

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 October 2006 (12.10.2006)

PCT

(10) International Publication Number
WO 2006/107537 A3

(51) International Patent Classification:
H04B 7/212 (2006.01)

(21) International Application Number:

PCT/US2006/009157

(22) International Filing Date: 14 March 2006 (14.03.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

11/095,683 31 March 2005 (31.03.2005) US

(71) Applicant (for all designated States except US): **SYMBOL TECHNOLOGIES, INC.** [US/US]; One Symbol Plaza, Ms A-6, Holtsville, NY 11742 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SHARONY, Jacob** [US/US]; 26 Talisman Drive, Dix Hills, NY 11746 (US).

(74) Agent: **LORENZ, Timothy, J.**; Ingrassia, Fisher & Lorenz, 7150 E. Camelback Rd., Suite 325, Scottsdale, Arizona 85251 (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:

- with international search report

(88) Date of publication of the international search report:
3 July 2008

(15) Information about Correction:

Previous Correction:
see Notice of 22 May 2008

(54) Title: WIRELESS DEVICE AND METHOD FOR WIRELESS MULTIPLE ACCESS

(57) Abstract: Described is a wireless device which includes a plurality of antennas, a plurality of receivers, a transmitter and a processor. The antennas receive a first signal from each of a plurality of transmitting antennas of an access point. The first signal includes a first identifier which identifies a corresponding transmitting antenna from which the first signal was sent. The receivers are coupled to each of the antennas and process the first signals received by the antennas. The transmitter is coupled to each of the antennas. The processor is coupled to each of the receivers and the transmitter. The processor generates a first communication matrix which includes the first identifier from each of the first signals. The processor utilizes the first communication matrix to resolve multiple wireless communications received from the access point within a single time slot over a radio channel.



WO 2006/107537 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/09157

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **H04B 7/212**(2006.01)

USPC: 370/347,342

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)

U.S. : 370/347, 342, 310, 319, 320, 321, 322, 338, 204, 205, 206, 207, 208; 455/422, 15, 65, 552.1

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 practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,095,709 B2 (WALTON et al.) 22 August 2006.	1-25
A	US 7,110,350 B2 (LI et al.) 19 September 2006.	1-25
A	US 2003/0154435 A1 (CLAUSSEN et al.) 14 August 2005.	1-25
X	US 2003/0072452 A1 (MODY et al.) 17 April 2003, entire document.	1-25

Further documents are listed in the continuation of Box C.

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	"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
"E"	earlier application or patent published on or after the international filing date	"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
"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)	"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
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

28 September 2007 (28.09.2007)

Date of mailing of the international search report

04 OCT 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Authorized officer

William Dixon

Telephone No. (571) 272-1600

Facsimile No. (571) 273-3201