(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 25 October 2007 (25.10.2007)

PCT

(10) International Publication Number WO 2007/121285 A3

- (51) International Patent Classification: *H04L 12/28* (2006.01) *H04L 12/56* (2006.01)
- (21) International Application Number:

PCT/US2007/066492

- (22) International Filing Date: 12 April 2007 (12.04.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

60/792,027 12 April 2006 (12.04.2006) US 11/536,193 28 September 2006 (28.09.2006) US

- (71) Applicant (for all designated States except US): QUAL-COMM Incorporated [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ZHANG, Xiangdong [CN/US]; 52 Russell's Way, Westford, Massachusetts 01886 (US). WALLACE, Mark S. [US/US]; 4 Madel Lane, Bedford, Massachusetts 01730 (US). WALTON, Jay Rodney [US/US]; 85 Highwoods Lane, Carlisle, Massachusetts 01741 (US).

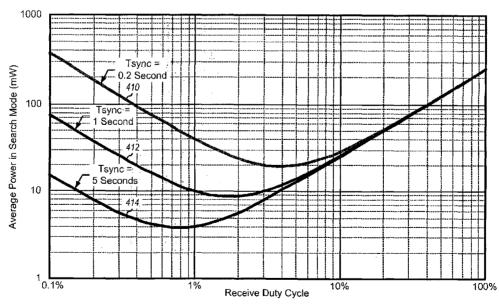
- (74) Agent: OGROD, Gregory D.; Attn: International IP Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, 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, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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).

Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: DETECTION OF STATIONS FOR WIRELESS COMMUNICATION



(57) Abstract: Techniques for detecting other stations in a power efficient manner are described. A station may operate in a passive mode or a search mode. In the passive mode, the station receives for one receive period in each time interval. In the search mode, the station transmits for a series of transmit periods in one time interval, then receives for one receive period in the next time interval, and repeats the transmit/receive cycle. In an example scenario, station A operates in the search mode and sends a series of transmissions during its transmit periods. Station B operates in the passive mode, receives a transmission from station A during its receive period, switches to the search mode, and sends a series of transmissions for one time interval. Station A receives a transmission from station B during its receive period. After detecting one another, stations A and B may perform synchronization.



WO 2007/121285 A3



— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

(88) Date of publication of the international search report: 13 December 2007

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

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/US2007/066492

A. CLASSIFICATION OF SUBJECT MATTER INV. H04L12/28 H04L1 H04L12/56 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) 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 practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X US 2005/177639 A1 (REUNAMAKI JUKKA [FI] ET 1 - 32AL) 11 August 2005 (2005-08-11) abstract paragraphs [0036] - [0044], [0053], [0054], [0057] - [0059], [0057] - [0066] X EP 1 578 086 A (SONY INT EUROP GMBH [DE]) 1 - 1921 September 2005 (2005-09-21) paragraph [0010] 20 - 32Α US 2005/032556 A1 (BENNETT DAVID [GB] ET 1 - 19X AL) 10 February 2005 (2005-02-10) 20 - 32Α abstract paragraphs [0041] - [0043] Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: "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 "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention citation or other special reason (as specified) cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or other means ments, such combination being obvious to a person skilled document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 9 October 2007 17/10/2007 Authorized officer Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Milano, Massimo Fax: (+31-70) 340-3016

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/066492

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2005177639	A1	11-08-2005	NONE		
EP 1578086	Α	21-09-2005	NONE		
US 2005032556	A1	10-02-2005	NONE		