506210010 08/18/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6256751

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HSIEN-WEN WAN	08/06/2020
YI-TING CHENG	08/06/2020
MING-HWEI HONG	08/06/2020
JUEI-NAI KWO	08/06/2020
BO-YU YANG	08/06/2020
YU-JIE HONG	08/06/2020

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	
Name:	NATIONAL TAIWAN UNIVERSITY	
Street Address:	NO.1, SEC. 4, ROOSEVELT ROAD	
City:	TAIPEI	
State/Country:	TAIWAN	
Postal Code:	10617	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16945199	

CORRESPONDENCE DATA

Fax Number: (435)252-1361

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.

Phone: 435-252-1360

Email: vmangum@mabr.com **Correspondent Name:** MASCHOFF BRENNAN

Address Line 1: 1389 CENTER DRIVE, SUITE 300

Address Line 4: PARK CITY, UTAH 84098

> PATENT REEL: 053531 FRAME: 0476

506210010

ATTORNEY DOCKET NUMBER:	T1516.10730US01
NAME OF SUBMITTER:	R. BURNS ISRAELSEN
SIGNATURE:	/R. Burns Israselsen/
DATE SIGNED: 08/18/2020	
Total Attachments: 2	·

source=T1516-10730US01_Assignment#page1.tif source=T1516-10730US01_Assignment#page2.tif

PATENT REEL: 053531 FRAME: 0477

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. 16/945,199 , filed July 31, 2020			
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:			
□U.S. patent rights only.			
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) 1. TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.			
2.NATIONAL TAIWAN UNIVERSITY			
(Address) LNO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU,			
<u>TAIWAN 300, R.O.C.</u>			
2.NO.1, SEC. 4, ROOSEVELT ROAD, TAIPEL 10617, TAIWAN, R.O.C.			
The ASSIGNEE is:			
(check one) An individual.			
A Partnership.			
XI.A Corporation of TAIWAN, R.O.C.			
∑2. A University of <u>TAIWAN, R.O.C.</u>			
(Other)			
The ACCIONODIC in annoldered an ACCIO OR will be the ACCIONICE and the analysis			
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: 053531 FRAME: 0478**

THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO ASSIGNEE: 1.TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. 2.NATIONAL TAIWAN UNIVERSITY

INVENTION TITLE: <u>SEMICONDUCTOR DEVICE AND MANUFACTURING</u> 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.

Hsien-Wen WAN	Asen Wan Wan	2000. 88.06
Name of sole or first inventor	Signature	Date
Yi-Ting CHENG	Yilling Chang	70×0. J8. 06
Name of second inventor, if any	Signature	Date
Ming-Hwei HONG	Mingles Hong	2020 08 06
Name of third inventor, if any	Signature	Date
Juei-Nai KWO	Junk wo	2020.88.06
Name of fourth inventor, if any	Agnature	Date
Bo-Yu YANG	Bo-Yu Yang	2020 58.06
Name of fifth inventor, if any	Signature	Date
Yu-Jie HONG	Yu-Jie Hong	2020.08.06
Name of sixth inventor, if any	Signature	Date

PATENT

REEL: 053531 FRAME: 0479

RECORDED: 08/18/2020