

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
YOON & LEE INTERNATIONAL PATENT & LAW FIRM

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Date of mailing
(day/month/year) **06 December 2018 (06.12.2018)**

Applicant's or agent's file reference F201709-0064	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/KR2018/010132	International filing date (day/month/year) 31 August 2018 (31.08.2018)	Priority date(day/month/year) 31 August 2017 (31.08.2017)
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International Patent Classification (IPC) or both national classification and IPC
H04W 72/04(2009.01)i, H04W 72/08(2009.01)i, H04W 74/08(2009.01)i, H04L 5/00(2006.01)i

Applicant
SAMSUNG ELECTRONICS CO., LTD.

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 43bis.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 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 66.1bis(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.

 <p>Name and mailing address of the ISA/KR International Application Division Korean Intellectual Property Office 189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea Facsimile No. +82-42-481-8578</p>	<p>Date of completion of this opinion</p> <p>06 December 2018 (06.12.2018)</p>	<p>Authorized officer</p> <p>KANG, Hee Gok</p> <p>Telephone No. +82-42-481-8264</p> 
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/KR2018/010132

Box No. I Basis of this 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 43*bis*. I(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 13*ter*. I(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 13*ter*. I(a)).
 - on paper or in the form of an image file (Rule 13*ter*. I(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:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2018/010132

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)	Claims	<u>1-15</u>	YES
	Claims	<u>NONE</u>	NO
Inventive step (IS)	Claims	<u>1-15</u>	YES
	Claims	<u>NONE</u>	NO
Industrial applicability (IA)	Claims	<u>1-15</u>	YES
	Claims	<u>NONE</u>	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: ERICSSON, 'Acquisition of Minimum SI', R2-1700477, 3GPP TSG-RAN WG2 NR Ad Hoc, Spokane, USA, 07 January 2017

D2: SAMSUNG, 'Remaining aspects of Minimum System Information contents', R2-1706830, 3GPP TSG-RAN2 NR Adhoc, Qingdao, China, 16 June 2017

D3: ERICSSON, 'NR-PBCH Content and payload size', R1-1714035, 3GPP TSG RAN WG1 Meeting #90, Prague, Czech Republic, 11 August 2017

D4: ERICSSON, 'Content of the NR Master Information Block (NR-MIB)', R2-1706493, 3GPP TSG-RAN WG2 Ad Hoc NR#2, Qingdao, China, 17 June 2017

D5: SAMSUNG, 'Remaining aspects of PBCH and SIB1 contents', R2-1709496, 3GPP TSG-RAN WG2 99 meeting, Berlin, Germany, 11 August 2017

2.1 Novelty and Inventive Step (PCT Article 33(2) and (3))

2.1.1 Independent Claim 1

The subject matter of claim 1 differs from these prior art documents in a user equipment (UE) comprising: a transceiver configured to: receive, from a BS, SystemInformationBlockType1 (SIB1) comprising a first ssb-PositionsInBurst indicating indexes of SS/PBCH blocks for which the UE does not receive other signals or channels in resource elements (REs) that overlap with REs corresponding to the SS/PBCH blocks; and receive, from the BS, a set of higher layer parameters including a second ssb-PositionsInBurst indicating the indexes of the SS/PBCH blocks for which the UE does not receive the other signals or channels in the REs that overlap with the REs corresponding to the SS/PBCH blocks, wherein configuration information included in the second ssb-PositionsInBurst overrides configuration information included in the first

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Supplemental Box

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Continuation of : Box No. V

ssb-PositionsInBurst; and a processor operably connected to the transceiver, the processor configured to determine the first ssb-PositionsInBurst and the second ssb-PositionsInBurst for receiving resource information.

And it is not obvious to a person skilled in the art by the documents, taken alone or in combination.

Therefore, claim 1 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

2.1.2 Dependent Claims 2-7

Since claims 2-7 are directly or indirectly dependent on claim 1, the claims are also considered to be novel and to involve an inventive step under PCT Article 33(2) and (3).

2.1.3 Independent Claim 8

Claim 8 relates to a base station (BS) for transmitting resource information, and claim 1 relates to a user equipment (UE) for receiving resource information. However, the technical features of two claims are substantially same. Accordingly, the same reasoning as in claim 1 could be applied to claim 8. Therefore, claim 8 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

2.1.4 Dependent Claims 9-13

Since claims 9-13 are dependent on claim 8, the claims are also considered to be novel and to involve an inventive step under PCT Article 33(2) and (3).

2.1.5 Independent Claim 14

Claim 14 is an independent claim and relates to a method. Since the features of claim 14 are substantially the same as those of claim 1 except for the category of invention, the same reasoning as in claim 1 applies to claim 14. Therefore, claim 14 meets the requirements of PCT Article 33(2) and 33(3) with respect to novelty and inventive step.

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2.1.6 Dependent Claim 15

Since claim 15 is dependent on claim 14, the claim is also considered to be novel and to involve an inventive step under PCT Article 33(2) and (3).

2.2 Industrial Applicability (PCT Article 33(4))

Claims 1-15 are industrially applicable under PCT Article 33(4).