

## 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>
CHUNG-LIANG CHENG	06/19/2019
I-MING CHANG	06/19/2019
HSIANG-PI CHANG	06/19/2019
YU-WEI LU	06/25/2019
ZIWEI FANG	07/01/2019
HUANG-LIN CHAO	06/25/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
<b>Street Address:</b>	NO. 8, LI-HSIN RD. 6
<b>Internal Address:</b>	HSINCHU SCIENCE PARK
<b>City:</b>	HSINCHU
<b>State/Country:</b>	TAIWAN
<b>Postal Code:</b>	300-78
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16443016
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	20182478/24061.3862US01
<b>NAME OF SUBMITTER:</b>	JANIE MARTINEZ-HOLM
<b>SIGNATURE:</b>	/Janie Martinez-Holm/
<b>DATE SIGNED:</b>	09/18/2019

PATENT

**Total Attachments: 4**

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**ASSIGNMENT**

WHEREAS, we,

- (1) **Chung-Liang Cheng** of Changhua County, Taiwan (R.O.C.)
- (2) **I-Ming Chang** of ShinChu, Taiwan (R.O.C.)
- (3) **Hsiang-Pi Chang** of New Taipei City, Taiwan (R.O.C.)
- (4) **Yu-Wei Liu** of Taipei City, Taiwan (R.O.C.)
- (5) **Ziwei Fang** of Hsinchu, Taiwan (R.O.C.)
- (6) **Huang-Lin Chao** of Hillsboro, OR (U.S.A.)

have invented certain improvements in

**SEMICONDUCTOR DEVICE INCLUDING INTERFACE LAYER AND METHOD OF FABRICATING THEREOF**

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

  X   of even date filed 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"), No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, Taiwan, 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.

Inventor Name: **Chung-Liang Cheng**

Residence Address: No. 259, Chenleng Rd., Changhua County 500, Taiwan, (R.O.C.)

Dated: 2019/06/19 Chung-Liang Cheng  
Inventor Signature

Inventor Name: **I-Ming Chang**

Residence Address: No. 15, Lane. 96, Alley 5, Tung-Nan Street, ShinChu, Taiwan, (R.O.C.)

Dated: 2019/06/19 I-Ming Chang  
Inventor Signature

Inventor Name: **Hsiang-Pi Chang**

Residence Address: 4F., No. 6-3, Aly 2, Ln. 151, Baoping Rd., Yonghe Dist., New Taipei City 234, Taiwan (R.O.C.)

Dated: 2019/06/19 Hsiang-Pi Chang  
Inventor Signature

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Inventor Name: **Yu-Wei Lu**

Residence Address: 4F. No. 308, Kunming St., Wanhua Dist., Taipei City 108, Taiwan (R.O.C.)

Dated: \_\_\_\_\_

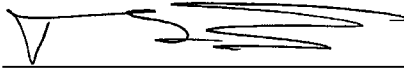
\_\_\_\_\_  
Inventor Signature

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Inventor Name: **Ziwei Fang**

Residence Address: 9 Songcui Rd 17<sup>th</sup> Lane, Baoshan Township, Hsinchu, Taiwan (R.O.C.)

Dated: 07/01/2019

  
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Inventor Name: **Huang-Lin Chao**

Residence Address: 4585 SE Teakwood Street, Hillsboro OR 97123 (U.S.A.)

Dated: \_\_\_\_\_

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Inventor Signature

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Dated: \_\_\_\_\_

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Dated: 2019/6/25

Huang Lin Chao  
Inventor Signature