

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 9900-75982WO1	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/IB2019/059503	International filing date (<i>day/month/year</i>) 5 November 2019 (05-11-2019)	(Earliest) Priority Date (<i>day/month/year</i>) 30 November 2018 (30-11-2018)
Applicant TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)		

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. 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/IB2019/059503

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L5/00
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)
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.
A	US 2018/227028 A1 (LEE JUNG AH [US]) 9 August 2018 (2018-08-09) paragraphs [0063] - [0070], [0073] - [0075], [0101] - [0104] -----	1-32
A	US 2018/159611 A1 (MAJMUNDAR MILAP [US] ET AL) 7 June 2018 (2018-06-07) paragraphs [0033], [0049], [0058], [0095] - [0097] -----	1-32
A	WO 2018/030529 A1 (FUJITSU LTD [JP]) 15 February 2018 (2018-02-15) abstract	1-32
A,P	-& EP 3 500 061 A1 (FUJITSU LTD [JP]) 19 June 2019 (2019-06-19) paragraphs [0081], [0083], [0095], [0293], [0294], [0314] - [0316] ----- -/--	1-32

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

28 January 2020

Date of mailing of the international search report

04/02/2020

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2019/059503

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HUAWEI ET AL: "Issues in standardization of lower layer splits 5, 6, 7", 3GPP DRAFT; R3-170736 ISSUES IN STANDARDIZATION OF LOWER LAYER SPLITS, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ;</p> <p>, vol. RAN WG3, no. Athens, Greece; 20170213 - 20170217 12 February 2017 (2017-02-12), XP051213314, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN3/Docs/ [retrieved on 2017-02-12] pages 1,2,4</p> <p style="text-align: center;">-----</p>	1-32
A	<p>ERICSSON: "Analysis of the RAN1 Reply LS on LLS", 3GPP DRAFT; R3-174795 LLS_RAN1_LS, 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, USA; 20171127 - 20171201 18 November 2017 (2017-11-18), XP051373521, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/tsg%5Fran/WG3%5FIu/TSGR3%5F98/Docs/ [retrieved on 2017-11-18] page 1</p> <p style="text-align: center;">-----</p>	1-32

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2019/059503

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2018227028	A1	09-08-2018	AU 2018215660 A1	12-09-2019
			CA 3052785 A1	09-08-2018
			CN 110537337 A	03-12-2019
			EP 3577790 A2	11-12-2019
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			US 2019190841 A1	20-06-2019

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			EP 3500061 A1	19-06-2019
			JP WO2018030529 A1	13-06-2019
			US 2019174391 A1	06-06-2019
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			WO 2018030529 A1	15-02-2018

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			EP 3500061 A1	19-06-2019
			JP WO2018030529 A1	13-06-2019
			US 2019174391 A1	06-06-2019
			WO 2018029854 A1	15-02-2018
			WO 2018030529 A1	15-02-2018
