# PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 20.07.2018

FOR FURTHER ACTION
See paragraph 2 below

<table>
<thead>
<tr>
<th>International application No.</th>
<th>International filing date (day/month/year)</th>
<th>Priority date (day/month/year)</th>
</tr>
</thead>
</table>

International Patent Classification (IPC) or both national classification and IPC
H04M1/725 (2006.01)i, H04M1/02 (2006.01)i, A61B5/00 (2006.01)i

Applicant
SAMSUNG ELECTRONICS CO., LTD.

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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
- [x] 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
- [x] 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 66.1(b)(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/KR

Date of completion of this opinion

Authorized officer

Facsimile No.

Date

Telephone No.

Form PCT/ISA/237 (cover sheet) (January 2015)
<table>
<thead>
<tr>
<th>Box No. 1</th>
<th>Basis of this opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>By virtue of the <strong>language</strong> this opinion has been established on the basis of:</td>
</tr>
<tr>
<td></td>
<td>- the international application in the language in which it was filed</td>
</tr>
<tr>
<td></td>
<td>- 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)).</td>
</tr>
<tr>
<td>2.</td>
<td>This opinion has been established taking into account the <strong>rectification of an obvious mistake</strong> authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))</td>
</tr>
<tr>
<td>3.</td>
<td>With regard to any <strong>nucleotide and/or amino acid sequence</strong> disclosed in the international application, this opinion has been established on the basis of a sequence listing:</td>
</tr>
<tr>
<td></td>
<td>a. forming part of the international application as filed:</td>
</tr>
<tr>
<td></td>
<td>- in the form of an Annex CST.25 text file.</td>
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<td></td>
<td>- on paper or in the form of an image file.</td>
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<td></td>
<td>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 CST.25 text file.</td>
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<td></td>
<td>c. furnished subsequent to the international filing date for the purposes of international search only:</td>
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<td>- in the form of an Annex CST.25 text file (Rule 13ter.1(a)).</td>
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<td>- on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).</td>
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<td>4.</td>
<td>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.</td>
</tr>
<tr>
<td>5.</td>
<td>Additional comments:</td>
</tr>
</tbody>
</table>
Reference is made to the following documents:

D1: KR 10-1366701 B1 (G&CS CO., LTD.) 24 February 2014
D2: JP 04-355720 A (MATSUSHITA ELECTRIC IND CO., LTD.) 09 December 1992

1. Novelty and Inventive Step

1.1 Claims 1 to 14

1.1.1 Independent Claim 1

D1, which is the closest prior art document to the invention as set forth in claim 1, suggests an organic light emitting diode display (101) (see figure 3 of D1), comprising: a display panel (DP) (see figure 3 of D1); an electric component (500) positioned between a connection part (400) and a first substrate (100) (see paragraph [0050]; and figure 3 of D1); and the connection part (400) including a circuit board body (410) on which the electric component (500) is positioned, a
connector part (420) having a connector (421) for receiving an external signal, and a substrate connection part (430) electrically connected to a part of an edge region of the first substrate (100) (see paragraph [0049]; and figure 3 of D1).

Claim 1 is different from D1 in that the former comprises a second adhesive member applied on a first adhesive member. However, said difference could easily be derived through a design change to the feature disclosed in D2 of a sealing adhesive (4) for sealing a liquid crystal between electrode substrates, and a moistureproof agent (5) for preventing moisture absorption or moisture permeation from an outer peripheral electrode substrate and an adhesive interface of the sealing adhesive (4) (see paragraph [0013]; and figure 1 of D2). Thus, since the invention as set forth in claim 1 would be obvious to a person skilled in the art from a combination of the invention disclosed in D1 with said feature disclosed in D2, said invention does not involve an inventive step (PCT Article 33(3)).

1.1.2 Dependent Claims 2 to 3 and 8 to 9

The additional feature set forth in claim 2 could easily be derived from the feature disclosed in D1 wherein the connection part (400) on which the electric component (500) is positioned is supported in a housing part (600) by means of an adhesive (AD) (see paragraph [0077]; and figure 3 of D1).

The additional feature set forth in claim 3 could easily be derived from the feature disclosed in D1 of a circuit board body (410) on which the electric component (500) is positioned...
The additional feature set forth in claim 8 could easily be derived from the feature disclosed in D1 of an electromagnetic wave shielding sheet disposed on one surface of the first substrate so as to face the electric component (see paragraph [0018] of D1).

