

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 November 2006 (23.11.2006)

PCT

(10) International Publication Number
WO 2006/125149 A2

(51) International Patent Classification:

H04Q 7/00 (2006.01) *H04J 3/24* (2006.01)

(21) International Application Number:

PCT/US2006/019433

(22) International Filing Date: 17 May 2006 (17.05.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/682,181 17 May 2005 (17.05.2005) US

(71) Applicant (for all designated States except US): **QUALCOMM INCORPORATED** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DAMNJANOVIC, Aleksander** [YU/US]; 14256 Pinewood Drive, Del Mar, California 92014 (US). **CASACCIA, Lorenzo** [IT/IT]; Via Bisagno 14, I-00198 Roma (IT).

(74) Agents: **WADSWORTH, Philip R.** et al.; 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, 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, KR, 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).

Declarations under Rule 4.17:

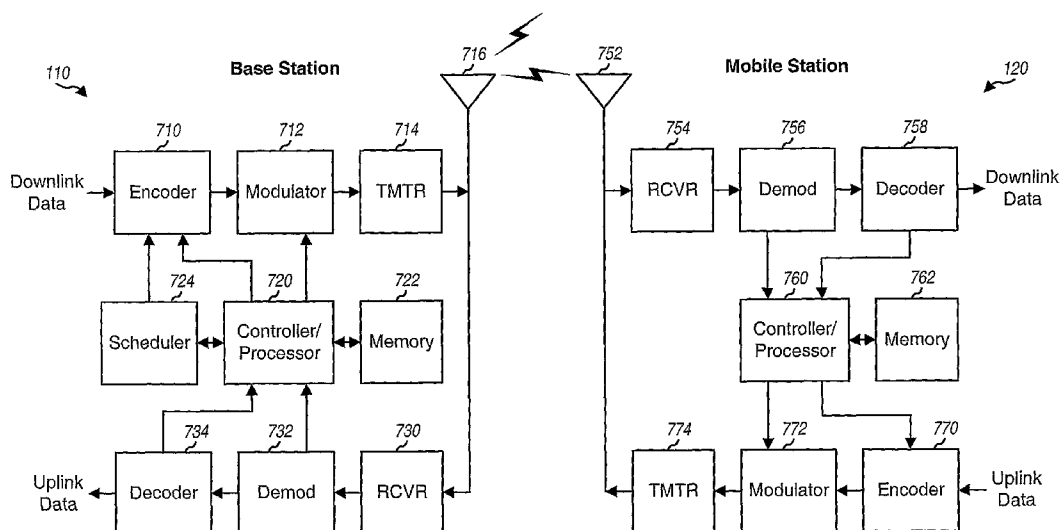
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- without international search report and to be republished upon receipt of that report

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.

(54) Title: METHOD AND APPARATUS FOR WIRELESS MULTI-CARRIER COMMUNICATIONS



(57) Abstract: A Global System for Mobile Communications (GSM) network supports multi-carrier operation on the downlink and/or uplink for a mobile station. The mobile station receives an assignment of multiple carriers for a first link in the GSM network, receives an assignment of at least one carrier for a second link in the GSM network, and exchanges data with the GSM network via the multiple carriers for the first link and the at least one carrier for the second link. The first link may be the downlink and the second link may be the uplink, or vice versa. The mobile station may receive data on multiple carriers at the same time for multi-carrier operation on the downlink. The mobile station may transmit data on multiple carriers at the same time for multi-carrier operation on the uplink.