

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

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Date of mailing (day/month/year) 04 March 2020 (04.03.2020)

Applicant's or agent's file reference F201811-0050	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/KR2019/016444	International filing date (day/month/year) 27 November 2019 (27.11.2019)	Priority date(day/month/year) 27 November 2018 (27.11.2018)
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International Patent Classification (IPC) or both national classification and IPC H04W 48/14(2009.01)i, H04W 74/00(2009.01)i, H04W 74/08(2009.01)i, H04W 16/28(2009.01)i
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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.

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	Date of completion of this opinion 04 March 2020 (04.03.2020)	Authorized officer KWON, Sungho Telephone No. +82-42-481-3547
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2019/016444

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*.1(b))
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*.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 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.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:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2019/016444

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>NONE</u>	YES
	Claims	<u>1-15</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: ZTE CORPORATION et al., ‘CR on SI request procedure in TS38.331’, R2-1814029, 3GPP TSG-RAN WG2 Meeting #103bis, Chengdu, China, 27 September 2018

D2: ‘3GPP; TSG RAN; NR; Medium Access Control (MAC) protocol specification (Release 15)’, 3GPP TS 38.321 V15.3.0, 25 September 2018

I. Novelty and Inventive Step (PCT Article 33(2) and (3))

1. Claims 1-4

1.1. Claim 1

D1, which is considered to be the closest prior art to the subject matter of claim 1, discloses a method performed by a user equipment (UE), the method comprising: for a Msg1 based on a system information (SI) request procedure, selecting, by the UE, a SUL carrier or a NUL carrier to perform a random access procedure, wherein if a RSRP of a downlink pathloss reference is less than $rsrp\text{-ThresholdSSBSUL}$, the UE selects the SUL carrier for performing a random access procedure (see page 1), and if the RSRP of the downlink pathloss reference is not less than $rsrp\text{-ThresholdSSBSUL}$, the UE selects the NUL carrier for performing a random access procedure (see page 1), wherein a $si\text{-RequestConfigSUL}$ can only be used when the SUL carrier is selected by the UE while a $si\text{-RequestConfig}$ can only be used when the NUL carrier is selected by the UE for the random access procedure (see page 1).

Claim 1 differs from D1 in “a SIB1”. However, the different feature is merely a variation of the disclosure of D1 (see page 5: a SIB1 includes a $si\text{-RequestConfig}$ or a $si\text{-RequestConfigSUL}$).

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Continuation of : Box No. V

Accordingly, claim 1 would have been obvious over D1. Therefore, claim 1 lacks an inventive step.

1.2. Claims 2-4

The additional feature of claim 2 would be easily derived from the disclosure of D1 (see pages 5-6: a RRCSystemInfoRequest message is used to request SI message(s) required by the UE, when no si-RequestConfig or si-RequestConfigSUL is included in a si-SchedulingInfo, wherein the SIB1 includes the si-SchedulingInfo containing the si-RequestConfig or the si-RequestConfigSUL).

The additional feature of claim 3 would be easily derived from the disclosure of D2 (see page 15: when a random access procedure is initiated on a serving cell, and if the serving cell for the random access procedure is configured with supplementaryUplink, and the RSRP of the downlink pathloss reference is less than rsrp-ThresholdSSB-SUL, selecting the SUL carrier for performing the random access procedure, else, selecting the NUL carrier for performing the random access procedure).

The additional feature of claim 4 would be easily derived from the disclosure of D1 (see page 5: if an acknowledgement for a RRCSystemInfoRequest message is received from lower layers, acquiring the requested SI message).

Accordingly, claims 2, 4 would have been obvious over D1, and claim 3 would have been obvious over D1 in view of D2. Therefore, claims 2-4 lack an inventive step.

2. Claims 5-7

2.1. Claim 5

Claim 5 relates to a method by a base station and has substantially the same technical features as claim 1. Thus, the same reasoning as in claim 1 applies to claim 5. Therefore, claim 5 lacks an inventive step.

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2.2. Claims 6-7

The additional feature of claim 6 would be easily derived from the disclosure of D1 (see pages 5-6: a RRCSystemInfoRequest message is used to request SI message(s) required by the UE, when no si-RequestConfig or si-RequestConfigSUL is included in a si-SchedulingInfo, wherein the SIB1 includes the si-SchedulingInfo containing the si-RequestConfig or the si-RequestConfigSUL), and the disclosure of D2 (see page 15: when a random access procedure is initiated on a serving cell, and if the serving cell for the random access procedure is configured with supplementaryUplink, and the RSRP of the downlink pathloss reference is less than rsrp-ThresholdSSB-SUL, selecting the SUL carrier for performing the random access procedure, else, selecting the NUL carrier for performing the random access procedure).

The additional feature of claim 7 would be easily derived from the disclosure of D1 (see page 5: if an acknowledgement for a RRCSystemInfoRequest message is received from lower layers, acquiring the requested SI message).

Accordingly, claims 6-7 would have been obvious over D1 in view of D2. Therefore, claims 6-7 lack an inventive step.

3. Claims 8-11

Claims 8-11 relate to a terminal and have substantially the same technical features as claims 1-4, differing only in the category. Thus, the same reasoning as in claims 1-4 applies to claims 8-11. Therefore, claims 8-11 lack an inventive step.

4. Claims 12-15

4.1. Claim 12

Claim 12 relates to a base station and has substantially the same technical features as claim 5, differing only in the category. Thus, the same reasoning as in claim 5 applies to claim 12. Therefore, claim 12 lacks an inventive step.

4.2. Claims 13-15

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The additional feature of claim 13 would be easily derived from the disclosure of D1 (see pages 5-6: a RRCSystemInfoRequest message is used to request SI message(s) required by the UE, when no si-RequestConfig or si-RequestConfigSUL is included in a si-SchedulingInfo, wherein the SIB1 includes the si-SchedulingInfo containing the si-RequestConfig or the si-RequestConfigSUL).

The additional feature of claim 14 would be easily derived from the disclosure of D2 (see page 15: when a random access procedure is initiated on a serving cell, and if the serving cell for the random access procedure is configured with supplementaryUplink, and the RSRP of the downlink pathloss reference is less than rsrp-ThresholdSSB-SUL, selecting the SUL carrier for performing the random access procedure, else, selecting the NUL carrier for performing the random access procedure).

The additional feature of claim 15 would be easily derived from the disclosure of D1 (see page 5: if an acknowledgement for a RRCSystemInfoRequest message is received from lower layers, acquiring the requested SI message).

Accordingly, claims 13, 15 would have been obvious over D1, and claim 14 would have been obvious over D1 in view of D2. Therefore, claims 13-15 lack an inventive step.

II. Industrial Applicability (PCT Article 33(4))

Claims 1-15 are industrially applicable.