

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6801089

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	TAI-YEN PENG	10/20/2017
	HUI-HSIEN WEI	10/19/2017
	WEI-CHIH WEN	10/20/2017
	PIN-REN DAI	10/20/2017
	CHIEN-MIN LEE	10/20/2017
	HAN-TING TSAI	10/20/2017
	JYU-HORNG SHIEH	10/20/2017
	CHUNG-TE LIN	10/20/2017
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.	
<b>Street Address:</b>	8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK	
<b>City:</b>	HSINCHU	
<b>State/Country:</b>	TAIWAN	
<b>Postal Code:</b>	300-78	
<b>PROPERTY NUMBERS Total: 1</b>		
<b>Property Type</b>	<b>Number</b>	
<b>Application Number:</b>	17369671	
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>		
<i>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.</i>		
<b>Phone:</b>	435-252-1360	
<b>Email:</b>	crigby@mabr.com	
<b>Correspondent Name:</b>	MASCHOFF BRENNAN	
<b>Address Line 1:</b>	1389 CENTER DRIVE, SUITE 300	
<b>Address Line 4:</b>	PARK CITY, UTAH 84098	
<b>ATTORNEY DOCKET NUMBER:</b>	T1516.10389US04	
<b>NAME OF SUBMITTER:</b>	R. BURNS ISRAELSEN	
<b>SIGNATURE:</b>	/R. Burns Israelsen, Reg. No. 42685/	

DATE SIGNED:	07/07/2021
<b>Total Attachments: 3</b> source=T1516-10389US04 Assignment#page1.tif source=T1516-10389US04 Assignment#page2.tif source=T1516-10389US04 Assignment#page3.tif	

**ASSIGNMENT**

This assignment agreement is applicable to an invention entitled (Invention Title) \_\_\_\_\_  
MEMORY DEVICE AND FABRICATION 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. 16/397,871, filed April 29, 2019

☐ a U.S. patent application based on PCT International Application  
No. \_\_\_\_\_ filed 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 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: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.  
 INVENTION TITLE: MEMORY DEVICE AND FABRICATION 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.

<u>Tai-Yen PENG</u>	<u>Tai-Yen Peng</u>	<u>2017/10/20.</u>
Name of sole or first inventor	Signature	Date
<u>Hui-Hsien WEI</u>	<u>Hui-Hsien WEI</u>	<u>2017/10/19</u>
Name of second inventor, if any	Signature	Date
<u>Wei-Chih WEN</u>	<u>Wei-Chih WEN</u>	<u>2017/10/20</u>
Name of third inventor, if any	Signature	Date
<u>Pin-Ren DAI</u>	<u>Pin-Ren DAI</u>	<u>2017/10/20.</u>
Name of fourth inventor, if any	Signature	Date
<u>Chien-Min LEE</u>	<u>Chien-Min Lee</u>	<u>2017/10/20</u>
Name of fifth inventor, if any	Signature	Date
<u>Han-Ting TSAI</u>	<u>Han-Ting Tsai</u>	<u>2017/10/20</u>
Name of sixth inventor, if any	Signature	Date
<u>Jyu-Horng SHIEH</u>	<u>Jyu-Horng Shieh</u>	<u>2017/10/20</u>
Name of seventh inventor, if any	Signature	Date

Chung-Te LIN

Name of eighth inventor, if any

Chung-Te Lin  
Signature

5/6/2019  
Date