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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04Q 7/00 — A2

(11) International Publication Number: WO 00/21314

(43) International Publication Date: 13 April 2000 (13.04.00)

(21) International Application Number: PCT/US99/23230

(22) International Filing Date: 5 October 1999 (05.10.99)

(30) Priority Data:
09/166,553 5 October 1998 (05.10.98) US

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(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
Without international search report and to be republished upon receipt of that report.

(54) Title: METHOD AND APPARATUS FOR DETECTING FORWARD AND REVERSE LINK IMBALANCE IN DIGITAL CELLULAR COMMUNICATION SYSTEMS

(57) Abstract

A method and apparatus for detecting forward and reverse link imbalances in a digital cellular communication system. The method preferably uses an indication of "maximum access probes" (104) to determine whether a link imbalance caused a reverse link failure to occur. The maximum access probes condition indicates that a wireless unit has attempted to access a base station a pre–defined maximum number of times. The method preferably uses an indication of a lost paging channel (132) and a traffic channel initialization (TCI) time out (160) to determine whether a link imbalance caused a forward link failure to occur. If the wireless unit did not lose the paging channel (132), the method determines whether a TCI time out occurred (160). If the wireless unit lost the paging channel, or it did not lose the paging channel but a TCI time out occurred, the method determines the cause for the forward link failure. There are two potential causes in this scenario: (1) either the wireless unit is a significant distance from the base station; or (2) the paging channel suffers from significant interference. The method determines the cause and either instructs the wireless unit to perform an idle handoff to a neighboring base station or to exit the digital system.

