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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
CHI-YANG YU	11/20/2017
CHIN-LIANG CHEN	11/20/2017
CHIEN-HSUN LEE	11/20/2017
KUAN-LIN HO	11/20/2017
YU-MIN LIANG	11/20/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.	
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City:	HSINCHU	
State/Country:	TAIWAN	
Postal Code:	30078	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15835466

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: 73599-US-PA

NAME OF SUBMITTER: BELINDA LEE

SIGNATURE: /Belinda Lee/

DATE SIGNED: 12/08/2017

Total Attachments: 3

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PATENT REEL: 044335 FRAME: 0418

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> PATENT REEL: 044335 FRAME: 0419

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DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION

☐ Declaration Submitted With Initial Filing	
OR	
☐ Declaration Submitted After Initial Filing	(surcharge 37 CFR 1.16(f) required)
(Title of the Interest of the	OD OF MANUFACTURING THE
As a below named inventor (hereinafter de declare that:	esignated as the undersigned), I hereby
This declaration is directed to:	
☑ The attached application,OR	
United States Application Number or PCFiled on	• •
The above-identified application was made of	or authorized to be made by me.
I believe I am the original inventor or an orig the application.	inal joint inventor of a claimed invention in

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P20172547US00 73599-US-PA

DECLARATION AND ASSIGNMENT

FOR UTILITY OR DESIGN PATENT APPLICATION

WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.

WHEREAS 1. Taiwan Semiconductor Manufacturing Co., Ltd.

No.8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, of R.O.C.

hereinafter referred to as ASSIGNEE, is desirous of acquiring the undersigned's interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same:

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by the undersigned, the undersigned has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said rights, title and interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said the undersigned had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

The undersigned further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee Lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

The undersigned hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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P20172547US00 73599-US-PA

RECORDED: 12/08/2017

DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION

Signature: Chi-Yang YU Date: 2017. 11. 20			
Legal Name of Sole or First Inventor: Chi-Yang Yu			
Residence: Taoyuan City, Taiwan			
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Signature: Own-liny Own Date: 7011, 11.70			
Legal Name of Additional Joint Inventor, if any: Chin-Liang Chen			
Residence: Kaohsiung City, Taiwan			
Mailing Address: c/o No.8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, R.O.C.			
Signature: Date: 2017 · 11 · 20			
Legal Name of Additional Joint Inventor, if any: Chien-Hsun Lee			
Residence: Hsin-chu County, Taiwan			
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Signature: Kuan-Lin Ho Date: 2017. 11. 20			
Legal Name of Additional Joint Inventor, if any: Kuan-Lin Ho			
Residence: Hsinchu City, Taiwan			
Mailing Address: c/o No.8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, R.O.C.			
Signature: Yu-Min Liang Date: 2017.11.20			
Legal Name of Additional Joint Inventor, if any: Yu-Min Liang			
Residence: Taoyuan City, Taiwan			
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-3-