

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 December 2006 (21.12.2006)

PCT

(10) International Publication Number
WO 2006/134472 A3

(51) International Patent Classification:

H04L 12/28 (2006.01) **H04L 12/56** (2006.01)
H04B 7/005 (2006.01)

(21) International Application Number:

PCT/IB2006/001589

(22) International Filing Date: 14 June 2006 (14.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/691,220 16 June 2005 (16.06.2005) US

(71) Applicant (for all designated States except US): **NOKIA CORPORATION** [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KAKANI, Naveen, K.** [IN/US]; 804 Meadow Creek Drive, # 2014, Irving, TX 75038 (US).

(74) Agent: **BRAKE, R. Edward**; C/o Intellevate, P.o. Box 52050, Minneapolis, MN 55402 (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, LA, 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).

Published:

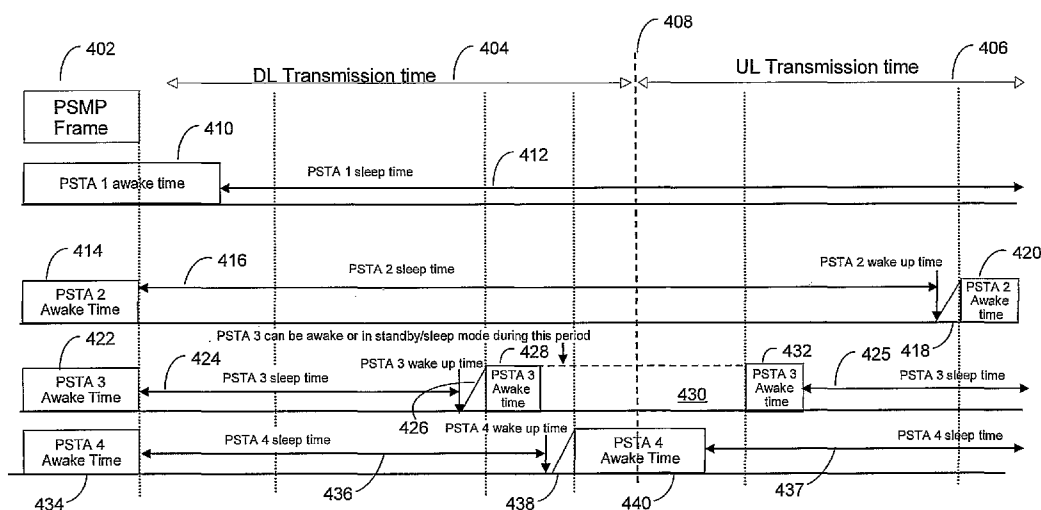
— with international search report

(88) Date of publication of the international search report:

15 March 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SCHEDULING DATA TRANSMISSIONS TO IMPROVE POWER EFFICIENCY IN A WIRELESS NETWORK



(57) Abstract: Various embodiments are disclosed relating to scheduling data transmissions to improve power efficiency in a wireless network. In an example embodiment, uplink transmissions (315, 406) may be scheduled after the downlink transmissions (309, 311, 404) within the frame sequence (301). One or more nodes (PSTA1, FIG. 4) having only scheduled downlink transmissions during the frame sequence may be scheduled for downlink transmissions (410) at or near the start of the downlink transmissions (404). In another embodiment, one or more nodes (PSTA2, FIG. 4) having only scheduled uplink transmissions during the frame sequence may be scheduled for uplink transmissions (420) at or near the end of the uplink transmissions (406). In yet another embodiment, one or more nodes (PSTA3, PSTA4, FIG. 4) having scheduled both downlink (428, 440) and uplink (432, 440) transmissions during the frame sequence may be scheduled for transmissions (428, 432, 440) near a transition (317, 408) from downlink to uplink transmissions.

WO 2006/134472 A3