(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 22 February 2007 (22.02.2007)

(10) International Publication Number WO 2007/021951 A3

- (51) International Patent Classification: *H04Q* 7/32 (2006.01)
- (21) International Application Number:

PCT/US2006/031404

- (22) International Filing Date: 10 August 2006 (10.08.2006)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/707,210

10 August 2005 (10.08.2005) US

- (71) Applicant (for all designated States except US): QUAL-COMM Incorporated [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DRAVIDA, Subrahmanyam [US/US]; 20 Hemingway Street, Shrewsbury, Massachusetts 01545 (US). WALTON, Jay Rodney [US/US]; 85 Highwoods Lane, Carlisle, Massachusetts 01741 (US). SURINENI, Shravan, K. [IN/US]; 21 Royal Crest Drive, #9, Marlborough, Massachusetts 01752 (US).
- (74) Agents: WADSWORTH, Philip, R. et al.; 5775 Morehouse Drive, San Diego, California 92121 (US).

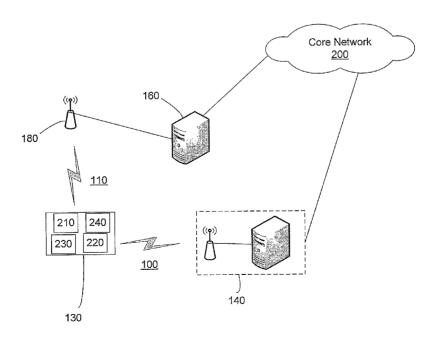
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, 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, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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, 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))

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR SIMULTANEOUS COMMUNICATION UTILIZING MULTIPLE WIRELESS COMMUNICATION SYSTEMS



(57) Abstract: A wireless communication method, apparatus, and system for simultaneous communication of a wide area network with a wireless local area network. The system having the wide area network configured to transmit control signals, the wireless local area network configured to transmit data signals, and a mobile station configured to receive control signals from the wide area network and data signals from the wireless local area network.



WO 2007/021951 A3



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: 12 April 2007

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/US2006/031404

A. CLASSIFICATION OF SUBJECT MATTER INV. H04Q7/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\label{lem:minimum} \mbox{ Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{ H04Q}$

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. DOCUM	ENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/105493 A2 (THOMSON LICENSING SA [FR]; VERMA SHAILY [IN]; WANG CHARLES CHUANMING [) 18 December 2003 (2003-12-18) page 3, line 17 - page 10, line 31; figures 1,3	1-36
X A	EP 1 545 146 A2 (SAMSUNG ELECTRONICS CO LTD [KR]) 22 June 2005 (2005-06-22) paragraphs [0026] - [0032]; figures 2,3	13-30 1-12, 31-36
X A	US 2004/023669 A1 (REDDY GAUTAM G [US]) 5 February 2004 (2004-02-05) the whole document	13-30 1-12, 31-36

<u> </u>				
Further documents are listed in the continuation of Box C.	X 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 document 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 another citation or other special reason (as specified) 'O' document referring to an oral disclosure, use, exhibition or other means '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	Date of mailing of the international search report			
5 February 2007	12/02/2007			
Name and mailing address of the ISA/	Authorized officer			
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Reeck, Guido			

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/031404

		PC1/US2000/US1404
C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	···
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 2004/097260 A1 (STENTON STUART PHILIP [GB] ET AL) 20 May 2004 (2004-05-20)	13-30
Α	paragraph [0023]; figure 1	1-12, 31-36
A	WO 2004/002051 A2 (THOMSON LICENSING SA [FR]; VERMA SHAILY [IN]; WANG CHARLES CHUANMING [) 31 December 2003 (2003-12-31) page 6, line 3 - page 11, line 23; figure 2	1-36
A	WO 2004/017565 A (TOGEWA HOLDING AG [CH]; CONN JEREMY RICHARD [CH]; STADELMANN TONI [CH]) 26 February 2004 (2004-02-26) page 12, line 29 - page 15, line 30	1-36
A	US 2003/134638 A1 (SUNDAR RANGAMANI [US] ET AL) 17 July 2003 (2003-07-17) paragraph [0068]	1-36
i		
İ		
İ		i.
İ		
i İ		
i		
I		
İ		
į		
İ		

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/031404

Patent document cited in search report		Publicatìon date		Patent family member(s)		Publication date
WO 03105493	A2	18-12-2003	AU BR CN EP JP MX	2003240944 0305017 1659908 1523859 2005529560 PA04012156	A A A2 T	22-12-2003 09-02-2005 24-08-2005 20-04-2005 29-09-2005 19-04-2005
EP 1545146	A2	22-06-2005	CN JP US	1674689 2005184824 2005153692	Α	28-09-2005 07-07-2005 14-07-2005
US 2004023669	A1	05-02-2004	NONE			
US 2004097260	A1	20-05-2004	GB GB	2391434 2392351		04-02-2004 25-02-2004
WO 2004002051	A 2	31–12–2003	AU CN EP JP MX	2003245633 1663166 1523821 2005531223 PA04012665	A A2 T	06-01-2004 31-08-2005 20-04-2005 13-10-2005 23-03-2005
WO 2004017565	A	26-02-2004	AU BR BR CA WO CN EP HR JP MX NZ US	2002313435 2002328760 0215840 0215841 2495343 2495539 2004017564 1650576 1650577 1529374 1529375 20050145 2005539418 2005539418 2005539419 PA05001699 538119 538121 2005177733	A1 A A1 A1 A1 A A1 A1 A2 T T A A A	03-03-2004 03-03-2004 21-06-2005 21-06-2005 26-02-2004 26-02-2004 03-08-2005 03-08-2005 11-05-2005 11-05-2005 30-06-2006 22-12-2005 22-12-2005 22-07-2005 29-09-2006 30-11-2006 11-08-2005
US 2003134638	A1	 17-07-2003	NONE			