The additional feature set forth in claim 9 could easily be derived from the feature disclosed in D1 wherein a second substrate (200) has a smaller area than the first substrate (100), and the second substrate (200), together with the first substrate (100), forms a display panel (DP) (see paragraph [0035]; and figure 3 of D1).

Thus, since claims 2 to 3 and 8 to 9 would be obvious to a person skilled in the art in view of a combination of D1 and D2, said claims do not involve an inventive step (PCT Article 33(3)).

1.1.3 Dependent Claims 4 to 7 and 10 to 14

The additional feature set forth in claim 4 could easily be derived through a design change to the feature disclosed in D3 wherein an optical view could be processed with respect to optical differences detected between the ridges and valleys of the user’s finger, such as any shadowing differences that might be present (see paragraph [0083] of D3).

The additional feature set forth in claim 5 could easily be derived from the features disclosed in D1 wherein an electric component (500) is positioned between a connection part (400)
and a first substrate (100) (see paragraph [0050]; and figure 3 of D1), and the connection part (400) is supported in a housing part (600) by means of an adhesive (AD) (see paragraph [0077]; and figure 3 of D1).

The additional feature set forth in claim 6 could easily be derived from the feature disclosed in D3 of a wirebond (920) for electrically connecting a sensor (810) and a flex assembly (815) (see paragraph [0099]; and figure 9 of D3).

The additional feature set forth in claim 7 could easily be derived from the feature disclosed in D1 wherein the connection part (400) is a flexible printed circuit board, and includes a circuit board body (410) on which the electric component (500) is positioned, a connector part (420) having a connector (421) for receiving an external signal, and a substrate connection part (430) electrically connected to a part of an edge region of the first substrate (100) (see paragraph [0049]; and figure 3 of D1).

The additional feature set forth in claim 10 could easily be derived through a design change to the feature disclosed in D3 wherein a flex circuit (815) generally wraps around and may underlie itself (see paragraph [0103]; and figure 8 of D3).

The additional features set forth in claims 11 and 14 could easily be derived through a design change to the features disclosed in D3 wherein a capacitive plate collects at least some fingerprint image information in response to the ridges and valleys of the user’s finger at one or more pixels in an array thereof (see paragraph [0029] of D3), and a trim (805) is an aperture (807) for receiving a cap (800) (see paragraph
The additional features set forth in claims 12 and 13 could easily be derived through a design change to the feature disclosed in D2 of a sealing adhesive (4) for sealing a liquid crystal between electrode substrates, and a moistureproof agent (5) for preventing moisture absorption or moisture permeation from an outer peripheral electrode substrate and an adhesive interface of the sealing adhesive (4) (see paragraph [0013]; and figure 1 of D2).

Thus, since claims 4 to 7 and 10 to 14 would be obvious to a person skilled in the art in view of a combination of D1-D3, said claims do not involve an inventive step (PCT Article 33(3)).

1.2 Claim 15

The invention as set forth in claim 15, which relates to a display device, has substantially the same technical features as those of the invention as set forth in claim 1. Therefore, the invention as set forth in claim 15 is subject to the same reasoning as that applying to the invention as set forth in claim 1. Thus, since the invention as set forth in claim 15 would be obvious to a person skilled in the art in view of a combination of D1 and D2, said invention does not involve an inventive step (PCT Article 33(3)).

2. Industrial Applicability

The invention as in claims 1 to 15 is industrially applicable (PCT Article 33(4)).
The technical feature of claim 1 is unclear since it is only understood that the first adhesive member and the second adhesive member are used for attachment, and a correlation between the elements is not clearly disclosed. Thus, claim 1 does not clearly define the matter for which protection is sought (PCT Article 6).

The wording “third adhesive member” disclosed in claim 2 is not explained in the specification. Thus, claim 2 is not fully supported by the specification (PCT Article 6).

(Note: Referring to the specification, the technical feature of a “fifth adhesive member” explained in paragraphs [0125] and [0126] of the specification is the same as the technical feature of a “third adhesive member” disclosed in claim 2. Thus, the international search report and the written opinion have been established under the assumption that the wording “third adhesive member” of claim 2 is “fifth adhesive member” disclosed in the detailed description of the invention.)

Claim 10 refers to claim 2. However, it is deemed that claim 10 refers to claim 3 since the working “first circuit board” of claim 10 is disclosed in claim 3, not claim 2. Thus, claim 10 does not satisfy the requirements of PCT Article 6.