

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

|  |   |   |                  |
|--|---|---|------------------|
| Applicant's or agent's file reference<br>GH2805-PCT  | <b>FOR FURTHER ACTION</b>   |   | See item 4 below |
| International application No.<br>PCT/JP2016/056661   | International filing date ( <i>day/month/year</i> )<br>03 March 2016 (03.03.2016) | Priority date ( <i>day/month/year</i> )<br>05 March 2015 (05.03.2015) |                  |
| International Patent Classification (8th edition unless older edition indicated)<br>See relevant information in Form PCT/ISA/237 |   |   |                  |
| Applicant<br>NIPRO CORPORATION   |   |   |                  |

|   |                                     |   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
|---|-------------------------------------|---|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| <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 9 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   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |

|   |   |
|---|---|
|   | Date of issuance of this report<br>05 September 2017 (05.09.2017) |
| The International Bureau of WIPO<br>34, chemin des Colombettes<br>1211 Geneva 20, Switzerland | Authorized officer<br><br>Mineko Mohri                            |
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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<br>(day/month/year) | <b>31.05.2016</b> |
|-------------------------------------|-------------------|

|  |  |
|--|--|
| Applicant's or agent's file reference<br><b>GH2805-PCT</b> | <b>FOR FURTHER ACTION</b><br>See paragraph 2 below |
|--|--|

|   |   |   |
|---|---|---|
| International application No.<br><b>PCT/JP2016/056661</b> | International filing date (day/month/year)<br><b>03.03.2016</b> | Priority date (day/month/year)<br><b>05.03.2015</b> |
|---|---|---|

International Patent Classification (IPC) or both national classification and IPC  
**A61B5/0408 (2006.01) i, A61B5/0478 (2006.01) i, A61B5/0492 (2006.01) i**

Applicant  
**NIPRO CORPORATION**

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.

|  |                                    |                    |
|--|------------------------------------|--------------------|
| 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.

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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:
  - 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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| <b>Box No. V</b>               | <b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>   |                   |     |
|--------------------------------|---|-------------------|-----|
| 1. Statement                   | Novelty (N)   | Claims _____      | YES |
|                                |   | Claims <u>1-6</u> | NO  |
|                                | Inventive step (IS)   | Claims _____      | YES |
|                                |   | Claims <u>1-6</u> | NO  |
|                                | Industrial applicability (IA)   | Claims <u>1-6</u> | YES |
|                                |   | Claims _____      | NO  |
| 2. Citations and explanations: |   |                   |     |
|                                | <p>Document 1: JP 2013-111361 A (JAPAN HEALTH SCIENCES FOUNDATION) 10 June 2013, paragraphs [0030], [0040]-[0043], [0050], fig. 16, 17 &amp; WO 2013/080992 A1</p> <p>Document 2: JP 2006-34429 A (OLYMPUS CORP.) 09 February 2006, paragraphs [0026]-[0028], fig. 7, 8 &amp; US 2008/0027345 A1, paragraphs [0141]-[0146], fig. 21, 22 &amp; WO 2006/001276 A1 &amp; EP 1767147 A1</p> <p>Document 3: JP 2006-094979 A (KIMURA, Akio) 13 April 2006, claims 1-2, paragraphs [0001]-[0024], fig. 1-9 (Family: none)</p> <p>Document 4: EP 2172152 A1 (NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO) 07 April 2010, paragraphs [0001], [0002], [0005], [0008]-[0015], fig. 1-3 (Family: none)</p> <p>Document 5: JP 2003-520094 A (INSTRUMENTARIUM CORP.) 02 July 2003, claims 1, 6, 13, and 15, paragraphs [0003], [0014]-[0017], [0028], [0031], [0035], fig. 1-4 &amp; US 2004/0054393</p> |                   |     |

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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

A1, claims 1, 6, 13, and 15, paragraphs  
[0003], [0028]-[0032], [0042], [0046],  
[0050], fig. 1-4 & WO 2001/052731 A1

Claims 1, 3-4, and 6

Document 1

The invention as in claims 1, 3-4, and 6 is disclosed in document 1 cited in the ISR, and lacks novelty and does not involve an inventive step.

Document 1 discloses a brainwave detection electrode (brainwave measurement electrode 40) wherein comblike members are arranged in a direction (in the depth direction in the figure in fig. 16, 17) intersecting the longitudinal direction (the left/right direction in the figure in fig. 16, 17) of the comblike members along a base member (base bottom part 50), and the plurality of comblike members have a plurality of comb tooth parts (contact parts 70) and aligned with one another in the longitudinal direction of the comblike members (in particular, see paragraphs [0030], [0040]-[0043], [0050], fig. 16, 17).

Document 1 also indicates that the base member and the comblike members are integrally formed using the same material, and that these members consist of electro-conductive members (see paragraph [0030]).

