### 504636176 11/09/2017

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4682894

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
CHUN-AN LIN	10/31/2017
CHUN-HSIUNG LIN	10/31/2017
CHIA-TA YU	10/31/2017
SAI-HOOI YEONG	10/31/2017
CHING-FANG HUANG	10/31/2017
WEN-HSING HSIEH	10/31/2017

#### **RECEIVING PARTY DATA**

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

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number	
Application Number:	15799385	

#### **CORRESPONDENCE DATA**

Fax Number:

504636176

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: kcale@mabr.com
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ATTORNEY DOCKET NUMBER:	NEY DOCKET NUMBER: T1516.10391US01	
NAME OF SUBMITTER:	R. BURNS ISRAELSEN	
SIGNATURE:	/R. Burns Israelsen, Reg. No. 42685/	
DATE SIGNED:	11/09/2017	

PATENT REEL: 044086 FRAME: 0481

# **Total Attachments: 2**

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PATENT REEL: 044086 FRAME: 0482

#### ASSIGNMENT

This assignment agreement is applicable to an invention entitled (Invention Title)				
SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF				
The PATENT RIGHTS referred to in this agreement are:				
(check one) a patent application for this invention, executed by the ASSIGNOR(S)				
concurrently with this assignment.				
☑U.S. patent application Serial No. <u>15/799,385</u> , filed <u>October 31, 2017</u>				
☐a U.S. patent application based on PCT International Application				
Nofiled on (date)(U.S. patent application				
Serial No, if known).				
U.S. patent No, issued				
The PATENT RIGHTS also include all divisions, reissues, continuations and extensions of				
the patents and patent applications identified above.				
The PATENT RIGHTS assigned under this agreement are:				
(check one) ⊠U.S. patent rights only.				
Worldwide patent rights. In this case, the assignee shall have the right to				
claim the benefit of the filing date of any U.S. or foreign patent application				
for this invention.				
The ASSIGNOR(S) referred to in this agreement is (or are) the inventor(s) whose signatures				
appear on page 2 of this Assignment and any Supplemental Sheet(s).				
The ASSIGNEE referred to in this agreement is:				
(Name of Assignee) TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.				
(Address) NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU,				
TAIWAN 300, R.O.C.				
The ASSIGNEE is:				
(check one) ☐ An individual.				
A Partnership.				
☐ A Corporation of				
(other)				
The ASSIGNOR(S), in consideration of \$10.00 paid by the ASSIGNEE, and other good and				

The ASSIGNOR(S), in consideration of \$10.00 paid by the ASSIGNEE, and other good and valuable consideration, receipt of which is acknowledged, hereby assign(s) the following rights to the ASSIGNEE, its successors and assigns:

the full and exclusive right to the invention;

the entire right, title and interest in and to the PATENT RIGHTS;

the right to sue and recover for any past infringement; and

the right to claim priority under 35 USC 119, 35 USC 120, or any other applicable provisions, based on any earlier patent applications for this invention.

PATENT REEL: 044086 FRAME: 0483 THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO
ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
INVENTION TITLE: SEMICONDUCTOR DEVICE AND MANUFACTURING
METHOD THEREOF

As to all U.S. patent applications assigned under this agreement, the ASSIGNOR(S) hereby authorize(s) and request(s) the Commissioner of Patents and Trademark to issue all Letters Patent to the ASSIGNEE as the assignee of the entire right, title and interest, for the sole use and enjoyment of said ASSIGNEE, its successors and assigns.

Further, the ASSIGNOR(S) agree(s) to communicate to said ASSIGNEE, or its representatives, any fact known to the ASSIGNOR(S) with respect to said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and all Letter Patent to be issued to said ASSIGNEE, make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention.

The ASSIGNOR(S) authorize(s) the attorneys and agents who have the power of attorney in this application to check any appropriate boxes and to insert the Serial Number and filing date in this document after it has been executed.

Chun-An LIN	coul-AN in	00131,2017
Name of sole or first inventor	Signature	Date
Chun-Hsiung LIN	Old C	Oct 31,2017
Name of second inventor, if any	Signature	Date
Chia-Ta YU	Chia-Ta Ta	Oct 31,2017
Name of third inventor, if any	Signature	Date
Sai-Hooi YEONG		Oct 31, 2817
Name of fourth inventor, if any	Signature J	Date
Ching-Fang HUANG  Name of fifth inventor, if any	Ching-Fang Huang Signature	Oct 31, 2017
realite of that siventor, it any		Dute
Wen-Hsing HSIEH	Wen-Hing Hsiel	Oct 31,201
Name of sixth inventor, if any	Signature (	Date

PATENT REEL: 044086 FRAME: 0484

**RECORDED: 11/09/2017**