(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 18 June 2009 (18.06.2009)

 $CT = \frac{(10) \text{ Ir}}{\sqrt{3}}$

(10) International Publication Number WO 2009/076007 A3

- (21) International Application Number:

PCT/US2008/083821

(22) International Filing Date:

17 November 2008 (17.11.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 11/954.255

12 December 2007 (12.12.2007) US

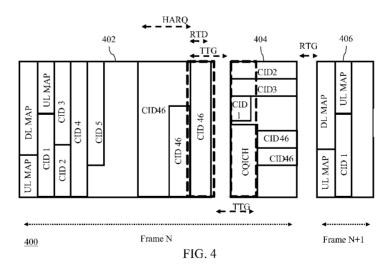
- (71) Applicant (for all designated States except US): MOTOROLA, INC. [US/US]; 1303 East Algonquin Road, Schaumburg, IL 60196 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VAIDYA, Samir, S. [IN/US]; 16 S. First Avenue, #2, Highland Park, NJ 08904 (US). RASQUINHA, Kalvyn, T. [IN/US]; 621 Ascot Lane, Streamwood, IL 60107 (US). WANG, Jun, [CN/US]; 19 Salem Lane, Evanston, IL 60203 (US).
- (74) Agent: ANOLICK, Simon, B.; 1303 East Algonquin Road, Schaumburg, IL 60196 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 30 July 2009

(54) Title: METHOD AND SYSTEM FOR MANAGING COMMUNICATION BETWEEN A BASE STATION AND SUBSCRIBER STATIONS



(57) Abstract: A method and system for managing a communication between a base station (102) and plurality of subscriber stations (104, 106, 108 and 110) is disclosed. The method includes determining (504) whether a Round Trip Delay (RTD) component is greater than the duration of a data slot for at least one subscriber station of the plurality of subscriber stations. The RTD component is a part of a Transmit/receive Transition Gap (TTG) of the base station. The method also includes scheduling (506) the data slot for the at least one subscriber station using the RTD component of the base station when the duration of the RTD component is greater than the duration of the data slot for the at least one subscriber station.





International application No. **PCT/US2008/083821**

A. CLASSIFICATION OF SUBJECT MATTER

H04W 72/12(2009.01)i, H04W 28/10(2009.01)i, H04W 16/12(2009.01)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)

IPC 9: H04W, H04Q, H04B

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 since 1975

Japanese Utility models and applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKIPASS(KIPO internal) & keywords: "wireless, resource, allocation, delay, RTD, TTG, RTG"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| A | IEEE Standard for local and metropolitan area networks, Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems, Amendment 2: Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in License Bands. IEEE Std 802.16e-2005 and IEEE Std 802.16-2004/Cor1-2005 (Amendment and Corrigendum to IEEE Std 802.16-2004). 28 Feb. 2006, pp. 182-184, 317, 356-357. | 1-10 |
| A | US 2005-0286449 A1 (SEO, HEE-SANG et al.) 29 Dec. 2005 See abstract, figure 7, paragraphs [0042]-[0044] and claim 1. | 1-10 |
| A | US 07012900 B1 (RIDDLE, GUY) 14 Mar. 2006 See abstract, figure 6, col. 8, lines 22-67, and claim 1. | 1-10 |
| A | JP 2007-251666 A (NEC CORP) 27 Sep. 2007 See abstract, figures 4-5, and claim 1. | 1-10 |
| | | |
| | | |

| l | Further documents are | listed | in the c | ontinuatio | n 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 citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other
- "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

27 MAY 2009 (27.05.2009)

Date of mailing of the international search report

27 MAY 2009 (27.05.2009)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seogu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Kwang Sik

Telephone No. 82-42-481-8355



INTERNATIONAL SEARCH REPORT

International application No.

| Information on | n patent family members | PC | PCT/US2008/083821 | |
|---|-------------------------|--|--|--|
| Patent document cited in search report | Publication date | Patent family member(s) | Publication date | |
| US 2005-0286449 A1 | 29.12.2005 | None | | |
| JS 07012900 B1 | 14.03.2006 | None | | |
| JP 2007-251666 A | 27.09.2007 | AU 2007-201154 A1 KR 10-2007-0094514 TW 200803319 A US 2007-218948 A1 | 04.10.2007 A 20.09.2007 01.01.2008 20.09.2007 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |