



- (51) **International Patent Classification:**
H04W 52/30 (2009.01) *H04W 52/48* (2009.01)
- (21) **International Application Number:**
PCT/KR2012/001302
- (22) **International Filing Date:**
21 February 2012 (21.02.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/444,844 21 February 2011 (21.02.2011) US
10-2012-0013941
10 February 2012 (10.02.2012) KR
- (71) **Applicant (for all designated States except US):** **SAM-SUNG ELECTRONICS CO., LTD.** [KR/KR]; 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742 (KR).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **KIM, Soeng Hun** [KR/KR]; No. 1208-1202, Shindongah Familie Apt., Yeongdeok-dong, Giheung-gu, Yongin-si, Gyeonggi-do 446-908 (KR). **KIM, Sang Bum** [KR/KR]; 217-26, Bogwang-dong, Yongsan-gu, Seoul 140-220 (KR).
- (74) **Agent:** **YOON, Dong Yol;** Yoon & Lee International Patent & Law Firm, 3rd Fl, Ace Highend Tower-5, 505-18 Gasan-dong, Geumcheon-gu, Seoul 153-803 (KR).

(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, 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, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

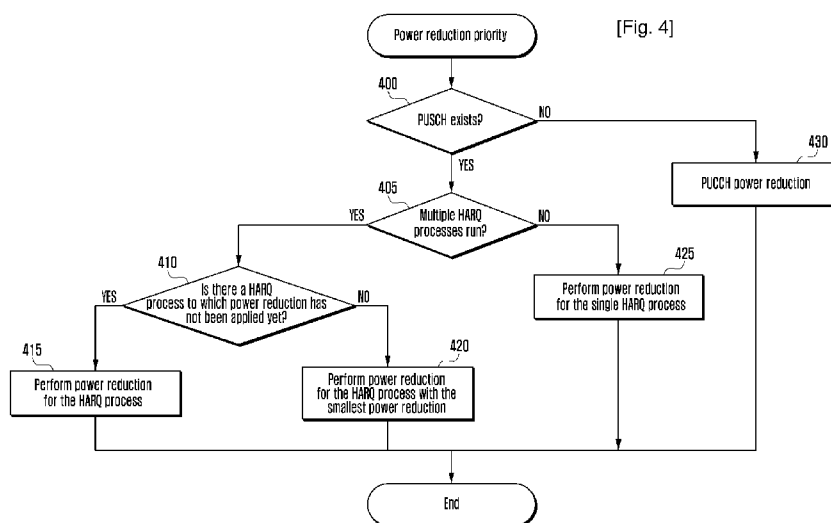
(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

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

(88) **Date of publication of the international search report:**
20 December 2012

(54) **Title:** TRANSMIT POWER CONTROL METHOD AND APPARATUS



(57) **Abstract:** A method and apparatus for controlling transmit power of a User Equipment (UE) in a mobile communication system is provided. The transmit power control method of the present invention includes determining, when the terminal's required transmit power exceeds the terminal's maximum transmit power, whether a plurality of Hybrid Automatic Repeat reQuest (HARQ) processes are running and reducing, when the plurality of HARQ processes are running, a transmit power of at least one of the plurality of HARQ processes which has not experienced transmit power reduction previously. The UE transmit power control method and apparatus of the present invention is advantageous to control the transmit power in transmit power reduction mode.

A. CLASSIFICATION OF SUBJECT MATTER***H04W 52/30(2009.01)i, H04W 52/48(2009.01)i***

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)

H04W 52/30; H04B 7/26; H04W 72/12; H04W 28/22; H04B 1/04

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: HARQ, power, control

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2006-0003787 A1 (YOUN-HYOUNG HEO et al.) 05 January 2006 See claims 1-5.	1-2, 8-9 3-7, 10-14
A	JP 2002-217828 A (NTT DOCOMO INC) 02 August 2002 See claims 1, 4, 6.	1-14
A	KR 10-2005-0119619 A (SAMSUNG ELECTRONICS CO., LTD.) 21 December 2005 See claims 1-45 and figures 1-7.	1-14



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 SEPTEMBER 2012 (28.09.2012)

Date of mailing of the international search report

28 SEPTEMBER 2012 (28.09.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

JUNG, Yun Seok

Telephone No. 82-42-481-8123



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2012/001302

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0003787 A1	05.01.2006	AU 2005-202512 A1	05.01.2006
		AU 2005-202512 B2	10.01.2008
		AU 2005-202512 B8	05.06.2008
		AU 2005-202512 B8	10.01.2008
		CN 100583718 C	20.01.2010
		CN 1716837 A	04.01.2006
		CN 1716837 C0	04.01.2006
		EP 1605605 A2	14.12.2005
		EP 1605605 A3	28.12.2005
		JP 04-299270 B2	24.04.2009
		JP 04-594418 B2	24.09.2010
		JP 2006-014304 A	12.01.2006
		JP 2009-089420 A	23.04.2009
		JP 4299270 B2	22.07.2009
		JP 4594418 B2	08.12.2010
		KR 10-0933144 B1	21.12.2009
		KR 10-2005-0118063 A	15.12.2005
		KR 10-2005-0118086 A	15.12.2005
		US 7447516 B2	04.11.2008
JP 2002-217828 A	02.08.2002	CN 100459472 C0	04.02.2009
		CN 1366391 A0	28.08.2002
		EP 1239602 A2	11.09.2002
		EP 1239602 A3	28.04.2004
		EP 1239602 B1	29.12.2010
		JP 03-717787 B2	16.11.2005
		JP 03-717788 B2	16.11.2005
		JP 2002-217829 A	02.08.2002
		US 2002-0094835 A1	18.07.2002
KR 10-2005-0119619 A	21.12.2005	US 7167718 B2	23.01.2007
		CN 1969482 A	23.05.2007
		CN 1969482 C0	23.05.2007
		EP 1756974 A1	28.02.2007
		JP 2008-501285 A	17.01.2008
		US 2005-0281219 A1	22.12.2005
		WO 2005-125054 A1	29.12.2005