

## 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>
YUNG-SUNG YEN	11/17/2017
YU-HSUN CHEN	08/30/2017
CHEN-HAU WU	11/17/2017
CHUN-KUANG CHEN	11/17/2017
TA-CHING YU	11/17/2017
KEN-HSIEN HSIEH	11/17/2017
MING-JHIH KUO	11/17/2017
RU-GUN LIU	11/17/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
<b>Street Address:</b>	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>
Application Number:	15593149
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(214)200-0853
<i>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.</i>	
<b>Phone:</b>	214-651-5000
<b>Email:</b>	ipdocketing@haynesboone.com
<b>Correspondent Name:</b>	HAYNES AND BOONE, LLP IP SECTION
<b>Address Line 1:</b>	2323 VICTORY AVENUE
<b>Address Line 2:</b>	SUITE 700
<b>Address Line 4:</b>	DALLAS, TEXAS 75219
<b>ATTORNEY DOCKET NUMBER:</b>	2014-0809/24061.3387US01
<b>NAME OF SUBMITTER:</b>	RACHEL L.I. DAVIS

PATENT

<b>SIGNATURE:</b>	/Rachel L.I. Davis/
<b>DATE SIGNED:</b>	12/20/2017
<b>Total Attachments: 4</b> source=3387US01-Assignment#page1.tif source=3387US01-Assignment#page2.tif source=3387US01-Assignment#page3.tif source=3387US01-Assignment#page4.tif	

Docket No.: P20140809US02/24061.3387US01

Customer No.: 42717

# ASSIGNMENT

WHEREAS, we,

- |    |                 |    |                         |
|----|-----------------|----|-------------------------|
| 1) | Yung-Sung Yen   | of | Taipei City, Taiwan     |
| 2) | Yu-Hsun Chen    | of | Taichung City, Taiwan   |
| 3) | Chen-Hau Wu     | of | New Taipei City, Taiwan |
| 4) | Chun-Kuang Chen | of | Hsinchu County, Taiwan  |
| 5) | Ta-Ching Yu     | of | Hsinchu County, Taiwan  |
| 6) | Ken-Hsien Hsieh | of | Taipei City, Taiwan     |
| 7) | Ming-Jhih Kuo   | of | Hsinchu County, Taiwan  |
| 8) | Ru-Gun Liu      | of | Hsinchu County, Taiwan  |

have invented certain improvements in

## METHOD FOR PATTERNING INTERCONNECTS

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 15/593,149 and assigned application number May 11, 2017; 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.

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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: Yung-Sung Yen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 2017.11.17

Yung-Sung Yen  
Inventor Signature

Inventor Name: Yu-Hsun Chen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

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

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

Inventor Name: Chen-Hau Wu

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 2017.11.17

Chen Hau Wu.  
Inventor Signature

Inventor Name: Chun-Kuang Chen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 2017.11.17

Chun-Kuang Chen  
Inventor Signature

Docket No.: P20140809US02/24061.3387US01  
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Inventor Name: Ta-Ching Yu

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 17. Nov. 2017

Ta-Ching Yu  
Inventor Signature

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Inventor Name: Ken-Hsien Hsieh

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 17. Nov. 2017

Ken-Hsien Hsieh  
Inventor Signature

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Inventor Name: Ming-Jhih Kuo

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 17. Nov. 2017

Ming-Jhih Kuo  
Inventor Signature

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Inventor Name: Ru-Gun Liu

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 17. Nov. 2017

Ru-Gun Liu  
Inventor Signature

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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: Yung-Sung Yen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

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

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

Inventor Name: Yu-Hsun Chen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

Dated: 2017/8/30  
Yu-Hsun Chen

Yu Hsun Chen  
2017/8/30  
\_\_\_\_\_  
Inventor Signature

Inventor Name: Chen-Hau Wu

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

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

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

Inventor Name: Chun-Kuang Chen

Residence Address: 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78

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

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