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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
CHERN-YOW HSU	01/23/2015	
FU-TING SUNG	01/27/2015	
SHIH-CHANG LIU	01/27/2015	

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD		
Street Address:	NO.8, LI-HSIN ROAD. 6, SCIENCE-BASED INDUSTRIAL PARK		
City:	HSIN-CHU		
State/Country:	TAIWAN		
Postal Code:	300-77		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14610691

CORRESPONDENCE DATA

Fax Number: (703)205-8050

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7032058000

Email: mailroom@bskb.com, brian.mukuria@bskb.com
Correspondent Name: BIRCH, STEWART, KOLASH & BIRCH, LLP

Address Line 1: P.O. BOX 747

Address Line 4: FALLS CHURCH, VIRGINIA 22040-0747

ATTORNEY DOCKET NUMBER: 0941-3127PUS1	
NAME OF SUBMITTER:	BRIAN MUKURIA
SIGNATURE:	/brian.mukuria/
DATE SIGNED:	02/02/2015

Total Attachments: 2

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PATENT 503161371 REEL: 034865 FRAME: 0909

ASSIGNMENT

WHEREAS, Chern-Yow HSU, Fu-Ting SUNG, and Shih-Chang LIU

hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

Title: RESISTIVE RANDOM ACCESS MEMORY STRUCTURE AND METHOD FOR FORMING THE SAME

Filed:	January 30, 2015	Serial No.	14/610,691		. (
Executed on: January 23, 2015 and January 27, 2015			<u> </u>		

WHEREAS, <u>Taiwan Semiconductor Manufacturing Co.</u>, <u>Ltd.</u>, of <u>No.8</u>, <u>Li-Hsin Road. 6</u>, <u>Science-Based Industrial Park</u>, <u>Hsin-Chu</u>, <u>Taiwan 300-77</u>, <u>R.O.C.</u> hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

ASSIGNMENT

Date

Name: Chern-Yow HSU

Name: HSU)

Name: Fu-Ting SUNG

(Last name: SUNG)

Name: Shih-Chang LIM

Name: LIM

Name: LIM

Name: Shih-Chang LIM

Name: LIM

Name: LIM

Name: LIM

Name: LIM

Name: Shih-Chang LIM

Name: LIM

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