505761993 11/07/2019

EPAS ID: PAT5808809

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHANSYUN DAVID YANG	10/22/2019
LI-TE LIN	10/22/2019

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16657224

CORRESPONDENCE DATA

Fax Number: (703)205-8050

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Correspondent Name: BIRCH STEWART KOLASCH & BIRCH LLP Address Line 1: 8110 GATEHOUSE ROAD, SUITE 100E

Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER:	0941-4117PUS1
NAME OF SUBMITTER:	CHRISTOPHER SMITH
SIGNATURE:	/Christopher Smith/
DATE SIGNED:	11/07/2019

Total Attachments: 2

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PATENT 505761993 REEL: 050945 FRAME: 0378

Attorney Docket No.: 0941-4117PUS1

ASSIGNMENT

WHEREAS, Chansyun David YANG and Li-Te LIN

hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

Title: STRUCTURE AND FORMATION METHOD OF SEMICONDUCTOR DEVICE WITH METAL GATE STACK

	***************************************			THE RESERVE THE PROPERTY OF TH
Filed:	18-OCT-2019	Serial No.	16657224	
Executed		22-OCT-2019		

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., of No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, Taiwan R.O.C., hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'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 Assignor, Assignor 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 interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignor 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.

Assignor 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.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

of 2 PATENT

ASSIGNMENT

Date Name: Chansyun David YANG

10/22/2019 Lite Li-Te LIN

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