



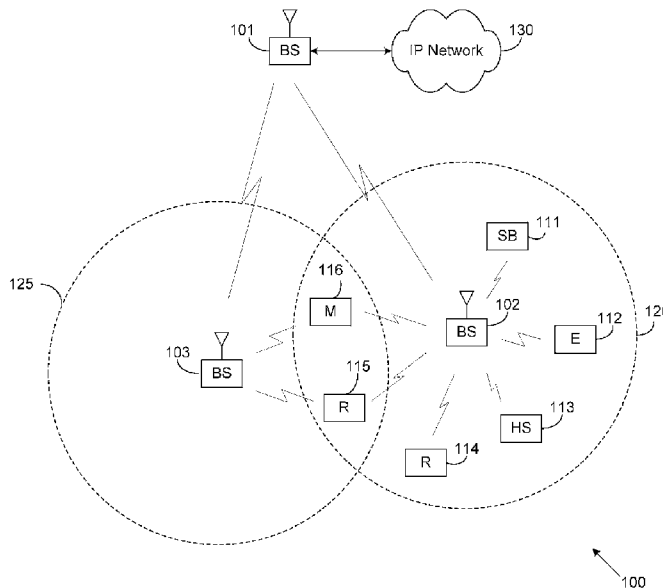
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- (71) Applicant (for all designated States except US): **SAM-SUNG ELECTRONICS CO., LTD.** [KR/KR]; 129, 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **NAM, Young-Han** [KR/US]; 280 West Renner Road, No. 821, Richardson, Collin County, Texas 75080 (US). **ZHANG, Jianzhong** [CN/US]; 5709 Misted Breeze Drive, Plano, Collin County, Texas 75093 (US). **HAN, Jin-Kyu** [KR/US]; 804 Panther Ln, Allen, Collin County, Texas 75013 (US).

- (74) Agents: **KWON, Hyuk-Rok** et al.; 2F, 28, Gyeonghui-gung-gil, Jongro-gu, Seoul 110-062 (KR).
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR PHYSICAL DOWNLINK CONTROL AND HYBRID-ARQ INDICATOR CHANNELS IN LTE-A SYSTEMS



(57) Abstract: A subscriber station configured to receive one or more physical resource blocks (PRBs) from a base station, the PRBs comprising an enhanced physical data control channel (ePDCCH) and at least one of an enhanced physical downlink control format indicator channel (ePCFICH), an enhanced physical hybrid-ARQ indicator channel (ePHICH). A number of resource element groups (REGs) for the at least one of the ePCFICH or the ePHICH are mapped onto a first set of REs in each of one or more PRBs according to a mapping pattern. Also, a number of REGs for the ePDCCH are mapped onto a second set of REs in each of the one or more PRBs, wherein the first set of REs and the second set of REs do not have a common RE.

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A. CLASSIFICATION OF SUBJECT MATTER**H04J 11/00(2006.01)i, 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)

H04J 11/00; H04B 7/26

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: enhanced Physical Data Control CHannel, ePDCCH, ePCFICH, ePHICH, Physical Resource Block, PRB, Resource Element Group, REG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ZTE, `Aspects on DL control signaling enhancements.` 3GPP TSG-RAN WG1 #65, R1-111521, 09-13 May 2011. (Retrieved from the Internet on 20 February 2013: < URL: http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_65/Docs/R1-111521.zip >) See sections 3, 4; figures 1-4.	1-15
A	SAMSUNG, `Discussion on Downlink Control Channel Enhancement.` 3GPP TSG-RAN WG1 #65, R1-111471, 09-13 May 2011. (Retrieved from the Internet on 20 February 2013: < URL: http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_65/Docs/R1-111471.zip >) See sections 2, 3; tables 1, 2.	1-15
A	ERICSSON, ST ERICSSON, `Enhancements for UE specific control signaling.` 3GPP TSG-RAN WG1 #65, R1-111332, 09-13 May 2011. (Retrieved from the Internet on 20 February 2013: < URL: http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_65/Docs/R1-111332.zip >) See section 3; figure 1.	1-15
A	KR 10-2011-0086246 A (SAMSUNG ELECTRONICS CO., LTD.) 28 June 2011 See paragraphs [56]-[57], [73]-[75]; figures 4, 6.	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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Korean Intellectual Property Office
189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan
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Authorized officer

Moonseong Kim

Telephone No. 82-42-481-8515



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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2011-0086246 A	28.07.2011	None	