

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
 100033  
 China B11th Floor, Focus Place, 19 Financial Street,,  
 Xicheng District, Beijing  
  
 China Sinda Intellectual Property Ltd.

## PCT

WRITTEN OPINION OF THE  
 INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <b>28 April 2018</b>	
Applicant's or agent's file reference <b>PCT17095CN</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/CN2017/097259</b>	International filing date (day/month/year) <b>11 August 2017</b>
International Patent Classification (IPC) or both national classification and IPC G08G 5/04(2006.01)i	
Applicant <b>Motorola Mobility LLC</b>	

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/ <b>STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088</b>	Date of completion of this opinion <b>24 April 2018</b>	Authorized officer  <b>ZHANG,Fan</b>
Facsimile No. (86—10) 62019451	Telephone No. (86-10)53961651	

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2017/097259

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/CN2017/097259**

**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>1-52</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-52</u>	NO
Industrial applicability (IA)	Claims	<u>1-52</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

- [1] Reference is made to the following document:
- [2] D1: US2017132943A1 (11.05.2017)
- [4] 1. Novelty and Inventive step
- [5] D1 discloses (description, paragraphs [0037]-[0041]): FIG. 2A illustrates a first unmanned aerial vehicle 210 and a second unmanned aerial vehicle 220 that are flying at the same flying altitude. The first unmanned aerial vehicle 210 may periodically broadcast a first notification signal that includes current location information 211 acquired using GPS navigation information, a predicted route 212, and future location information 213. Similarly, the second unmanned aerial vehicle 220 may also periodically broadcast a second notification signal that includes current location information 221, a predicted route 222, and future location information 223 of the second unmanned aerial vehicle 220. The first unmanned aerial vehicle 210 may receive the second notification signal transmitted from the second unmanned aerial vehicle 220. The first unmanned aerial vehicle 210 may decode the second notification signal based on a predetermined decoding method. In addition, the first unmanned aerial vehicle 210 may acquire the current location information 221, the predicted route 222, and the future location information 223 of the second unmanned aerial vehicle 220 that are decoded from the second notification signal. Further, the first unmanned aerial vehicle 210 may compare the predicted route 212 and the future location information 213 of the first unmanned aerial vehicle 210 to the predicted route 222 and the future location information 223 of the second unmanned aerial vehicle 220, and may calculate a collision probability between the first unmanned aerial vehicle 210 and the second unmanned aerial vehicle 220. Further, if the collision probability is predicted to be greater than or equal to a threshold, the first unmanned aerial vehicle 210 may avoid a collision by detouring a predicted collision point.
- [6] The different feature between claim 1 and D1 is: determining whether a state of an aerial vehicle matches a predetermined state. Claim 1 is novel (PCT 33(2)).
- [7] In order to avoid collisions between the aerial vehicles, it is a matter of normal design to determine whether the first unmanned aerial vehicle 210 and a second unmanned aerial vehicle 220 are flying at the same flying altitude. Therefore it would be obvious to the person skilled in the art to apply the matter of normal design to D1, and arrive at claim 1 without exercising an inventive step. Claim 1 does not involve an inventive step (PCT 33(3)).
- [8] The different feature between claim 51 and D1 is: the aerial vehicle determines that a state of the aerial vehicle matches a predetermined state. Claim 51 is novel (PCT 33(2)).
- [9] In order to avoid collisions between the aerial vehicles, it is a matter of normal design that the unmanned aerial vehicle determines that the first unmanned aerial vehicle 210 and a second unmanned aerial vehicle 220 are flying at the same flying altitude. Therefore it would be obvious to the person skilled in the art to apply the matter of normal design to D1, and arrive at claim 51 without exercising an inventive step. Claim 51 does not involve an inventive step (PCT 33(3)).
- [10] Claim 26 corresponds to claim 1, and claim 52 corresponds to claim 51. Claims 26, 52 meet PCT 33(2), while do not meet PCT 33(3).
- [11] The dependent claims 2-25, 27-50 meet PCT 33(2).

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/CN2017/097259**

**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**

[12] The additional features of claims 2-25, 27-50 are matters of normal design. Claims 2-25, 27-50 do not meet PCT 33(3).

[14] 2. Industrial applicability

[15] The invention meets the requirements of PCT 33(4).