

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 01380519WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2017/071923	International filing date (<i>day/month/year</i>) 31 August 2017 (31-08-2017)	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant NOKIA TECHNOLOGIES OY		

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 4 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 43.6*bis*(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. _____
 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/EP2017/071923

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W76/10
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2013/148597 A1 (LEE KI-HO [KR] ET AL) 13 June 2013 (2013-06-13)	1,5, 7-11,13
Y	page 3, line 1, paragraph [0043] - line 9	2-4,6
A	page 3, line 1, paragraph [0044] - line 4	12
	page 3, line 6, paragraph [0044] - line 11	
	page 3, line 1, paragraph [0045] - line 4	
	page 3, line 1, paragraph [0049] - line 3	

X	WO 2013/127665 A1 (TELEFONICA SA [ES]) 6 September 2013 (2013-09-06)	1,13
A	page 5, line 16 - line 19	2-12
	page 5, line 21 - line 23	
	page 5, line 25 - line 27	
	page 5, line 34 - page 6, line 3	
	figure 1	

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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 25 April 2018	Date of mailing of the international search report 04/05/2018
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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 Lebiedowski, Adam
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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/071923

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2005/027543 A1 (HARRIS CORP [US]) 24 March 2005 (2005-03-24)	2-4
A	page 4, line 27 - line 29 page 4, line 31 - line 33 page 5, line 4 - line 8 page 15, line 3 - line 11 page 15, line 18 - line 20 -----	1,5-13
Y	EP 3 200 498 A1 (HUAWEI TECH CO LTD [CN]) 2 August 2017 (2017-08-02)	6
A	page 2, column 2, line 1 - line 11 -----	1-5,7-13
A	WO 2017/099520 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 15 June 2017 (2017-06-15) page 14, paragraph [58] -----	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2017/071923

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2013148597	A1	13-06-2013	KR 20130063924 A	17-06-2013
			US 2013148597 A1	13-06-2013
			WO 2013085118 A1	13-06-2013
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			ES 2429663 A2	15-11-2013
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