

(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): **QUALCOMM 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.

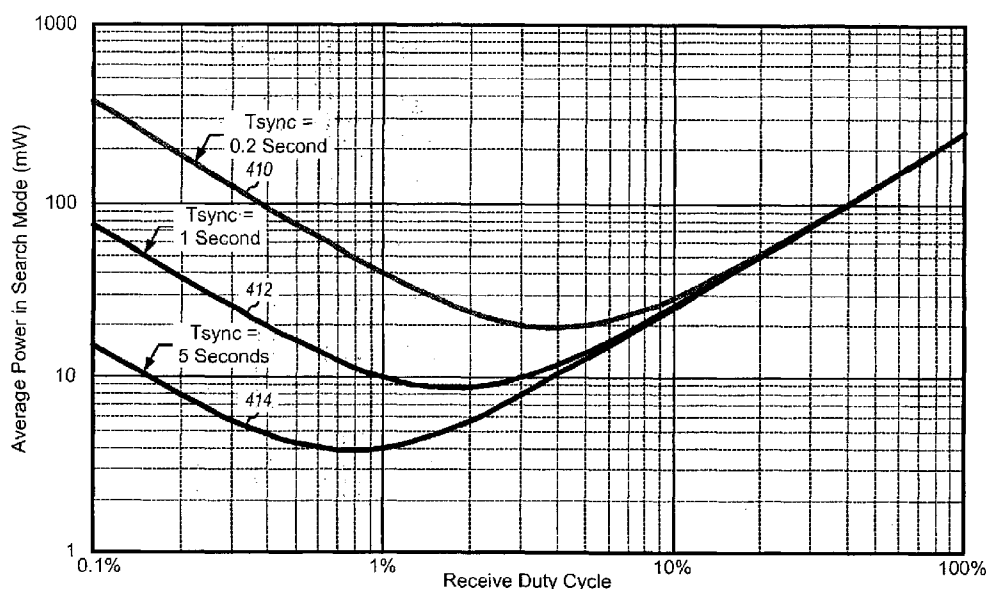
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, 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.