**PATENT ASSIGNMENT**

Electronic Version v1.1
Stylesheet Version v1.1

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<th>SUBMISSION TYPE:</th>
<th>NEW ASSIGNMENT</th>
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<td>NATURE OF CONVEYANCE:</td>
<td>ASSIGNMENT</td>
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**CONVEYING PARTY DATA**

<table>
<thead>
<tr>
<th>Name</th>
<th>Execution Date</th>
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<tr>
<td>Tim Michael SMEETON</td>
<td>07/09/2008</td>
</tr>
<tr>
<td>Katherine Louise SMITH</td>
<td>07/09/2008</td>
</tr>
<tr>
<td>Mathieu Xavier SENES</td>
<td>07/09/2008</td>
</tr>
<tr>
<td>Stewart Edward HOOPER</td>
<td>07/09/2008</td>
</tr>
</tbody>
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**RECEIVING PARTY DATA**

<table>
<thead>
<tr>
<th>Name:</th>
<th>SHARP KABUSHIKI KAISHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Address:</td>
<td>22-22, Nagaike-cho, Abeno-ku, Osaka-shi</td>
</tr>
<tr>
<td>City:</td>
<td>Osaka</td>
</tr>
<tr>
<td>State/Country:</td>
<td>JAPAN</td>
</tr>
<tr>
<td>Postal Code:</td>
<td>545-8522</td>
</tr>
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**PROPERTY NUMBERS Total: 1**

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<tr>
<td>Application Number</td>
<td>12189972</td>
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**CORRESPONDENCE DATA**

Fax Number: (216)621-6165

*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*

<table>
<thead>
<tr>
<th>Phone:</th>
<th>2166211113</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:msaralino@rennerotto.com">msaralino@rennerotto.com</a></td>
</tr>
<tr>
<td>Correspondent Name</td>
<td>Mark D Saralino</td>
</tr>
<tr>
<td>Address Line 1:</td>
<td>Renner, Otto, Boisselle &amp; Sklar, LLP</td>
</tr>
<tr>
<td>Address Line 2:</td>
<td>1621 Euclid Avenue, Nineteenth Floor</td>
</tr>
<tr>
<td>Address Line 4:</td>
<td>Cleveland, OHIO 44115</td>
</tr>
</tbody>
</table>

**ATTORNEY DOCKET NUMBER:** HARAP0219US

**NAME OF SUBMITTER:** Mark D. Saralino

Total Attachments: 2
ASSIGNMENT

WHEREAS:

Tim Michael SMEETON, Katherine Louise SMITH, Mathieu Xavier SENES
and Stewart Edward HOOPER

22 Marlborough Close Littlemore Oxford Oxfordshire OX4 4PH United Kingdom
15 Stowford Road Headington Oxford Oxfordshire OX3 9PJ United Kingdom
42 Westbury Crescent Oxford Oxfordshire OX4 3RZ United Kingdom
9 Heyford Mead Kidlington Oxfordshire OX5 1AF United Kingdom

(hereinafter referred to as ASSIGNOR), have invented a certain invention entitled:

A SEMICONDUCTOR DEVICE AND A METHOD OF MANUFACTURE THEREOF

for which application for Letters Patent of the United States has been:

executed concurrently herewith,

filed under U.S. Application No. 12/189,972 on 12 AUG 2008 or
filed under Express Mail Label No. on

WHEREAS:

SHARP KABUSHIKI KAISHA
22-22, Nagalike-cho, Abeno-ku, Osaka-shi
Osaka 545-8522 Japan

(hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire interest in, to and under
said invention (including all inventions should said application be deemed to include multiple
inventions).

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the
payment by ASSIGNEE to ASSIGNOR(S) of the sum corresponding to One Dollar ($1.00), and for
other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S)
hereby sells, assigns and transfers to ASSIGNEE the full and exclusive right, title and interest to said
invention and all Letters Patent of the United States to be obtained therefor on said application or
any continuation, division, renewal, substitute or reissue thereof for the full term or terms for which
the same may be granted.

ASSIGNOR hereby covenants that ASSIGNOR has the full power to make this assignment and that
no assignment, sale, agreement or encumbrance has been or will be made or entered into which
would conflict with this assignment.

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all
pertinent facts and documents relating to said application, said invention and said Letters Patent as
may be known and accessible to ASSIGNOR and that ASSIGNOR will testify as to the same in any
legal proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal
representative any and all papers, instruments or affidavits required to apply for, obtain, maintain
and enforce patent protection for said invention in all countries.
Attorney Docket No.

I authorize the patent attorney of record and/or having power of attorney in the U.S. patent application identified above to insert the serial number and filing date information for the patent application in the appropriate spaces in this assignment document when that information becomes available.

**FULL NAME(S) OF INVENTOR(S)**

- **Date 9th July 2008**
  - Tim Michael SMEETON

- **Date 1/2/18**
  - Katherine Louise SMITH

- **Date 9/17/18**
  - Mathieu Xavier SENES

- **Date 9/17/08**
  - Stewart Edward HOOPER

**RECORDED: 08/12/2008**

**PATENT REEL: 021373 FRAME: 0992**