

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 December 2008 (24.12.2008)

PCT

(10) International Publication Number
WO 2008/157720 A3

- (51) **International Patent Classification:**
H04L 29/06 (2006.01) *G06Q 30/00* (2006.01)
- (21) **International Application Number:**
PCT/US2008/067538
- (22) **International Filing Date:** 19 June 2008 (19.06.2008)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/945,120 20 June 2007 (20.06.2007) US
12/124,834 21 May 2008 (21.05.2008) 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) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **VO, Dang M.**

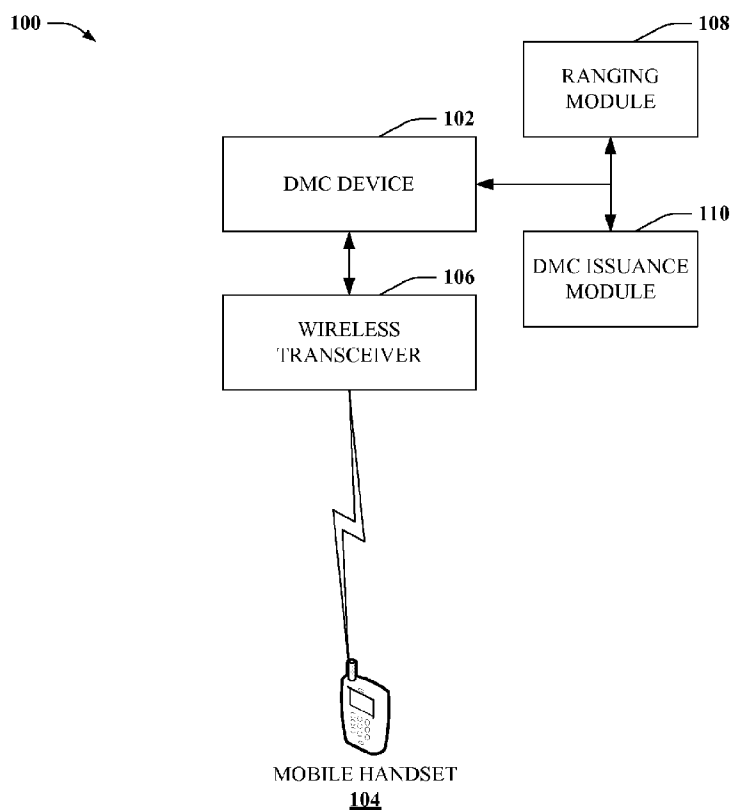
[US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **RAJAN, Rajeev D.** [IN/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **DOS SANTOS, Jose Ricardo** [PT/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **MOALLEMI, Kamran** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **JAIME, Manuel E.** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **KOENIG, Michal James** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).

(74) **Agent:** **YADEGAR-BANDARI, Fariba**; Attn: International Ip Administration, 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, AO, 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,

[Continued on next page]

(54) **Title:** MOBILE COUPONS UTILIZING PEER TO PEER RANGING



(57) **Abstract:** Providing for distribution of a dynamic mobile coupon (DMC) based on verified peer-to-peer (P-P) ranging between two wireless devices is described herein. By way of example, a first device can form a wireless link with a mobile device and initiate P-P ranging. By analyzing signals sent over the wireless link, a distance between such devices can be determined. In addition, at least a minimum distance between such devices can be verified based on actions performed by the mobile device that require a minimum completion time. Based in part on this verified distance, a DMC can be issued to the mobile device. Accordingly, the subject disclosure provides for increased security for issuing the DMC and mitigation of device spoofing, by verifying a minimum distance to the mobile devices and conditioning issuance of the DMC on such verified distance.

FIG. 1



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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, 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*
- *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:

7 May 2009