

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 December 2006 (21.12.2006)

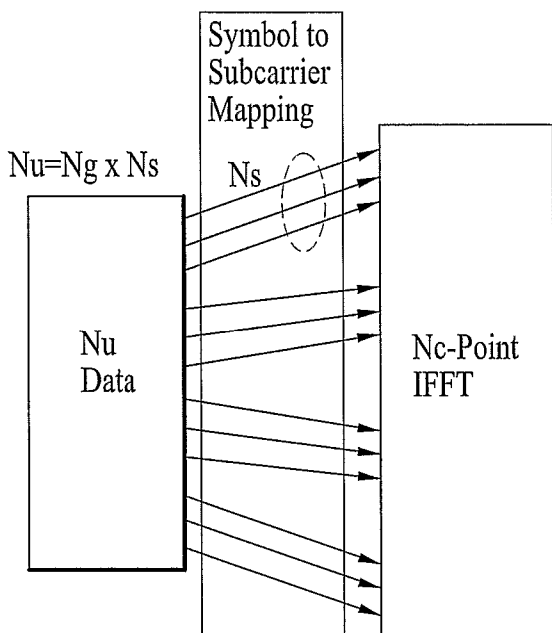
PCT

(10) International Publication Number
WO 2006/135186 A3

- (51) International Patent Classification:
H04L 27/26 (2006.01) H04B 1/69 (2006.01)
H04B 7/005 (2006.01)
 - (21) International Application Number:
PCT/KR2006/002253
 - (22) International Filing Date: 13 June 2006 (13.06.2006)
 - (25) Filing Language: English
 - (26) Publication Language: English
 - (30) Priority Data:
10-2005-0051558 15 June 2005 (15.06.2005) KR
 - (71) Applicant (for all designated States except US): LG ELECTRONICS INC. [KR/KR]; 20, Yoido-dong, Youngdungpo-gu, Seoul 150-721 (KR).
 - (72) Inventors; and
 - (75) Inventors/Applicants (for US only): KIM, Hak Seong [KR/KR]; 109-1801, Daewoo Apt., Bongcheon 3(sam)-dong, Gwanak-gu, Seoul 151-764 (KR). KIM, Bong Hoe [KR/KR]; 103-105, Taeyoung Apt., Bono-dong, Ansan-si, Gyeonggi-do 426-180 (KR). ROH, Dong Wook [KR/KR]; 495, Sillim 4-dong, Gwanak-gu, Seoul 151-870 (KR). AHN, Joon Kui [KR/KR]; 108-1505, Gwanak Hyundai Apt., Sangdo 5-dong, Dongjak-gu, Seoul 156-781 (KR). SEO, Dong Youn [KR/KR]; 233-13, Nonhyeon 2(i)-dong, Gangnam-gu, Seoul 135-830 (KR). LEE, Jung Hoon [KR/KR]; 1502-1306, Kyungnam honorsville, Sinjeong 2(i)-dong, Yangcheon-gu, Seoul 158-072 (KR).
 - (74) Agents: KIM, Yong In et al.; KBK & Associates, 15th Floor Yo Sam Building 648-23, Yeoksam-dong, Kangnam-gu, Seoul 135-080 (KR).
 - (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
 - (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
- (88) Date of publication of the international search report:
5 April 2007

[Continued on next page]

(54) Title: A METHOD AND APPARATUS FOR ALLOCATING A PLURALITY OF DATA SYMBOLS IN A WIRELESS COMMUNICATION SYSTEM



(57) Abstract: A method of allocating a plurality of data symbols from a transmitting end using multiple carrier modulation (MCM) is disclosed. More specifically, the method includes receiving the plurality of data symbols from a serial-to-parallel converter, grouping the plurality data symbols into at least one data symbol group, wherein the at least one data symbol group is formed by grouping a specified number of neighboring data symbols, and allocating the at least one data symbol group to at least one subcarrier group, wherein the at least one subcarrier group is formed by grouping a plurality of subcarriers.

WO 2006/135186 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 2006/002253

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁸: **H04L 27/26** (2006.01); **H04B 7/005** (2006.01); **H04B 1/69** (2006.01)

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)

IPC⁸: H04B, H04J, H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI, EPODOC, Elsevier, IEE, IEEEExplore, Research Disclosure, IBM TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Sakakura, S.; Wei Huang; Nakagawa, M.; "Pre-diversity using coding, multi-carriers and multi-antennas." In: Fourth IEEE International Conference on Universal Personal Communications. Conference Proceeding. Tokyo, 6-10 November 1995. Pages: 605-609	1-28
X	WO 2004/084435 A1 (AGENCY FOR SCIENCE TECHNOLOGY) 30 September 2004 (30.09.2004) Abstract; Page 3, Lines 1-31; Page 19, Line 1 - Page 20, Line 16	1-28

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
22 November 2006 (22.11.2006)Date of mailing of the international search report
14 December 2006 (14.12.2006)Name and mailing address of the ISA/ AT
Austrian Patent Office
Dresdner Straße 87, A-1200 ViennaAuthorized officer
MESA PASCASIO J.

Facsimile No. +43 / 1 / 534 24 / 535

Telephone No. +43 / 1 / 534 24 / 327

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2006/002253

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO A 2004/084435		none	