

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2017/071923

International filing date (day/month/year)
31.08.2017

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC
INV. H04W76/10

Applicant
NOKIA TECHNOLOGIES OY

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:



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this opinion

see form
PCT/ISA/210

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established 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)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>2-4, 6-9, 11, 12</u>
	No: Claims	<u>1, 5, 10, 13</u>
Inventive step (IS)	Yes: Claims	<u>12</u>
	No: Claims	<u>1-11, 13</u>
Industrial applicability (IA)	Yes: Claims	<u>1-13</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

- D1 US 2013/148597 A1 (LEE KI-HO [KR] ET AL) 13 June 2013
(2013-06-13)
- D2 WO 2013/127665 A1 (TELEFONICA SA [ES]) 6 September 2013
(2013-09-06)
- D3 WO 2005/027543 A1 (HARRIS CORP [US]) 24 March 2005 (2005-03-24)
- D4 EP 3 200 498 A1 (HUAWEI TECH CO LTD [CN]) 2 August 2017
(2017-08-02)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.1 With respect to claim 1, document D1 discloses:

A method for operating a network entity for a cellular radio access network, the method comprising:

- determining at least one downlink radio condition of the cellular radio access network (page 3, paragraph [0044], lines 1-4);
- determining user equipments subscribing to a content flow, wherein the content flow is associated with at least one flow property (page 3, paragraph [0043], lines 1-9, where reception of E-RAB requests implies that UE is subscribed to a flow);
- mapping the content flow to at least one radio bearer in dependence on the at least one downlink radio condition and in dependence on the at least one flow property (page 3, paragraph [0045], lines 1-4, where the determination based on the obtained QoS and channel status is mapping);
- receiving the content flow; and
- transmitting the content flow according to the determined at least one mapping to the subscribing user equipments (page 3, paragraph [0049], lines 1-3).

The subject-matter of claim 1 is therefore not new (Article 33(2) PCT).

- 2.2 For the sake of completeness, it is pointed out that the objection of lack of novelty set out above could also have been sustained by using document D2 (see the passages cited in the search report).
- 2.3 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding claim 13, which is therefore not new (Article 33(2) PCT).
- 2.4 The supplementary features of dependent claims 5 and 10, relate to minor implementation details which do not add anything new (Article 33(2) PCT) or of inventive significance (Article 33(3) PCT) to the subject-matter of the claim they refer to, especially as the advantages thus achieved can be readily contemplated in advance.

In this respect, the following list indicates the passages where the features of dependent claims are disclosed in the prior art:

Claim 5: D1, page 3, paragraph [0044], lines 6-11;

Claim 10: D1, page 3, paragraph [0043], lines 5-7.

- 2.5 The subject-matter of claims 2-4, cannot be considered to involve an inventive step (Article 33(3) PCT) in view of the disclosure of D3 (page 4, lines 27-29; page 4, lines 31-33; page 5, lines 4-8; page 15, lines 3-11; page 15, lines 18-20).
- 2.6 The subject-matter of claim 6, cannot be considered to involve an inventive step (Article 33(3) PCT) in view of the disclosure of D4 (page 2, column 2, lines 1-11).
- 2.7 The features of claims 7, 8, 9 and 11 are considered obvious (Article 33(3) PCT) for a person skilled in the art of wireless communication networks, since they consist of simple well known implementation details.
- 2.8 The subject-matter of claim 12 appears to be new (Article 33(2) PCT) and to involve an inventive step (Article 33(3) PCT).

Re Item VII

Certain defects in the international application

- 1 Independent claims 1 and 13 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art D1 and D2 being placed in the preamble (Rule 6.3(b)(i) PCT) and the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

- 2 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1 and D2 is not mentioned in the description, nor are these documents identified therein.
- 3 Some text expressions in parenthesis in claims 1-13 are not reference signs (Rule 6.2(b) PCT)) but special features. Consequently, they should be read as placed between the comas.