



(51) International Patent Classification:

H04W 28/20 (2009.01) H04W 16/14 (2009.01)  
H04W 16/02 (2009.01) H04W 28/22 (2009.01)

(21) International Application Number:

PCT/US2012/063880

(22) International Filing Date:

7 November 2012 (07.11.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/556,777 7 November 2011 (07.11.2011) US  
13/363,538 1 February 2012 (01.02.2012) US

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(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, IS, JP, KE, KG, KM, KN, KP,  
KR, 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, PA, 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, 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,

[Continued on next page]

(54) Title: ADAPTIVE FLEXIBLE BANDWIDTH WIRELESS SYSTEMS

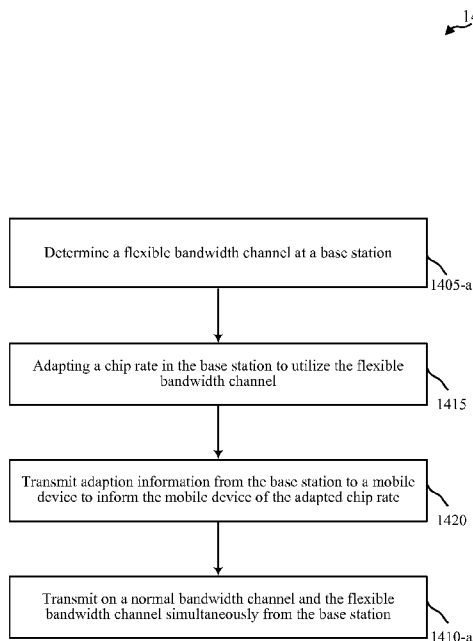


FIG. 14B

(57) Abstract: Methods, systems, and devices are described for providing flexible bandwidth waveforms and channels for wireless communication. Embodiments may utilize portions of spectrum that may not be large enough to fit a standard or normal waveform. Chip rates may be adapted dynamically to generate and/or to receive flexible bandwidth waveforms to fit these portions of spectrum. Scaling factors and/or center frequencies may also be utilized to generate flexible waveforms. A mobile device may receive adjustment information from a base station so that the mobile device may dynamically adjust its chip rate to utilize a flexible bandwidth channel. A base station may simultaneously transmit on a normal bandwidth channel and a flexible bandwidth channel in some cases. Some flexible bandwidth waveforms may be utilized that are larger, or take more bandwidth, than a normal waveform. Flexible bandwidth may also be utilized to split and/or combine frequency channels.





TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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

15 August 2013

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/US2012/063880

A. CLASSIFICATION OF SUBJECT MATTER  
 INV. H04W28/20 H04W16/02 H04W16/14 H04W28/22  
 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 H04L  
 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, 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 99/00911 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 7 January 1999 (1999-01-07)	1,2,4-6, 8-14,28, 29, 32-37, 39-43, 45,46
Y	page 4, lines 19-23 page 5, lines 22-29 page 9, lines 19-26 page 10, line 8 - page 11, line 23	3,7,16, 17,30, 31,38, 39,44, 45,48, 49,55, 56,60,61
A	----- -/--	15,47, 54,59

Further documents are listed in the continuation of Box C.

See patent family annex.

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- "E" earlier application or patent but published on or after the international filing date
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Date of the actual completion of the international search  29 May 2013	Date of mailing of the international search report  06/06/2013
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  Patras, Paula Larisa

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/063880

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/274096 A1 (FU I-KANG [TW]) 5 November 2009 (2009-11-05)	15, 18-26, 47, 50-54, 57-59, 62,63
Y	abstract; figures 2,8,9 paragraphs [0005], [0008], [0009], [0025], [0027], [0028], [0035]	3,7,16, 17,30, 31,38, 39,44, 45,48, 49,55, 56,60,61
A		1,2,4-6, 8-14,28, 29, 32-37, 40-43,46
A	----- WO 2005/112566 A2 (WALTICAL SOLUTIONS INC FORMERL [US]; LI XIAODONG [US]; LO TITUS [US];) 1 December 2005 (2005-12-01) abstract paragraphs [0019] - [0022], [0028] - [0030], [0040] - [0043] -----	1-63

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International application No

PCT/US2012/063880

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