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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
AN-REN ZI	09/19/2017
JOY CHENG	09/19/2017
CHING-YU CHANG	09/22/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	NO. 8, LI-HSIN RD. 6
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15726040

CORRESPONDENCE DATA

Fax Number: (214)200-0853

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: 214-651-5000

Email: ipdocketing@haynesboone.com

Correspondent Name: HAYNES AND BOONE, LLP IP SECTION

Address Line 1: 2323 VICTORY AVENUE

Address Line 2: SUITE 700

Address Line 4: DALLAS, TEXAS 75219

ATTORNEY DOCKET NUMBER: 20161436 / 24061.3540US01	
NAME OF SUBMITTER:	JANIE MARTINEZ-HOLM
SIGNATURE:	/Janie Martinez-Holm/
DATE SIGNED:	10/05/2017

Total Attachments: 2

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PATENT 504582214 REEL: 043799 FRAME: 0889

Docket No.: 20161436/24061.3540US01 Customer No.: 000042717

ASSIGNMENT

WHEREAS, we,

An-Ren ZI of Hsinchu City, Taiwan, (R.O.C.)
Joy CHENG of Taoyuan City, Taiwan, (R.O.C.)
Ching-Yu CHANG of Yilang County, Taiwan, (R.O.C.)

have invented certain improvements in

MATERIAL COMPOSITION AND METHODS THEREOF

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

<u>X</u>	of even date file	ed herewith; and	
	filed on	and assigned application number	; 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 Co., Ltd., ("TSMC"), 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, 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

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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:

An-Ren ZI

Residence Address:

8F., No. 15, Ln. 28, Sec. 1, Tiedao Rd., East Dist., Hsinchu City 300,

Taiwan (R.O.C.)

Dated: 20/7, 9, 19

Anken Zi

Inventor Signature

Inventor Name:

Joy CHENG

Residence Address:

8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan

300-78 (R.O.C.)

Dated: 2017, 9, 19

Inventor Signature

Inventor Name:

Ching-Yu CHANG

Residence Address:

No. 17, Hsinchen Road, Yuansun Village, Yilang County, Taiwan 264

(R.O.C.)

Dated: 2017, 9. 22

Inventor Signature

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