

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

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>Kuo-Chi TU</td> <td>12/13/2012</td> </tr> <tr> <td>Chih-Yang CHANG</td> <td>12/13/2012</td> </tr> <tr> <td>Hsia-Wei CHEN</td> <td>12/13/2012</td> </tr> <tr> <td>Yu-Wen LIAO</td> <td>12/17/2012</td> </tr> <tr> <td>Chin-Chieh YANG</td> <td>12/13/2012</td> </tr> <tr> <td>Wen-Ting CHU</td> <td>12/13/2012</td> </tr> </tbody> </table>		Name	Execution Date	Kuo-Chi TU	12/13/2012	Chih-Yang CHANG	12/13/2012	Hsia-Wei CHEN	12/13/2012	Yu-Wen LIAO	12/17/2012	Chin-Chieh YANG	12/13/2012	Wen-Ting CHU	12/13/2012
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RECEIVING PARTY DATA															
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														
PROPERTY NUMBERS Total: 1															
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13722466</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13722466										
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Application Number:	13722466														
CORRESPONDENCE DATA															
Fax Number:	7035185499														
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>															
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NAME OF SUBMITTER:	Randy A. Noranbrock														
Total Attachments: 1 source=EfiledAssgn#page1.tif															

OP \$40.00 13722466

Docket No. T5057-845
TSMC2012-1050

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) Kuo-Chi TU | 4) Yu-Wen LIAO |
| 2) Chih-Yang CHANG | 5) Chin-Chieh |
| 3) Hsia-Wei CHEN | 6) Wen-Ting CHU |

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

RESISTANCE VARIABLE MEMORY STRUCTURE AND METHOD OF FORMING THE SAME

(a) for which an application for United States Letters Patent was filed on 2012-12-20, and identified by United States Patent Application No. 13/722,466; 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) Kuo-Chi Tu
Name: Kuo-Chi TU

Dec. 13, 2012
Date:

2) Chih-Yang Chang
Name: Chih-Yang CHANG

Dec. 13, 2012
Date:

3) Hsia-Wei Chen
Name: Hsia-Wei CHEN

Dec. 13, 2012
Date:

4) Yu-Wen Liao
Name: Yu-Wen LIAO

Dec, 17, 2012
Date:

5) Chin-Chieh Yang
Name: Chin-Chieh YANG

Dec. 13, 2012
Date:

6) Wen-Ting Chu
Name: Wen-Ting CHU

Dec. 13, 2012
Date: