

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/054130 A2

(51) International Patent Classification⁷: **H04B 7/005**

(21) International Application Number:
PCT/US2003/038807

(22) International Filing Date: 4 December 2003 (04.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/431,320 6 December 2002 (06.12.2002) US
10/387,973 12 March 2003 (12.03.2003) US

(71) Applicant: **QUALCOMM, INCORPORATED**
[US/US]; 5775 Morehouse Drive, San Diego, CA 92121
(US).

(72) Inventors: **OH, Hyukjun**; 2147 Newhall Street #412,
Santa Clara, CA 95050 (US). **BLESSENT, Luca**; 8308
Regents Road # 3F, San Diego, CA 92122 (US). **HSU,**
Chih-Ping; 7185 Celome Court, San Diego, CA 92129
(US). **SHIU, Da-shan**; 1280 San Tomas Aquino #204, San

Jose, CA 95117 (US). **KASTURI, Nitin**; 859 University
Avenue #16, Los Gatos, CA 95032 (US). **SUBRAH-**
MANYA, Parvathanathan; 468 Madera Avenue, Apt.
#1, Sunnyvale, CA 94086 (US).

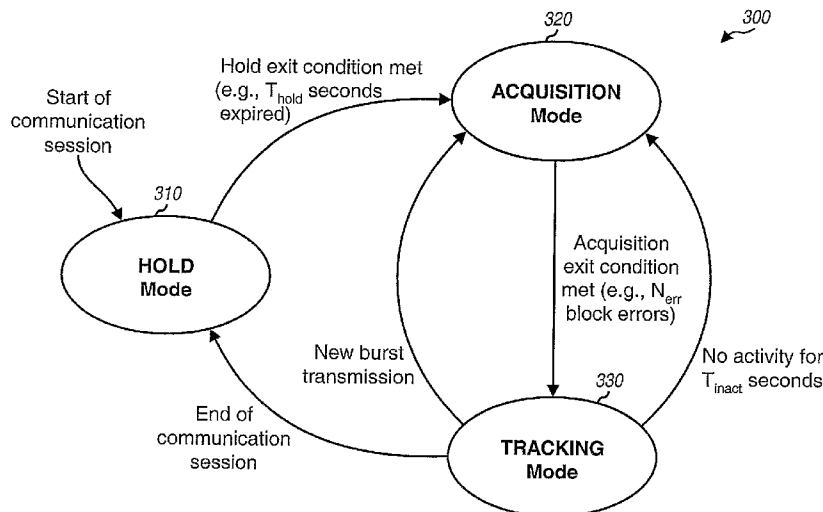
(74) Agents: **WADSWORTH, Philip R.** et al.; QUALCOMM
Incorporated, 5775 Morehouse Drive, San Diego, Califor-
nia 92121-1714 (US).

(81) Designated States (*national*): 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, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: FAST CONVERGING POWER CONTROL FOR WIRELESS COMMUNICATION SYSTEMS



(57) Abstract: Techniques to quickly adjust an SIR target toward a final value needed to achieve a specified target BLER for a data transmission. The outer loop may be implemented with multiple modes. The SIR target may be maintained fixed in a hold mode, adjusted in large down steps to speed up convergence in an acquisition mode, and adjusted by a small down step and a large up step for good and erased blocks, respectively, in a tracking mode. Various schemes may be used to adjust the SIR target by larger down steps in the acquisition mode. These schemes may be used even if data is transmitted intermittently, the target BLER is set to a low value, and/or one or multiple transport channels are used for data transmission. The SIR target may be boosted by a particular amount upon transitioning from the acquisition mode to the tracking mode.

WO 2004/054130 A2



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.