

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
5 May 2011 (05.05.2011)



(10) International Publication Number
WO 2011/051745 A8

- (51) International Patent Classification:
H04W 72/04 (2009.01) *H04W 88/06* (2009.01)
H04W 76/02 (2009.01) *H04W 88/10* (2009.01)
- (21) International Application Number:
PCT/IB2009/007277
- (22) International Filing Date:
30 October 2009 (30.10.2009)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (for all designated States except US): **NOKIA CORPORATION** [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).
- (71) Applicant (for LC only): **NOKIA INC.** [US/US]; 102 Corporate Park Drive, White Plains, NY 10604 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **CHEN, Tao** [CN/FI]; Yliopistokatu 12 A 705, 90570 Oulu (FI). **CHARBIT, Gilles** [GB/GB]; 18 Carlyon Close, Farnborough, GU14 7BX (GB). **KOSKELA, Timo** [FI/FI]; Rautatiekatu 50 as5, 90120 Oulu (FI). **HAKOLA, Sami** [FI/FI]; Salvostie 27 D 12, 90540 Oulu (FI). **RINNE, Mikko** [FI/FI]; Juhan-

entie 6 A, 02180 Espoo (FI). **KAIPAINEN, Yrjo** [FI/FI]; Kalliolaaksontie 9, 02920 Espoo (FI).

(74) Agent: **GOLDHUSH, Douglas, H.**; Squire, Sanders & Dempsey L.L.P., 8000 Towers Crescent Drive, 14th Floor, Vienna, VA 22182-6212 (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, 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, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, 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, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI

[Continued on next page]

(54) Title: SCHEDULING OF DIRECT TO DIRECT COMMUNICATION

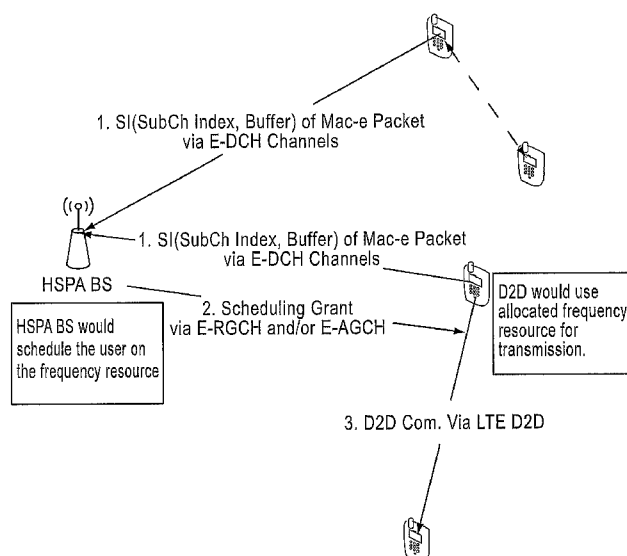


FIG.1

(57) Abstract: A method, system, apparatus, and computer program can provide scheduling of direct to direct communication by a high speed packet access base station. The method, for example, can include obtaining a direct user equipment communication toggling message (120). The method can also include interpreting physical layer signaling on a first frequency of a first radio system based on the toggling message (220). The method can further include scheduling a direct user equipment pair on a second frequency of a second system based on the interpreting (230). The toggling message can include a triggering message to initiate direct user equipment communication or an exit message to terminate direct user equipment communication.



(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

(48) Date of publication of this corrected version:

24 May 2012

Published:

— *with international search report (Art. 21(3))*

(15) Information about Correction:

see Notice of 24 May 2012