

## 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>
CHIEN NING YAO	01/31/2020
KAI-HSUAN LEE	02/05/2020
SAI-HOOI YEONG	01/31/2020
WEI-YANG LEE	02/05/2020
KUAN-LUN CHENG	02/04/2020
CHIH-HAO WANG	02/04/2020
<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>
<b>Application Number:</b>	16788184
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(214)200-0853
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<b>Correspondent Name:</b>	HAYNES AND BOONE, LLP (24061) IP SECTION
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<b>ATTORNEY DOCKET NUMBER:</b>	2019-1335/24061.4012US01
<b>NAME OF SUBMITTER:</b>	CHERIE ELAINE ZALSTEIN
<b>SIGNATURE:</b>	/CHERIE ELAINE ZALSTEIN/
<b>DATE SIGNED:</b>	02/11/2020

PATENT

**Total Attachments: 3**

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Docket No.: P20191335US00 /24061.4012US01  
 Customer No.: 000042717

**ASSIGNMENT**

WHEREAS, we,

- (1) Chien Ning Yao of Hsinchu, Taiwan (R.O.C.)
- (2) Kai-Hsuan Lee of Hsinchu City 300, Taiwan (R.O.C.)
- (3) Sai-Hooi Yeong of Hsinchu County 302, Taiwan (R.O.C.)
- (4) Wei-Yang Lee of Taipei City 104, Taiwan (R.O.C.)
- (5) Kuan-Lun Cheng of Hsin-Chu, Taiwan (R.O.C.)
- (6) Chih-Hao Wang of Hsinchu County, Taiwan (R.O.C.)

have invented certain improvements in

**FINFET STRUCTURE WITH AIRGAP AND METHOD OF FORMING THE SAME**

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 02-11-2020 and assigned application number 16/788,184; 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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Customer No.: 000042717

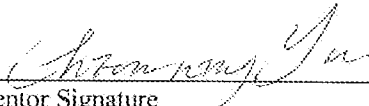
AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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: Chien Ning Yao

Residence Address: No. 9, Aly. 22, Ln. 80, Songcui Rd., Baoshan Township  
Hsinchu County 308, Taiwan (R.O.C.)

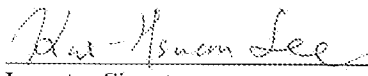
Dated: 2020/01/31

  
Inventor Signature

Inventor Name: Kai-Hsuan Lee

Residence Address: 7F., No. 55, Ln. 19, Guanxin Rd., East District  
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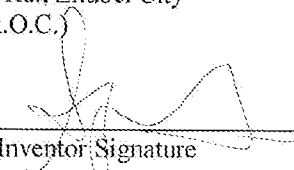
Dated: 2020/02/05

  
Inventor Signature

Inventor Name: Sai-Hooi Yeong

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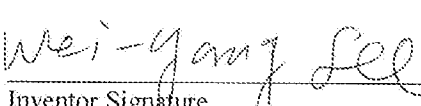
Dated:  2020/01/31

  
Inventor Signature

Inventor Name: Wei-Yang Lee

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Dated: 2020/02/05

  
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Dated: 02/04/2020  
Kuan-Lun Cheng

Kuan-Lun Cheng  
Inventor Signature

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Inventor Name: Chih-Hao Wang

Residence Address: No. 9, Aly. 22, Ln. 80, Songcui Rd., Baoshan Township  
Hsinchu County 308, Taiwan (R.O.C.)

Dated: 2/4/2019 2020

Chih-Hao Wang  
Inventor Signature

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