

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4505811

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PO-SHU WANG	07/03/2017
<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:	15650249
<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>	mailroom@bskb.com, Tuyet.A.Nguyen@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>	0941-3583PUS1
<b>NAME OF SUBMITTER:</b>	TUYET ANH NGUYEN
<b>SIGNATURE:</b>	/TUYET ANH NGUYEN/
<b>DATE SIGNED:</b>	07/17/2017
<b>Total Attachments: 1</b>	
source=2017-07-14_Assignment_0941-3583PUS1#page1.tif	

### ASSIGNMENT

WHEREAS, Po-Shu WANG

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 AND APPARATUS FOR CLEANING SEMICONDUCTOR DEVICE STRUCTURE WITH GAS FLOW

Filed: July 14, 2017 Serial No. 15/650,249

Executed on: July 3, 2017

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.

<u>2017. 7. 3</u>	<u>汪拓君</u>	<u>Po-Shu Wang</u>
Date	Name: Po-Shu WANG	(Last name) WANG