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(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, HN, 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, RS, RU, SC, SD, SE, SG, **SK, SL, SM, SY, TJ, TM,** TN, TR, TT, **TZ,** UA, UG, US, **UZ, VC, VN, ZA, ZM, ZW**

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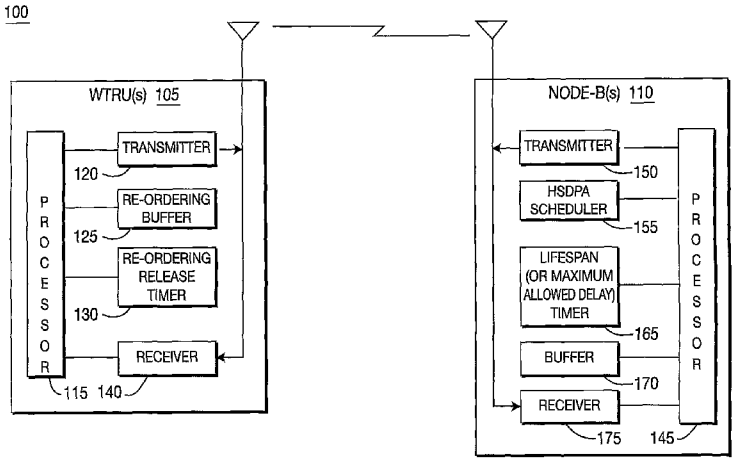
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WIRELESS COMMUNICATION METHOD AND APPARATUS FOR DETECTING AND SCHEDULING URGENT DATA



(57) Abstract: Urgent data is scheduled in a wireless communication system including at least one wireless transmit/receive unit (WTRU) and at least one Node-B. The WTRU includes a re-ordering release timer. The Node-B includes a buffer, a lifespan (or maximum allowed delay) timer and a high speed downlink packet access (HSDPA) scheduler. The HSDPA scheduler determines whether there is at least one protocol data unit (PDU) in the buffer whose lifespan (maximum allowed delay) timer or re-ordering release timer will expire if the PDU is not transmitted in a next N transmission timing interval (TTI), where N is a design parameter. If so, the PDU is treated as urgent data whereby a sequence of WTRUs , (i.e., users), scheduled to receive urgent data is arranged in an order of decreasing priority, and a more conservative modulation and coding scheme (MCS), multiple code transmission and a different redundancy reversion are considered for use.

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INTERNATIONAL SEARCH REPORT

Interna tiona l app lica tion No.
PCT/US 06/26857

A. CLASSIFICATION OF SUBJECT MATTER
1PC{8) - H04L 12/28 (2006.01)
USPC - 370/395.42
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 370/281 ,394,395.42; 455/452.1; 709/232

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data bass consulted during the international search (name of data base and, where practicable, search terms used)

Electronic data base: USPTO WEST (USPT,PGPB,EPAB,JPAB)
Search terms used:Node-B or base station or basestation, priority scheduler.transmlssion (buffer or qιeue),lifespan or lifetime.HSDPA scheduler.maximum transmission delay.priority or non-priority

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0063389 A1 (Elliott et al.) 24 March 2005 (24.03.2005) [Figs. 1,4, para. [0015], ln 30, para. [0033], ln 5]	1-96
Y	US 6,671 ,284 B1 (Yonge et al.) 30 December 2003 (30.12.2003) [col 21 ln 60-65]	1-96
Y	US 2005/0111391 A1 (Oki βt al.) 26 May 2005 (26.05.2005)	4, 8, 22, 28, 34, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, 73, 76, 80, 90 and 96

I I Further documents are listed in the continuation of Box C. |__|

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
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'&" document member of the same patent family

Date of the actual completion of the international search
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