

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 103615-WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2017/074698	International filing date (<i>day/month/year</i>) 28 September 2017 (28-09-2017)	(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 6 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. 1
 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/EP2017/074698

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W36/00 H04W76/04
ADD. H04W92/20

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, 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	Patrik Rugeland ET AL: "5G PPP mmMAGIC Architectural enablers and concepts for mm-wave RAN integration", 29 March 2017 (2017-03-29), XP055424624, Retrieved from the Internet: URL:https://bscw.5g-mmmagic.eu/pub/bscw.cgi/d187833/mmMAGIC_Architectural_enablers_mWave_integration.pdf [retrieved on 2017-11-14]	1,2,12, 13
A	page 12 - page 13 page 22 - page 23 ----- -/--	3-11, 14-24

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 17 November 2017	Date of mailing of the international search report 27/11/2017
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 Tessier, Serge

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/074698

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HAILU SOFONIAS ET AL: "Hybrid paging and location tracking scheme for inactive 5G UEs", 2017 EUROPEAN CONFERENCE ON NETWORKS AND COMMUNICATIONS (EUCNC), IEEE, 12 June 2017 (2017-06-12), pages 1-6, XP033122294, DOI: 10.1109/EUCNC.2017.7980730 [retrieved on 2017-07-13]	1,12
A	Section III; page 2, column 2; figure 2 -----	2-11, 13-24
X	ERICSSON: "Signalling flows for paging and resume for RRC_INACTIVE", 3GPP DRAFT; R2-1700536 - SIGNALLING FLOWS FOR PAGING AND RESUME FOR RRC_INACTIVE, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOL vol. RAN WG2, no. Spokane, Wa; 20170117 - 20170119 17 January 2017 (2017-01-17), XP051211108, Retrieved from the Internet: URL: http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN2/Docs/ [retrieved on 2017-01-17]	4,15
Y	page 2 - page 4; figures 2.2.2-1, 2.2.3-1	3,5-7, 14, 16-18, 23,24
A		1,2, 8-13, 19-22
A	----- Eiko Seidel: "3GPP 5G RAN Study Completed", 31 March 2017 (2017-03-31), XP055425158, Retrieved from the Internet: URL: http://www.nomor.de/uploads/6d/ca/6dca62aa90c67f23a89822f614b6c59b/2017-03-3GPP-5G-RAN-Study-Completed-v1-0.pdf [retrieved on 2017-11-15] page 1, column 1 ----- -/--	3-7, 14-18

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>HUAWEI: "S1 Context fetch for Light Connection", 3GPP DRAFT; R3-162759 S1 CONTEXT FETCH, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE</p> <p>, vol. RAN WG3, no. Reno, Nevada; 20161114 - 20161118 14 November 2016 (2016-11-14), XP051178863, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/Meetings_3GPP_ SYNC/RAN3/Docs/ [retrieved on 2016-11-14] page 1 - page 2</p>	<p>3,5-7, 14, 16-18, 23,24</p>
A	<p>-----</p> <p>US 2017/078940 A1 (ZHANG XIAOWEI [JP] ET AL) 16 March 2017 (2017-03-16) paragraphs [0033], [0063]; figure 1</p> <p>-----</p>	<p>1,2,4, 8-13,15, 19-22</p>
X	<p>EP 2 426 976 A1 (NTT DOCOMO INC [JP]) 7 March 2012 (2012-03-07) paragraph [0031] - paragraph [0033]; figures 1, 3</p> <p>-----</p>	<p>8-11, 19-22</p>
T	<p>LG ELECTRONICS INC: "UE context management between eNBs without X2 interface", 3GPP DRAFT; R3-170554 UE CONTEXT MANAGEMENT BETWEEN ENBS WITHOUT X2 INTERFACE VER2, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIP</p> <p>, vol. RAN WG3, no. Athens, Greece; 20170213 - 20170217 12 February 2017 (2017-02-12), XP051213136, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/Meetings_3GPP_ SYNC/RAN3/Docs/ [retrieved on 2017-02-12]</p> <p>-----</p> <p style="text-align: center;">-/--</p>	

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	<p>"3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NG Radio Access Network (NG-RAN); NG Application Protocol (NGAP) (Release 15)", 3GPP STANDARD; 3GPP TS 38.413, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG3, no. V0.3.0, 4 September 2017 (2017-09-04), pages 1-85, XP051336843, [retrieved on 2017-09-04] pages 40,41,51</p> <p style="text-align: center;">-----</p>	
T	<p>Nokia ET AL: "Response to R3-173945", 10 October 2017 (2017-10-10), XP055425630, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN3/Docs [retrieved on 2017-11-16] the whole document</p> <p style="text-align: center;">-----</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2017/074698

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2017078940	A1	16-03-2017	EP 3114880 A1	11-01-2017
			JP 2017085667 A	18-05-2017
			JP 2017502571 A	19-01-2017
			KR 20160132052 A	16-11-2016
			US 2017078940 A1	16-03-2017
			WO 2015133144 A1	11-09-2015

EP 2426976	A1	07-03-2012	AU 2010242668 A1	01-12-2011
			CA 2760028 A1	04-11-2010
			CN 102415126 A	11-04-2012
			CN 103228012 A	31-07-2013
			EP 2426976 A1	07-03-2012
			EP 2600649 A1	05-06-2013
			JP 4954238 B2	13-06-2012
			JP 2010258923 A	11-11-2010
			KR 20120004497 A	12-01-2012
			PE 10532013 A1	28-09-2013
			PE 11602012 A1	07-09-2012
			RU 2011145535 A	10-06-2013
			RU 2013104308 A	10-08-2014
			US 2012106435 A1	03-05-2012
			US 2013155940 A1	20-06-2013
WO 2010125957 A1	04-11-2010			
