# 503856165 06/05/2016

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
CHUNG-CHIANG MIN	03/22/2016
CHANG-MING WU	03/22/2016
SHIH-CHANG LIU	03/22/2016
YUAN-TAI TSENG	03/22/2016

### **RECEIVING PARTY DATA**

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.	
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City:	HSIN-CHU	
State/Country:	State/Country: TAIWAN	
Postal Code: 300-77		

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	14941835

#### **CORRESPONDENCE DATA**

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DATE SIGNED:	06/05/2016	
SIGNATURE: /LADONNA JOHNSON/		
NAME OF SUBMITTER:	LADONNA JOHNSON	
ATTORNEY DOCKET NUMBER:	24061.3170US01	

Total Attachments: 2

PATENT REEL: 038809 FRAME: 0234

503856165

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> PATENT REEL: 038809 FRAME: 0235

Docket No.: P20150442US00/24061.3170US01

Customer No.: 000042717

#### ASSIGNMENT

WHEREAS, we,

(1)	Chung-Chiang Min	of	Hsinchu County, Taiwan, Republic of China
(2)	Chang-Ming Wu	of	New Taipei City, Taiwan, Republic of China
(3)	Shih-Chang Liu	of	Kaohsiung County, Taiwan, Republic of China
<b>(4)</b>	Yuan-Tai Tseng	of	Hsinchu County, Taiwan, Republic of China

have invented certain improvements in

## DISCRETE STORAGE ELEMENT FORMATION FOR THIN-FILM STORAGE DEVICE

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 November 16, 2015 and assigned application number 14/941,835; 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.

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Docket No.: P20150442US00/24061.3170US01

Customer No.: 000042717

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.

Inventor Name:

Chung-Chiang Min

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Dated:

3/22/20/6

Chung-Chiang Min
Inventor Signature

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Dated: 327 / 2016

Thomp - Ming WM

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Dated: 2016.07.

Inventor Signature

Inventor Name:

RECORDED: 06/05/2016

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Dated: 3/20/2016

Inventor Signature