

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

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 China Sinda Intellectual Property Ltd.

PCT

WRITTEN OPINION OF THE
 INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing <i>(day/month/year)</i> 15 March 2018	
Applicant's or agent's file reference PCT17070CN	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2017/090042	International filing date <i>(day/month/year)</i> 26 June 2017
Priority date <i>(day/month/year)</i>	
International Patent Classification (IPC) or both national classification and IPC H04L 29/06(2006.01)i	
Applicant Motorola Mobility LLC et al	

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/ STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088	Date of completion of this opinion 08 March 2018	Authorized officer LIU, Yongzhe
Facsimile No. (86—10) 62019451	Telephone No. (86-10)62412024	

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2017/090042

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 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 filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
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 in 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/CN2017/090042

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**

1. Statement

Novelty (N)	Claims	<u>1-92</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-92</u>	NO
Industrial applicability (IA)	Claims	<u>1-92</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

- [1] D1: WO2017050153 A1, the prior art closest to the present application
- [2] Novelty (PCT Article 33(2))
- [3] D1 discloses a method for use in a base station, which involves a generator and a transmitter, for indicating a demodulation reference signal (DMRS) configuration to a user equipment (UE), comprising: generating a first DMRS configuration information associated with a first physical downlink shared channel (PDSCH) of the UE; generating a second DMRS configuration information associated with a second PDSCH of another UE, and overlapping the second PDSCH with the first PDSCH; sending the first DMRS configuration information and the second DMRS configuration information to the UE; the UE, which involves a receiver, receives the DMRS configuration information from the base station; the DMRS configuration information indicates the ports of antennas associated with the PDSCH (see description, page 3, line 4 to page 6, line 11, figures 1-4).
- [4] However, D1 does not disclose the following features: (1) receiving the DMRS based on the DMRS configuration (see claims 1 and 24); (2) transmitting the DMRS based on the DMRS configuration (see claims 47 and 70). Therefore independent claims 1, 24, 47 and 70 are novel. Dependent claims 2-23, 25-46, 48-69 and 71-92 are novel.
- [5] Inventive Step (PCT Article 33(3))
- [6] For the features (1) and (2) not disclosed in D1, D1 has disclosed that the base station generates and sends the DMRS configuration to the UE and the UE receives the DMRS configuration from the base station. Therefore a person skilled in the art could have conceived of receiving, by the base station, the DMRS based on the DMRS configuration and transmitting, by the UE, the DMRS based on the DMRS configuration, which is the common technical means in the art. Therefore, it would be obvious for a person skilled in the art to apply the common technical means to D1 and arrive at claims 1, 24, 47 and 70. Thus, claims 1, 24, 47 and 70 do not involve an inventive step.
- [7] The additional features of claims 2-23, 25-46, 48-69 and 71-92 are disclosed by D1, or belong to the common technical means in the art. Thus, claims 2-23, 25-46, 48-69 and 71-92 do not involve an inventive step.
- [8] Industrial applicability (PCT Article 33(4))
- [9] Claims 1-92 can find industrial applicability.