

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference OP19-119	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/KR2019/012043	International filing date (<i>day/month/year</i>) 18 September 2019 (18.09.2019)	(Earliest) Priority Date (<i>day/month/year</i>) 05 December 2018 (05.12.2018)
Applicant LG ELECTRONICS INC.		

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. 11

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.

A. CLASSIFICATION OF SUBJECT MATTER**H04W 72/14(2009.01)i, H04W 28/02(2009.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
H04W 72/14; H04W 28/02; H04W 72/12; H04W 76/02; H04W 76/04Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & keywords: PDU, UL grant, accommodate, pending data, logical channel, BSR, cancel, remaining data, indicator, identifier**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	3GPP TS 38.321 v15.3.0, '3GPP; TSGRAN; NR; MAC protocol specification (Release 15)', 25 September 2018 See sections 5.4.1-5.4.5.	1-9
A	ERICSSON, 'Further aspects on BSR transmission and cancellation', R2-1711180, 3GPP TSG-RAN WG2 #99bis, Prague, Czech Republic, 28 September 2017 See section 2.1.	1-9
A	US 2016-0157256 A1 (ASUSTEK COMPUTER INC.) 2 June 2016 See paragraphs [0086]-[0187].	1-9
A	US 2017-0310433 A1 (OFINNO TECHNOLOGIES, LLC) 26 October 2017 See paragraphs [0159]-[0166].	1-9
A	US 2017-0238337 A1 (LG ELECTRONICS INC.) 17 August 2017 See paragraphs [0144]-[0167].	1-9

 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

"D" document cited by the applicant in the international application

"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

14 January 2020 (14.01.2020)

Date of mailing of the international search report

14 January 2020 (14.01.2020)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2019/012043

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016-0157256 A1	02/06/2016	KR 10-1726705 B1 KR 10-2016-0065748 A	26/04/2017 09/06/2016
US 2017-0310433 A1	26/10/2017	US 10200991 B2 US 10349406 B2 US 2017-0311317 A1 US 2018-0332580 A1 US 2019-0174490 A1 US 2019-0327733 A1 US 9942898 B2	05/02/2019 09/07/2019 26/10/2017 15/11/2018 06/06/2019 24/10/2019 10/04/2018
US 2017-0238337 A1	17/08/2017	CN 107079469 A EP 3216296 A1 EP 3216296 A4 JP 2017-538374 A JP 6553733 B2 KR 10-2017-0081231 A US 2016-0128094 A1 US 9674867 B2 US 9900907 B2 WO 2016-072592 A1	18/08/2017 13/09/2017 20/06/2018 21/12/2017 31/07/2019 11/07/2017 05/05/2016 06/06/2017 20/02/2018 12/05/2016