

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

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| Applicant's or agent's file reference 13S1039PCT | FOR FURTHER ACTION | | See item 4 below |
| International application No. PCT/JP2013/083445 | International filing date (<i>day/month/year</i>) 13 December 2013 (13.12.2013) | Priority date (<i>day/month/year</i>) 13 December 2012 (13.12.2012) | |
| International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237 | | | |
| Applicant KABUSHIKI KAISHA TOSHIBA | | | |

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|---|-------------------------------------|---|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| <p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p> | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | |

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| | Date of issuance of this report 16 June 2015 (16.06.2015) |
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland | Authorized officer Yukari Nakamura |
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PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

| | |
|-------------------------------------|-------------------|
| Date of mailing (day/month/year) | 04.02.2014 |
|-------------------------------------|-------------------|

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| Applicant's or agent's file reference 13S1039PCT | FOR FURTHER ACTION See paragraph 2 below |
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|---|---|---|
| International application No. PCT/JP2013/083445 | International filing date (day/month/year) 13.12.2013 | Priority date (day/month/year) 13.12.2012 |
|---|---|---|

International Patent Classification (IPC) or both national classification and IPC
A61B6/03 (2006.01) i

Applicant
KABUSHIKI KAISHA TOSHIBA

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 or 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.

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|--|------------------------------------|--------------------|
| Name and mailing address of the ISA/JP | Date of completion of this opinion | Authorized officer |
| Facsimile No. | | Telephone No. |

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2013/083445

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 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 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**

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| International application No. PCT/JP2013/083445 |
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| 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 |
|------------------|---|

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|-------------------------------|--------|-------|-----|
| 1. Statement | | | |
| Novelty (N) | Claims | 1-18 | YES |
| | Claims | _____ | NO |
| Inventive step (IS) | Claims | _____ | YES |
| | Claims | 1-18 | NO |
| Industrial applicability (IA) | Claims | 1-18 | YES |
| | Claims | _____ | NO |

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|--------------------------------|--|
| 2. Citations and explanations: | |
|--------------------------------|--|

Document 1: JP 2006-305204 A (J. MORITA MANUFACTURING CORP.) 09 November 2006, paragraphs [0045]-[0047], [0054] (Family: none)

Document 2: JP 2007-195970 A (SIEMENS AKTIENGESELLSCHAFT) 09 August 2007, paragraphs [0021]-[0023] & US 2007/0237295 A1 & DE 102006003609 A & CN 101006928 A

The invention as in claims 1, 8-9 and 17-18 does not involve an inventive step in the light of document 1 cited in the ISR. Document 1 (see, in particular, paragraphs [0045]-[0047] and [0054]) discloses the invention of a computer tomography (CT) image display device, wherein a large reconstruction region is first coarsely reconstructed by setting a large voxel size to select a region of interest, and in order to reduce an image processing load when enlarging/reducing the CT image, a coarser image than an original image is displayed in the middle of enlargement/reduction, and a similarly fine image to the original image is displayed in the final stage of enlargement/reduction, and then a

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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

small voxel size is set only for the region of interest in the image to reconstruct the region in more detail. Comparing the invention as in claim 1 and the invention disclosed in document 1, both differ from each other in that document 1 discloses the feature wherein "a coarser image than an original image is displayed" "in the middle of enlargement/reduction", but does not explicitly mention that "a part of a first image is enlarged and displayed". However, a person skilled in the art could have easily conceived of displaying by simply enlarging/reducing the pixels of an original image as the method for enlargement/reduction which is low in processing load in order to reduce "an image processing load in the middle of enlargement/reduction" in the invention disclosed in document 1.

The invention as in claims 2-5 and 10-14 does not involve an inventive step in the light of document 1. The conditions under which and the range in which "a voxel size is set small to perform reconstruction in more detail" in the invention disclosed in document 1 is a matter that should be designed, as appropriate, by a person skilled in the art; and no remarkable effect can be found in configuring the CT image display device as described in claims 2-5 and 10-14.

The invention as in claims 6-7 and 15-16 does not involve an inventive step in the light of document 1 and document 2 cited in the ISR. Document 2 (paragraphs [0021]-[0023]) discloses the feature wherein a high-resolution calculation is performed while the display of a low-resolution overview image is observed in a waiting

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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

time, whereby the displacement and enlarged display of a region can be quickly performed.