Also, document 1 (fig. 16) discloses disposing the comb tooth parts in concentric circles shapes, thereby creating a disposition wherein the comb tooth parts are aligned with a zigzag alternating offset in the depth direction in the figure. Additionally, depending on which group of comb tooth parts is to be understood as 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**

comblike member, it could be found that the comb tooth parts of the plurality of comblike members disclosed in fig. 16 are disposed so as to be aligned in a straight line and are disposed so as to be aligned with a zigzag alternating offset.

Accordingly, the invention as in claims 1, 3-4, and 6 is disclosed in document 1 cited in the ISR, and lacks novelty.

Also, with respect to the comblike members shown in fig. 17 ("protruding parts 60" that have a comblike disposition (row); see paragraph [0050]) arranged along the base member in the direction intersecting the longitudinal direction of the comblike members, document 1 states "as shown in fig. 17, it is possible to have a plurality of comblike dispositions (rows). The protruding parts 60 may also be formed in a comblike disposition with a single row. Fig. 17 is a drawing explaining an example in which part of the entirety of a brainwave measurement electrode 40 has been cut out in accordance with variant 4; hatching representing a cross-section of the base bottom part 50 has been omitted" (paragraph [0050]). A person skilled in the art could as appropriate make the feature shown in fig. 17 be additionally arranged in the depth direction in the figure, and dispose the comb tooth parts of a plurality of comblike members so as to be aligned with a zigzag alternating offset in the depth direction in the figure.

Claims 1, 3-4, and 6

Document 2

The invention as in claims 1, 3-4, and 6 is

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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**

disclosed in document 2 cited in the ISR, and lacks novelty and does not involve an inventive step.

The "tip parts 23a" in document 2 (see paragraph [0028]) correspond to the plurality of "comb tooth parts" of the invention of the present application (in particular, see paragraphs [0026]-[0028], fig. 7, 8).

Also, the comb tooth parts in document 2 are disposed in a lattice shape, but depending on which group of comb tooth parts is to be understood as a comblike member, it could be found that the comb tooth parts of the plurality of comblike members are disposed so as to be aligned in a straight line and are disposed so as to be aligned with a zigzag alternating offset.

Claims 1 and 3-5

Document 3

The invention as in claims 1 and 3-5 is disclosed in document 3 cited in the ISR, and lacks novelty and does not involve an inventive step.

The substantially plate-like "reverse U-shaped metal member 2" in document 3 corresponds to the "comb tooth part" of the invention of the present application (in particular, see claims 1-2, paragraphs [0001]-[0024], fig. 1-9).

Also, a brainwave detection electrode is combined with a comb tooth part (see paragraph [0010]), and there is a high probability that a "base plate 1," where the comb tooth parts are integrated or fixedly provided, has electrical conductivity, so the "base plate 1" of document 3 corresponds to the "base member" of the invention of the present application.

Alternatively, a person skilled in the art could

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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**

easily conceive of creating such "base plate 1" using a member that has electrical conductivity.

Also, the comb tooth parts in document 3 are disposed in a lattice shape, but depending on which group of comb tooth parts is to be understood as a comblike member, it could be found that the comb tooth parts of the plurality of comblike members are disposed so as to be aligned in a straight line and are disposed so as to be aligned with a zigzag alternating offset.

Claims 1-4 and 6

Document 4

The invention as in claims 1-4 and 6 is disclosed in document 4 cited in the ISR, and therefore lacks novelty and does not involve an inventive step.

The "base part 1" in document 4 responds to the "base member" of the invention of the present application. Also, among the "teeth 3" disclosed in a lattice shape, the teeth in one row correspond to a "comblike member" in the invention of the present application (in particular, see paragraphs [0001], [0002], [0005], [0008]-[0015], fig. 1-3).

Also, the comb tooth parts in document 4 are disposed in a lattice shape, but depending on which group of comb tooth parts is to be understood as a comblike member, it could be found that the comb tooth parts of the plurality of comblike members are disposed so as to be aligned in a straight line and are disposed so as to be aligned with a zigzag alternating offset.



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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

Claims 1-4 and 6

Document 5

The invention as in claims 1-4 and 6 is disclosed in document 5 cited in the ISR, and therefore lacks novelty and does not involve an inventive step.

The "base part of a spike 12" and the sharp-tipped "spike 12" in document 5 respectively correspond to the "base member" and "comb tooth part" of the invention of the present application (in particular, see claims 1, 6, 13, 15, paragraphs [0003], [0014]-[0017], [0028], [0031], [0035], fig. 1-4).

Document 5 also indicates that the base member and the comb tooth parts are formed from the same material (see claim 1, paragraph [0015], fig. 4F), that the base member and the comb tooth parts may be formed using a plastic material because of cost (claim 13, paragraphs [0015], [0031]), and that the surfaces of the base material and the spike members are coated using a metal with good conductivity (claim 15, paragraphs [0016], [0017], fig. 4F).

Also, it is suggested that the comb tooth parts in document 5 are disposed in a lattice shape, but depending on which group of comb tooth parts is to be understood as a comblike member, it could be found that the comb tooth parts of the plurality of comblike members are disposed so as to be aligned in a straight line and are disposed so as to be aligned with a zigzag alternating offset.