

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

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 China 10th Floor, Building 1, 10 Caihefang Road,  
 Haidian District, Beijing

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## PCT

WRITTEN OPINION OF THE  
 INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference <b>C19W5374</b>		Date of mailing (day/month/year) <b>21 February 2020</b>
International application No. <b>PCT/CN2019/122820</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International filing date (day/month/year) <b>03 December 2019</b>	Priority date (day/month/year) <b>03 December 2018</b>	
International Patent Classification (IPC) or both national classification and IPC H04N 19/513(2014.01)i; H04N 19/61(2014.01)i		
Applicant <b>BEIJING BYTEDANCE NETWORK TECHNOLOGY CO., LTD. et al</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>National Intellectual Property Administration, PRC China 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088</b>	Date of completion of this opinion <b>17 February 2020</b>	Authorized officer <b>YU, Chenjun</b>
Facsimile No. (86—10) <b>62019451</b>	Telephone No. <b>86-(010)-62089983</b>	

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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 43bis.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 13ter.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 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.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:

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**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>1-19</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>2-13</u>	YES
	Claims	<u>1, 14-19</u>	NO
Industrial applicability (IA)	Claims	<u>1-19</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

[1] D1: US2013003843 A1; D2:US2013294513 A1; D3:WO2014043374 A1;

[2] D4: WO2015103747 A1

[3] 1. D1 discloses the following technical features (see the description, paragraphs 0007-0032): a coding unit (CU) of a current picture is processed, wherein the CU comprises at least a first prediction unit (PU) and a second PU; a second candidate set comprising a plurality of motion parameter candidates for the second PU is then determined, wherein at least a motion parameter candidate in the second candidate set is derived from a motion parameter predictor for a previously coded PU of the current picture, and the second candidate set may be different from a first candidate set comprising a plurality of motion parameter candidates for the first PU; a motion parameter candidate is then selected from the second candidate set as a motion parameter predictor for the second PU; predicted samples are then generated from the motion parameter predictor of the second PU partition; the video encoder 300 receives a video input and generates a bitstream as an output; the motion prediction module 302 performs motion prediction on the video input to generate predicted samples and prediction information. D1 does not disclose the technical features of claim 1: determining, based on a video characteristic of a first video block, an enabling or disabling of a pruning process for a table updating process. Thus, claims 1-19 are novel in the sense of PCT Article 33(2).

[4] D2 discloses the following technical features (see the description, paragraphs 0006, 0007, 0106): additional motion information candidates for the Merge/AMVP list can be generated by using the motion information candidate derived from the collocated base layer block and a motion vector offset; pruning operations may be conditionally applied (e.g., may or may not be applicable) when adding motion information candidates to the Merge/AMVP list; at block 925, it is determined whether there is a pruning operation to apply; there may be a selective or conditional pruning operation that is applied to only certain candidates, blocks, etc. It would be obvious for a person skilled in the art to combine D1 and D2 to arrive at the technical solution of claims 1, 14-17. Therefore, claims 1, 14-17 do not involve an inventive step in the sense of PCT Article 33(3).

[5] 2. It is common knowledge for the person skilled in the art that an apparatus for video processing comprises a processor; and a computer program product is stored on a non-transitory computer readable media. Therefore, claims 18 and 19 do not involve an inventive step in the sense of PCT Article 33(3).

[6] 3. Considered individually or in combination D1, D2, D3 and D4 do not explicitly or implicitly disclose the technical solution of claims 2-13. For the person skilled in the art, the technical solution of claims 2-13 is neither indicated nor obviously rendered from the prior art. Therefore, claims 2-13 involve an inventive step in the sense of PCT Article 33(3).

[7] 4. The subject matters of claims 1-19 can be made or used in industry, thus claims 1-19 satisfy the criteria of PCT Article 33(4).

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**Box No. VII      Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

- [1] Claim 9 is a multiple dependent claim, and the multiple dependent claim 14 quotes the multiple dependent claim 9, therefore claim 14 does not satisfy the criteria of Rule 6.4(a) PCT.
- [2] For the same reason, the claims 16 and 17 do not satisfy the criteria of Rule 6.4(a) PCT.