

## 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>Hung-Cheng SUNG</td> <td>02/08/2013</td> </tr> <tr> <td>Yue-Der CHIH</td> <td>02/20/2013</td> </tr> <tr> <td>Chia-Hsing CHEN</td> <td>02/20/2013</td> </tr> </tbody> </table>		Name	Execution Date	Hung-Cheng SUNG	02/08/2013	Yue-Der CHIH	02/20/2013	Chia-Hsing CHEN	02/20/2013
Name	Execution Date								
Hung-Cheng SUNG	02/08/2013								
Yue-Der CHIH	02/20/2013								
Chia-Hsing CHEN	02/20/2013								
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>13794024</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13794024				
Property Type	Number								
Application Number:	13794024								
CORRESPONDENCE DATA									
Fax Number:	7035185499								
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>									
Phone:	7036841111								
Email:	tsmc@ipfirm.com								
Correspondent Name:	Lowe Hauptman Ham & Berner, LLP (TSMC)								
Address Line 1:	2318 Mill Road								
Address Line 2:	Suite 1400								
Address Line 4:	Alexandria, VIRGINIA 22314								
ATTORNEY DOCKET NUMBER:	T5057-821								
NAME OF SUBMITTER:	Randy A. Noranbrock								
Total Attachments: 1 source=EfiledAssgn#page1.tif									

OP \$40.00 13794024

PATENT

Docket No.

# 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) **Hung-Cheng SUNG**
- 2) **Yue-Der CHIH**
- 3) **Chia-Hsing CHEN**

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

## METHOD OF CONVERTING BETWEEN NON-VOLATILE MEMORY TECHNOLOGIES AND SYSTEM FOR IMPLEMENTING THE METHOD

- (a) for which an application for United States Letters Patent was filed on March 11, 2013, and identified by United States Patent Application No. 13/794,024; or
- (b) for which an application for United States Letters Patent was executed on \_\_\_\_\_,

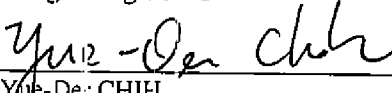
and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right 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.

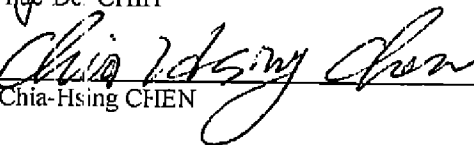
SIGNED on the date indicated aside my signature:

1)   
Name: Hung-Cheng SUNG

Feb. 8 '13  
Date:

2)   
Name: Yue-Der CHIH

Feb. 20, '13  
Date:

3)   
Name: Chia-Hsing CHEN

Feb. 20, '13  
Date:

PATENT