PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HSI-WEN TIEN	12/08/2017
WEI-HAO LIAO	12/08/2017
PIN-REN DAI	12/08/2017
CHIH-WEI LU	12/08/2017
CHUNG-JU LEE	12/08/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	17740145	

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.

Phone: 4352521360

Email: bdraper@mabr.com

Correspondent Name: MASCHOFF BRENNAN

Address Line 1: 1389 CENTER DRIVE, SUITE 300

Address Line 4: PARK CITY, UTAH 84098

ATTORNEY DOCKET NUMBER: T1516.10405US03

NAME OF SUBMITTER: R. BURNS ISRAELSEN

SIGNATURE: /R. Burns Israelsen/

DATE SIGNED: 05/11/2022

Total Attachments: 2

source=T1516-10405US03_Assignment#page1.tif

PATENT REEL: 059939 FRAME: 0573

EPAS ID: PAT7325878

507278957

source=T1516-10405US03_Assignment#page2.tif

PATENT REEL: 059939 FRAME: 0574

ASSIGNMENT

This assignment agreement is applicable to an invention entitled (Invention Title)				
MANUFACTURING TECHNIQUES AND DEVICES FOR MAGNETIC TUNNEL				
JUNCTION DEVICES				
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. 15/825,972 _filed November 29, 2017				
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.				
<u>TAIWAN 300, R.O.C.</u>				
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				
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: 059939 FRAME: 0575 THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO
ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
INVENTION TITLE: MANUFACTURING TECHNIQUES AND DEVICES FOR
MAGNETIC TUNNEL JUNCTION DEVICES

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.

Hi-War lin	· 201/ 12.8
Signature	Date
Wei-Hao ITAO	2017 12/8
Signature	Date
July ML	21/11/8
Signature	Date
Chih-Wei Lu	2017 12/8
Signature	Date
Ching-Ju Los	2017 12/8.
Signature ⁾	Date
	Signature Wei-Hao Iiao Signature In In My Signature Chih Wei In Signature Chih Jei In Signature

PATENT REEL: 059939 FRAME: 0576

RECORDED: 05/11/2022