

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHIH-YANG CHANG	05/13/2013
KUO-CHI TU	05/14/2013
WEN-TING CHU	05/13/2013
YU-WEN LIAO	05/13/2013
CHIN-CHIEH YANG	05/13/2013
HSIA-WEI CHEN	05/13/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
<b>Street Address:</b>	NO. 8, LI-HSIN RD. 6
<b>Internal Address:</b>	SCIENCE-BASED INDUSTRIAL PARK
<b>City:</b>	HSIN-CHU
<b>State/Country:</b>	TAIWAN
<b>Postal Code:</b>	300-77
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16994359
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	2013-0053/24061.2427US07
<b>NAME OF SUBMITTER:</b>	MARCY OGADO
<b>SIGNATURE:</b>	/Marcy Ogado/
<b>DATE SIGNED:</b>	08/14/2020

PATENT

**Total Attachments: 3**

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ASSIGNMENT

WHEREAS, we,

- (1) Chih-Yang Chang of No. 35-5A, Alley 30, Lane 1, Nantan Road  
Yuanlin Township, Changhua County  
510, Taiwan, R.O.C.
- (2) Kuo-Chi Tu of No. 51, Lane 550, Sec. 1, Wufu Road  
Hsin-Chu 300, Taiwan, R.O.C.
- (3) Wen-Ting Chu of #668, Chung-Cheng Road  
Allen County, Kaohsiung City, Taiwan, R.O.C.
- (4) Yu-Wen Liao of 1F, No. 6, Lane 100, Yusheng Road, Tucheng District  
New Taipei City 236, Taiwan, R.O.C.
- (5) Chin-Chieh Yang of 11F, No. 389-12, Xiyuan Road, Xindian District  
New Taipei City 231, Taiwan, R.O.C.
- (6) Hsia-Wei Chen of No. 201-33, Sec. 2, Shipai Road, Beitou District  
Taipei City 112, Taiwan, R.O.C.

have invented certain improvements in

LOGIC COMPATIBLE RRAM STRUCTURE AND PROCESS

for which we have executed an application for Letters Patent of the United States of America,

       of even date filed herewith; and  
  X   filed on March 15, 2013, and assigned application number 13/831,629; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., ("TSMC"), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China, is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent

application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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Inventor Name: Chih-Yang Chang

Residence Address: No. 35-5A, Alley 30, Lane 1, Nantan Road  
Yuanlin Township, Changhua County 510, Taiwan, R.O.C.

Dated: 5/13, 2013

Chih-Yang Chang  
Inventor Signature

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Dated: 14 May, 2013

Kuo-Chi Tu  
Inventor Signature

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Dated: 5/13, 2013

Wen-Ting Chu  
Inventor Signature

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Dated: ✓ 5/13 2013

✓ Yu-Wen Liao  
Inventor Signature

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Dated: ✓ 5/13 2013

✓ Chin-Chieh Yang  
Inventor Signature

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