



- (51) **International Patent Classification:**
H04W 72/12 (2009.01)
- (21) **International Application Number:**
PCT/IB2015/000173
- (22) **International Filing Date:**
8 January 2015 (08.01.2015)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
201410043674.X 29 January 2014 (29.01.2014) CN
- (71) **Applicant:** ALCATEL LUCENT [FR/FR]; 148/152 route de la Reine, F-92100 Boulogne-Billancourt (FR).
- (72) **Inventor:** CHEN, Yu; 388# Ningqiao RD, Pudong, Shanghai 201206 (CN).
- (74) **Agent:** SCIAUX, Edmond; Alcatel-Lucent International, 148/152 route de la Reine, F-92100 Boulogne-Billancourt (FR).
- (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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.

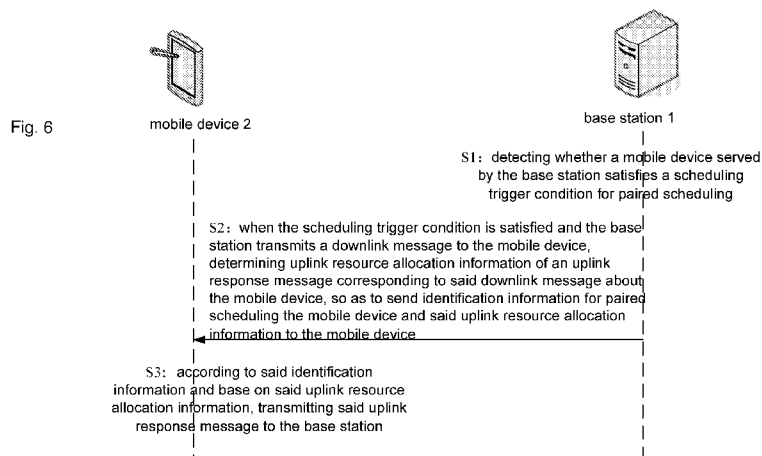
- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

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

- (88) **Date of publication of the international search report:**
3 December 2015

(54) **Title:** METHOD AND APPARATUS FOR TRANSMITTING AN UPLINK RESPONSE MESSAGE



(57) **Abstract:** An objective of this invention is to provide a method and apparatus for transmitting an uplink response message. Specifically, detecting, by a base station serving a mobile device, whether the mobile device satisfies a scheduling trigger condition for paired scheduling; when the scheduling trigger condition is satisfied and the base station transmits a downlink message to the mobile device, determining, by the base station, uplink resource allocation information of an uplink response message corresponding to said downlink message about the mobile device, so as to send identification information for paired scheduling the mobile device and said uplink resource allocation information to the mobile device; transmitting, by the mobile device, said uplink response message according to said identification information and base on said uplink resource allocation information. Compared with the prior art, in the present invention, the base station transmits identification information to the mobile device which satisfies a scheduling trigger condition for paired scheduling, and uplink resource allocation information of an uplink response message corresponding to the downlink message, such that the base station can allocate UL and DL resource in the same resource allocation message. Thereby, signaling overhead is reduced, and the coverage of the mobile device is enhanced.



INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2015/000173

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04W72/12

ADD.

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

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

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

EPO-Internal, INSPEC, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/023943 A1 (KOREA ELECTRONICS TELECOMM [KR]; KIM JAE-HEUNG [KR]; LEE KYOUNG-SEOK []) 28 February 2008 (2008-02-28) page 7, line 10 - page 10, line 7 claims 1-12 figure 3	1-14
X	WO 2007/126302 A1 (KOREA ELECTRONICS TELECOMM [KR]; KIM JAE-HEUNG [KR]; KO YOUNG-JO [KR];) 8 November 2007 (2007-11-08) page 2, line 21 - page 3, line 31 page 7, line 30 - page 9, line 14 claims 1-18	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 another 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

21 July 2015

Date of mailing of the international search report

28/07/2015

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Chassatte, Rémy

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2015/000173

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008023943	A1	28-02-2008	
		KR 20080018147 A	27-02-2008
		US 2010238872 A1	23-09-2010
		WO 2008023943 A1	28-02-2008

WO 2007126302	A1	08-11-2007	NONE
