## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4965023

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
CHIH-CHANG HUNG	01/05/2018
CHIA-JEN CHEN	01/08/2018
MING-CHING CHANG	01/05/2018
SHU-YUAN KU	01/05/2018
YI-HSUAN HSIAO	03/25/2018
I-WEI YANG	01/08/2018

#### **RECEIVING PARTY DATA**

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.	
Street Address: 8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK		
City: HSINCHU		
State/Country:	TAIWAN	

## **PROPERTY NUMBERS Total: 1**

Property Type	Number		
Application Number:	15860492		

### **CORRESPONDENCE DATA**

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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.

**Email:** cthomas@pattersonsheridan.com,

psdocketing@pattersonsheridan.com

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Address Line 1: 24 GREENWAY PLAZA

Address Line 2: SUITE 1600

Address Line 4: HOUSTON, TEXAS 77046

ATTORNEY DOCKET NUMBER:	TSMC/P20171476US	
NAME OF SUBMITTER:	JASON C. HUANG	
SIGNATURE:	/Jason C. Huang/	
DATE SIGNED:	05/16/2018	

**Total Attachments: 4** 

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PATENT REEL: 045824 FRAME: 0858 source=P20171476US00\_Assignment - All Inventors#page2.tif source=P20171476US00\_Assignment - All Inventors#page3.tif source=P20171476US00\_Assignment - All Inventors#page4.tif

> PATENT REEL: 045824 FRAME: 0859

Atty Dkt No.: P20171476US00

#### ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

#### Names and Addresses of Inventors:

1)	Chih-Chang HUNG No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC	2)	Chia-Jen CHEN No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC
3)	Ming-Ching CHANG No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC	4)	Shu-Yuan KU No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC
5)	Yi-Hsuan HSIAO No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC	6)	I-Wei YANG No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC

(hereinafter referred to as Assignors), have invented a certain invention entitled:

## SEMICONDUCTOR STRUCTURE CUTTING PROCESS AND STRUCTURES FORMED THEREBY

enclosed herewith; and

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., having a place of business at No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, TAIWAN ROC (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall

## Atty Dkt No.: P20171476US00

include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	2018/1/5 (DATE)	Chin-Chang Hung Chih-Chang HUNG
2)	2018/1/8 (DATE)	Chia-jen CHEN
3)	2018/1/5- (DATE)	Ming - Ching Chary Ming-Ching CHANG
4)	70 (8/1/5 (DATE)	Shu Yuan Ku Shu-Yuan KU
5)	(DATE)	Yi-Hsuan HSIAO
6)	20/8/1/5 (DATE)	I-Wei Carey I-Wei YANG

Atty Dkt No.: P20171476US00

#### ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

#### Names and Addresses of Inventors:

1)	Chih-Chang HUNG No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC	2)	Chia-Jen CHEN No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu 300-78 TAIWAN ROC
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NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall

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include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or destrable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications, (c) for filling and prosecuting substitute, conventional, divisional, continuing or additional applications covering said invention; (d) for filling and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention, and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignes.

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1)	(BYRD)	Chith-Chang HUNG
2)	(DATE)	Chia-jen CHEN
3)	(DATE)	Ming-Ching CHANG
4)	(OATE)	Shu-Yuan KU
5)	<u> 2011. 7. 55. (DATE)</u>	YS - PSU AN - PSS R 0 YS Hauan HSSAO
6)	(DATE)	I-Wei YANG