506020782 04/17/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6067495

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHENMING HU	03/17/2020
PO-TSANG HAUNG	01/21/2020

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 CHIAO TUNG UNIVERSITY
Street Address:	NO.1001, DAXUE RD., EAST DIST.
City:	HSINCHU CITY
State/Country:	TAIWAN
Postal Code:	300

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16727395

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: 4352521360

Email: vmangum@mabr.com

Correspondent Name: MASCHOFF BRENNAN

Address Line 1: 1389 CENTER DRIVE, SUITE 300

Address Line 4: PARK CITY, UTAH 84098

ATTORNEY DOCKET NUMBER:	T1516.10649US01
NAME OF SUBMITTER:	R. BURNS ISRAELSEN
SIGNATURE:	/R. Burns Israelsen/

PATENT 506020782 REEL: 052432 FRAME: 0807

DATE SIGNED: 04/17/2020

Total Attachments: 3
source=T1516-10649US01_Assignment#page1.tif
source=T1516-10649US01_Assignment#page2.tif
source=T1516-10649US01_Assignment#page3.tif

ASSIGNMENT

This assignment agreement is applicable to an invention entitled (Invention Title)
THREE DIMENSIONAL INTEGRATED CIRCUIT AND FABRICATION 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>16/727,395</u> , filed <u>December 26, 2019</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:
☑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 CHIAO TUNG UNIVERSITY
(Address) 1.NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU,
<u>TAIWAN 300, R.O.C.</u>
2.No.1001, Daxue Rd., East Dist., Hsinchu City 300, Taiwan, R.O.C.
The ASSIGNEE is:
(check one) ☐ An individual.
A Partnership.
✓A Corporation of1.TAIWAN, R.O.C.
✓A University of2.TAIWAN, R.O.C. (specify state or country)
(other)
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.

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

INVENTION TITLE: THREE DIMENSIONAL INTEGRATED CIRCUIT AND FABRICATION 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.

Chenming HU	Glan Aug	3/17/2020
Name of sole or first inventor	Signature	Date
Po-Tsang HAUNG		
Name of second inventor, if any	Signature	Date

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

INVENTION TITLE: THREE DIMENSIONAL INTEGRATED CIRCUIT AND FABRICATION 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.

Chenming HU			
Name of sole or first inventor	Signature	Date	
Po-Tsang HAUNG	PTs	May 2020/01	/2
Name of second inventor, if any	Signature	Date	7

RECORDED: 04/17/2020