

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>DEREK C. TAO</td> <td>01/30/2014</td> </tr> <tr> <td>ANNIE-LI-KEOW LUM</td> <td>02/12/2014</td> </tr> <tr> <td>YUKIT TANG</td> <td>02/12/2014</td> </tr> <tr> <td>KUOYUAN (PETER) HSU</td> <td>02/04/2014</td> </tr> </tbody> </table>		Name	Execution Date	DEREK C. TAO	01/30/2014	ANNIE-LI-KEOW LUM	02/12/2014	YUKIT TANG	02/12/2014	KUOYUAN (PETER) HSU	02/04/2014
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.</td> </tr> <tr> <td>Street Address:</td> <td>NO. 8, LI-HSIN RD. VI, HSINCHU SCIENCE PARK</td> </tr> <tr> <td>City:</td> <td>HSINCHU</td> </tr> <tr> <td>State/Country:</td> <td>TAIWAN</td> </tr> <tr> <td>Postal Code:</td> <td>300</td> </tr> </table>		Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.	Street Address:	NO. 8, LI-HSIN RD. VI, HSINCHU SCIENCE PARK	City:	HSINCHU	State/Country:	TAIWAN	Postal Code:	300
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PROPERTY NUMBERS Total: 1											
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CORRESPONDENCE DATA											
<p>Fax Number:</p> <p>Email: tsmc@ipfirm.com</p> <p><i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i></p> <p>Correspondent Name: LOWE HAUPTMAN &amp; HAM, LLP</p> <p>Address Line 1: 2318 MILL ROAD, SUITE 1400</p> <p>Address Line 4: ALEXANDRIA, VIRGINIA 22314</p>											
ATTORNEY DOCKET NUMBER:	T5057-1032										
NAME OF SUBMITTER:	RANDY A. NORANBROCK										
Signature:	/Randy A. Noranbrock/										
Date:	03/04/2014										
<p>Total Attachments: 1</p> <p>source=AsFiled_Assignment#page1.tif</p>											

PATENT

Docket No. T5057-1032  
TSMC2013-1484

## ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

- |                      |                        |
|----------------------|------------------------|
| 1) Derek C. TAO      | 3) Yukit TANG          |
| 2) Annie-Li-Keow LUM | 4) Kuoyuan (Peter) HSU |

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., having a place of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu 300, Taiwan R.O.C.

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

### READING DATA FROM A MEMORY CELL

- (a) for which an application for United States Letters Patent was filed on January 24, 2014, and identified by United States Patent Application No. 14/163,277; or
- (b) for which an application for United States Letters Patent was executed on \_\_\_\_\_.

and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the date indicated aside my signature:

1) [Signature]  
Name: Derek C. TAO

1/30/2014  
Date:

2) [Signature]  
Name: Annie-Li-Keow LUM

2/12/2014  
Date:

3) [Signature]  
Name: Yukit TANG

2/12/2014  
Date:

4) [Signature]  
Name: Kuoyuan (Peter) HSU

2/4/2014  
Date: