(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 April 2008 (03.04.2008)

PCT

(10) International Publication Number
WO 2008/039872 A2

(51) International Patent Classification:
H04Q 7/36 (2006.01) *H04Q 7/34* (2006.01)

(21) International Application Number:
PCT/US2007/079597

(22) International Filing Date:
26 September 2007 (26.09.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/847,433 26 September 2006 (26.09.2006) 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) Inventor; and

(75) Inventor/Applicant *(for US only)*: **NANDA, Sanjiv** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).

(74) Agent: **BACHAND, Richard, A.**; 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, DO, 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, ME, 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:

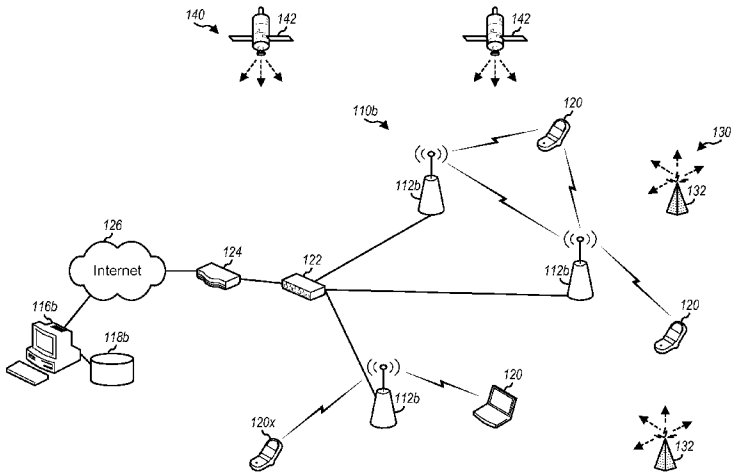
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *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*

(54) **Title:** SENSOR NETWORKS BASED ON WIRELESS DEVICES



(57) **Abstract:** Techniques for using wireless devices to implement sensor networks are described. For cognitive radio, a wireless device obtains measurements for a first system (e.g., a broadcast system) with which the wireless device is not in communication. The wireless device sends the measurements and associated location information and/or timestamps via a second system (e.g., a cellular system). A server receives measurements from a number of wireless devices and determines the coverage of the first system based on the measurements. For other applications, a wireless device obtains sensor information from at least one sensor at the wireless device and sends the sensor information and associated location information and/or timestamps via a wireless system. A server receives the sensor information and associated information from a number of wireless devices, aggregates the sensor information, and constructs a map. The wireless device may develop a user profile based on the sensor information and associated information.

WO 2008/039872 A2