PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

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KING & WOOD MALLESONS

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	**23 June 2020**
Applicant's or agent's file reference **EIE190340PCT**	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/CN2019/108635	**27 September 2019**	

International Patent Classification (IPC) or both national classification and IPC
H04L 25/03(2006.01)i

Applicant
NEC CORPORATION et al

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

- [x] 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
- [x] 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 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/	Date of completion of this opinion	Authorized officer
National Intellectual Property Administration, PRC **China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088**	**17 June 2020**	**WANG,Xinyue**
Facsimile No. **(86—10) 62019451**		Telephone No. **(86-10)-53961795**

Form PCT/ISA/237 (Cover sheet) (January 2015)

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International application No.
PCT/CN2019/108635

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
   - [x] 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(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*.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/CN2019/108635

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**

1. Statement

Novelty (N)	Claims	1-32	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-32	NO
Industrial applicability (IA)	Claims	1-32	YES
	Claims	None	NO

2. Citations and explanations :

[1] Reference is made to the following document:

[2] D1: R1-1906362

[3] D1 discloses the following features (see 2.3-2.4): it was agreed to support sidelink open-loop power control and both sidelink pathloss and Uu pathloss are applied to sidelink open-loop power control. In order to realize bidirectional unicast, it is reasonable to consider the switching between these two scenarios. In scenario 1, UE1 and UE2 can carry out bidirectional transmission as the transmission power is determined by SL pathloss. Once any UE finds that SL pathloss is higher than Uu pathloss, the transmission power needs to be determined by Uu pathloss in order to mitigate interference to UL reception at gNB. However, if the Uu pathloss is adopted as upper bound for Tx power, the bidirectional transmission may not be applicable when the sidelink pathloss is significantly larger than the Uu pathloss. In that case, the Rx UE has difficulty to receive and decode the packet due to low SINR. In the RAN1#96 meeting, it was agreed that TX UE derives sidelink pathloss from the SL RSRP reported by the RX UE. In order to obtain a reasonable indication of the sidelink pathloss, the UE should filter the sidelink pathoss estimate with a suitable time-window to remove the effect of fast fading. Typical filter lengths are between 100 and 500 ms for effective operation. The remaining issue is which UE performs higher layer filtering. Option 1: Support Layer-1 SL-RSRP reporting, and Layer-3 filtering is performed by UE transmitting RS for RSRP measurement. Option 2: UE transmitting RS for RSRP measurement indicates relevant information about the transmit power of the RS, and UE receiving RS for RSRP measurement reports Layer-3 filtered RSRP. For option 1, the RX UE should feedback Layer-1 SL-RSRP after each measured instance. In contrast, for option 2, the RX UE only feedback Layer-3 SL-RSRP once during each filtering window. Therefore, the resource consumption in option 2 is lower compared to option 1. Since the reference signal used for SL RSRP measurement (e.g. DMRS of PSSCH or aperiodic CSI-RS) is transmitted in association with PSCCH and PSSCH, the missed detection probability of this signal is relatively low. In that case, the SL RSRP of option 1 and option 2 have similar detection accuracy. Furthermore, if the EPRE of the reference signal remains constant during the filtering window, there is no need to indicate the transmit power of the reference signal from TX UE in option 2.

[4] Claims 1, 18 differ from D1 in that: a first terminal device determining a time window.

[5] Since D1 does not explicitly or implicitly disclose all the features of claims 1, 18, claims 1, 18 and their dependent claims 2-17, 19-28 involve novelty and meet the criteria set out in PCT Article 33(2).

[6] To a person skilled in the art, the difference is a normal design. Therefore the subject-matter of claims 1, 18 are obvious to a person skilled in the art. Claims 1, 18 do not involve an inventive step, and do not meet the criteria set out in PCT Article 33(3).

[7] Some additional features of claims 2-17, 19-28 are disclosed by D1, others are normal designs. So claims 2-17, 19-28 do not involve an inventive step, and do not meet the criteria set out in PCT Article 33(3).

[8] For claims 29-30, a terminal comprising a processor and a memory coupled to the processor and storing instructions thereon, the instructions, when executed by the processor, causing the first terminal device to perform the method is a normal design. So claims 29-30 meet the criteria set out in PCT Article 33(2) and do not meet the criteria set out in PCT Article 33(3).

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**

[9] For claims 31-32, a computer readable medium having instructions stored thereon, the instructions, when executed on at least one processor, causing the at least one processor to perform the method is a normal design. So claims 31-32 meet the criteria set out in PCT Article 33(2) and do not meet the criteria set out in PCT Article 33(3).

[10] The subject-matter of claims 1-32 can find industrial applicability in the technical field of communications. Therefore these claims meet the criteria set out in PCT Article 33(4).