

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P20172091	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/CN2017/091421	International filing date (<i>day/month/year</i>) 03 July 2017	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant QUALCOMM Incorporated et al		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed.

a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (see Box No. II).

3. **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 4

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2017/091421

A. CLASSIFICATION OF SUBJECT MATTER		
H04W 48/16(2009.01)i; H04W 4/02(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)		
H04		
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)		
CNABS, CNTXT, CNKI, VEN, WOTXT, USTXT, EPTXT, 3GPP: band, frequency, spectrum, RAT, search, scan, location, position, region, geographic, set, PLMN, MCC+		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 9125146 B1 (AMAZON TECH INC) 01 September 2015 (2015-09-01) claims 1-4, description, column 7, the first paragraph, and figure 3	1-44
X	CN 105101350 A (APPLE INC) 25 November 2015 (2015-11-25) description, paragraphs [0084]-[0109], and figures 7-9	1-44
X	CN 105848226 A (GUANGDONG OPPO MOBILE COMMUNICATION CO LTD) 10 August 2016 (2016-08-10) description, paragraphs [0044]-[0073], and figure 2	1-44
X	CN 105101352 A (XIAOMI TECHNOLOGY CO LTD) 25 November 2015 (2015-11-25) description, paragraphs [0060]-[0115]	1-44
X	US 2017127229 A1 (SPREADTRUM HONG KONG LTD) 04 May 2017 (2017-05-04) claims 1-10	1-44
X	WO 2010123416 A1 (ERICSSON TELEFON AB L MET) 28 October 2010 (2010-10-28) claims 1-20	1-44
A	EP 3009861 A1 (BLACKBERRY LTD) 20 April 2016 (2016-04-20) the whole document	1-44
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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		Date of mailing of the international search report
10 October 2017		29 January 2018
Name and mailing address of the ISA/CN		Authorized officer
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2017/091421

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	9125146	B1	01 September 2015	None			
CN	105101350	A	25 November 2015	DE	102015208263	A1	26 November 2015
				US	2015341846	A1	26 November 2015
CN	105848226	A	10 August 2016	None			
CN	105101352	A	25 November 2015	None			
US	2017127229	A1	04 May 2017	None			
WO	2010123416	A1	28 October 2010	EP	2422550	A1	29 February 2012
				EP	2422550	A4	11 July 2012
				US	8923857	B2	30 December 2014
				US	2012034917	A1	09 February 2012
				EP	2422550	B1	16 November 2016
EP	3009861	A1	20 April 2016	US	9426730	B2	23 August 2016
				US	2016112940	A1	21 April 2016
				US	2016360374	A1	08 December 2016