### 506066912 05/19/2020

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
YU-MING LIN	03/28/2018
CHAO-HSIN WU	03/31/2018
HSUN-MING CHANG	04/03/2018
SAMUEL C. PAN	04/09/2018

#### **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:	16875869

#### CORRESPONDENCE DATA

Fax Number:

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.

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Email:gschneider@mabr.comCorrespondent Name:R. BURNS ISRAELSENAddress Line 1:MASCHOFF BRENNAN

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ATTORNEY DOCKET NUMBER: T1516.10398US03

NAME OF SUBMITTER: R. BURNS ISRAELSEN

SIGNATURE: /R. Burns Israelsen, Reg. No. 42685/

DATE SIGNED: 05/19/2020

**Total Attachments: 3** 

PATENT REEL: 052702 FRAME: 0870

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> PATENT REEL: 052702 FRAME: 0871

# **ASSIGNMENT**

This assignment agreement is applicable to an invention entitled (Invention Title)
DEVICE WITH PHOSPHORENE AND FABRICATION THEREOF
The PATENT RIGHTS referred to in this agreement are:
(check one) \( \sum \) a patent application for this invention, executed by the ASSIGNOR(S)
concurrently with this assignment.
U.S. patent application Serial No,filed
☐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) 1.TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
2.NATIONAL TAIWAN UNIVERSITY
(Address) 1.NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU,
<u>TAIWAN 300, R.O.C.</u>
2.NO.1, SEC. 4, ROOSEVELT ROAD, TAIPEI 10617, TAIWAN, R.O.C.
The 1st ASSIGNEE is:
(check one) ☐ An individual.
☐A Partnership.
(other)
The 2nd ASSIGNEE is:
(check one) ☐ An individual.
A Partnership.
☐ A University of
(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.

REEL: 052702 FRAME: 0872

# 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>DEVICE WITH PHOSPHORENE AND FABRICATION</u> 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.

Yu-Ming LIN	of Mush	3/28/2018
Name of sole or first inventor	Signature	Date
Chao-Hsin WU		
Name of second inventor, if any	Signature	Date
Hsun-Ming CHANG		
Name of third inventor, if any	Signature	Date
Samuel C. PAN		
Name of fourth inventor, if any	Signature	Date

PATENT REEL: 052702 FRAME: 0873

# 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: DEVICE WITH PHOSPHORENE AND FABRICATION THEREOF

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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.

Yu-Ming LIN		
Name of sole or first inventor	Signature	Date
Chao-Hsin WU	Charles War	3/31 /2018
Name of second inventor, if any	Signature	Date
Hsun-Ming CHANG	Hour-Many Chang	4/3 /2018
Name of third inventor, if any	Signature	Date
Samuel C. PAN	Saulch	Apr. 9.2018
Name of fourth inventor, if any	Signature *	Date

PATENT REEL: 052702 FRAME: 0874

**RECORDED: 05/19/2020**