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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 February 2014 (27.02.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/031829 A2

(51) International Patent Classification:
H04W 76/02 (2009.01)

(21) International Application Number:
PCT/US2013/056140

(22) International Filing Date:
22 August 2013 (22.08.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/692,556	23 August 2012 (23.08.2012)	US
61/752,830	15 January 2013 (15.01.2013)	US
61/863,260	7 August 2013 (07.08.2013)	US

(71) Applicant: **INTERDIGITAL PATENT HOLDINGS, INC.** [US/US]; 200 Bellevue Parkway, Suite 300, Wilmington, Delaware 19809 (US).

(72) Inventors: **POITAU, Gwenael**; 7630 Rue Casgrain, Montreal, Québec H2R 1Y8 (CA). **PELLETIER, Ghyslain**; 2055 rue De Valmont, Chomedey, Laval, Québec H7M 3J3 (CA). **MARINIER, Paul**; 1805 Stravinski, Brossard, Québec J4X 2J7 (CA). **PANI, Diana**; 730 Lusignan, Apartment 4, Montreal, Québec H3C 1Y9 (CA). **KAUR, Samian**; 6 Ashwood Lane, Plymouth Meeting, Pennsylvania 19462 (US). **PELLETIER, Benoit**; 11-13th Street, Roxboro, Montreal, Québec H8Y 1L3 (CA).

(74) Agent: **WOLINSKY, Scott**; Volpe and Koenig, P.C., 30 S. 17th Street, United Plaza, Philadelphia, Pennsylvania 19103 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR PERFORMING DEVICE-TO-DEVICE DISCOVERY

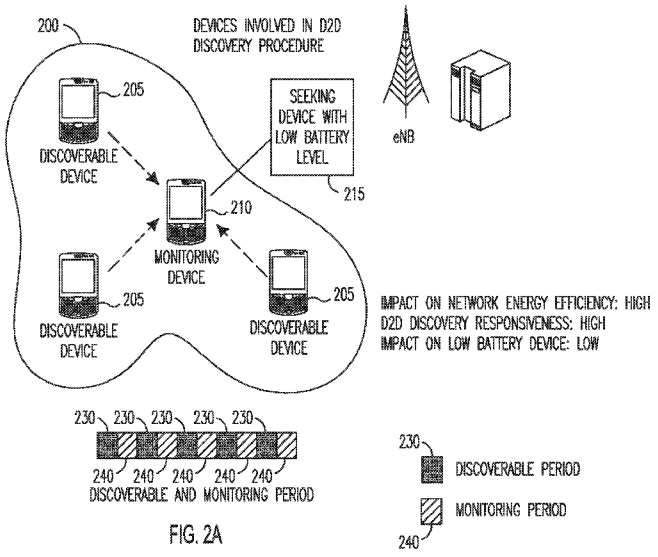


FIG. 2A

(57) Abstract: Methods and apparatus for performing device-to-device (D2D) discovery are described. A service discovery process may include a discoverable device (e.g., a wireless transmit/receive unit (WTRU)) sending a discovery request, over a wireless connection, for a radio resource for the purpose of performing a transmission for radio frequency (RF) proximity detection for a given service. The WTRU may receive a discovery response including a configuration for RF proximity detection from a network, which configuration may be associated to the service. The configuration for RF proximity may be received by dedicated signaling, (e.g., physical downlink shared channel (PDSCH)), in particular for a discoverable WTRU. The configuration for RF proximity may be received on a broadcast channel, (e.g., a discovery shared channel (DISCH)), in particular for a monitoring WTRU, and may include one or more service identities, each associated with an RF proximity detection configuration, or a validity information and a measurement configuration.

WO 2014/031829 A2

Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*