

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5558773

<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	05/29/2019
ZIWEI FANG	05/29/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
<b>Street Address:</b>	NO. 8, LI-HSIN RD. 6, 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:	16427102
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)205-8050
<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>	703-205-8000
<b>Email:</b>	tuyen.y.ly@bskb.com, mailroom@bskb.com
<b>Correspondent Name:</b>	BIRCH, STEWART, KOLASCH & BIRCH, LLP
<b>Address Line 1:</b>	8110 GATEHOUSE ROAD, SUITE 100E
<b>Address Line 4:</b>	FALLS CHURCH, VIRGINIA 22042
<b>ATTORNEY DOCKET NUMBER:</b>	0941-4008PUS1
<b>NAME OF SUBMITTER:</b>	TUYEN LY
<b>SIGNATURE:</b>	/tuyen ly/
<b>DATE SIGNED:</b>	06/06/2019
<b>Total Attachments: 2</b>	
source=2019-06-06-ASSIGNMENT-0941-4008PUS1#page1.tif	
source=2019-06-06-ASSIGNMENT-0941-4008PUS1#page2.tif	

77 (S)

**ASSIGNMENT**

WHEREAS, Chung-Liang CHENG and Ziwei FANG  
 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: **METHOD FOR FORMING METAL CAP LAYERS TO IMPROVE PERFORMANCE  
 OF SEMICONDUCTOR STRUCTURE**

Filed: 05/30/2019 Serial No. 16/427,102  
 Executed on: 05/29/2019

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.

ASSIGNMENT

2019/5/29  
Date

*Chung-Liang Cheng*  
Name: Chung-Liang CHENG

2019/5/29  
Date

*Ziwei Fang*  
Name: Ziwei FANG