (for all designated States except US): NTT
DOCOMO, INC. [JP/JP]; Sanno Park Tower, 11-1, Na-
gata-Cho, 2-Chome, Chiyoda-Ku, Tokyo, 100-6150 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SAHIN, Mustafa
Emin [TR/US]; 14416 Hellenic Drive, Tampa, Florida
33613 (US). ARSLAN, Huseyin [TR/US]; 18167 Sandy
Point Drive, Tampa, Florida 33647 (US). GUVENC, Is-
mail [TR/US]; 3614 Flora Vista Avenue, Apt. 270, Santa
Clara, California 95051 (US). JEONG, Moo Ryong [KR/
US]; 415 Jula Gulf Way, Albany, California 94706 (US).

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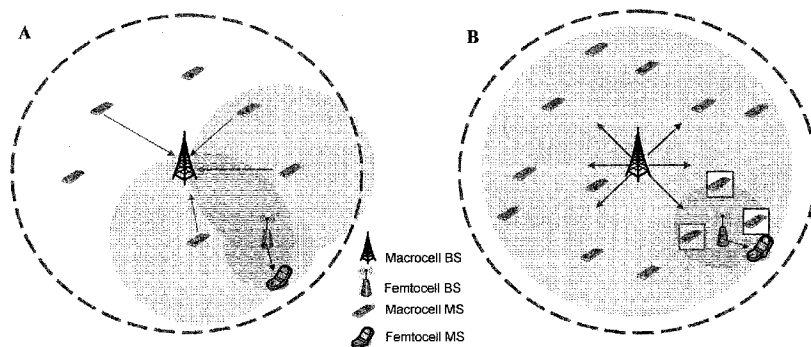


FIG 1

(57) Abstract: A femtocell increases efficiency and coverage of a macrocellular network operating in a co-channel manner within the macrocell spectrum by selecting subcarriers for its mobile station using both the subcarrier allocation map received from the macrocell and a spectrum sensing operation. Interference is avoided by selecting only subcarriers not allocated by the macrocell and subcarriers allocated to users not nearby to the femtocell. Interference is eliminated from the received signals using co-channel interference avoidance techniques. Selection of subcarriers for femtocell use may take into consideration inter-carrier interference detected.

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INTERNATIONAL SEARCH REPORT

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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - H04B 7/208 (2009.01) USPC - 370/344 According to International Patent Classification (IPC) or to both national classification and IPC</p>																				
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) IPC(8) - 370/344, 329; 455/450, 456.5, 456.6, 464, 452.1, 446 USPC - 370/344</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) USPTO EAST System (US, USPG-PUB, EPO), PateBase, Google Patent, Google Scholar, IEEE Xplore</p>																				
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X — Y</td> <td>US 2006/0280116 A1 (JI et al) 14 December 2006 (14.12.2006) entire document</td> <td>1-7, 12-17, 19, 21-22, 26-28 ----- 8-11, 18, 20, 23-25</td> </tr> <tr> <td>Y</td> <td>US 2008/0049709 A1 (PAN et al) 28 February 2008 (28.02.2008) entire document</td> <td>8</td> </tr> <tr> <td>Y</td> <td>US 2007/0248173 A1 (HASSAN et al) 25 October 2007 (25.10.2007) entire document</td> <td>9-11, 20</td> </tr> <tr> <td>Y</td> <td>US 2008/0002658 A1 (SOLIMAN) 03 January 2008 (03.01.2008) entire document</td> <td>18, 23, 24</td> </tr> <tr> <td>Y</td> <td>US 6,225,948 B1 (BAIER al) 01 May 2001 (01.05.2001) entire document</td> <td>25</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X — Y	US 2006/0280116 A1 (JI et al) 14 December 2006 (14.12.2006) entire document	1-7, 12-17, 19, 21-22, 26-28 ----- 8-11, 18, 20, 23-25	Y	US 2008/0049709 A1 (PAN et al) 28 February 2008 (28.02.2008) entire document	8	Y	US 2007/0248173 A1 (HASSAN et al) 25 October 2007 (25.10.2007) entire document	9-11, 20	Y	US 2008/0002658 A1 (SOLIMAN) 03 January 2008 (03.01.2008) entire document	18, 23, 24	Y	US 6,225,948 B1 (BAIER al) 01 May 2001 (01.05.2001) entire document	25
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