PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5714266

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MILL-JER WANG	08/20/2019
TANG-JUNG CHIU	08/20/2019
CHI-CHANG LAI	08/20/2019
CHIA-HENG TSAI	08/20/2019
MIRNG-JI LII	08/22/2019
WEII LIAO	08/20/2019

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.	
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City:	HSINCHU	
State/Country:	TAIWAN	
Postal Code:	300-78	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16548183

CORRESPONDENCE DATA

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NAME OF SUBMITTER:	DANIEL R. MCCLURE
SIGNATURE: /Daniel R. McClure/	
DATE SIGNED:	09/11/2019

505667459 PATENT REEL: 050347 FRAME: 0103

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PATENT REEL: 050347 FRAME: 0104

ASSIGNMENT

WHEREAS, Mill-Jer WANG, Tang-Jung CHIU, Chi-Chang LAI, Chia-Heng TSAI, Mirng-Ji LII and Weii LIAO

hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

Title: <u>SEMICONDUCTOR DEVICE STRUCTURE WITH MAGNETIC ELEMENT IN</u> TESTING REGION

Filed:	Serial No.	-
Executed on:		

WHEREAS, <u>Taiwan Semiconductor Manufacturing Co., Ltd.</u>, of <u>No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, Taiwan R.O.C.</u>, hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignor had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

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ASSIGNMENT

2019/8/20	Hoff-Fer Warg
Date	Name: Mill-Jer WANG
2019/8/20 Date	Tang-Jung Chiu Name: Tang-Jung CHIU
Date	Name. Tang-rung CTIO
2019/8/20	chi-chang LAI
Date	Name: Chi-Chang LAI
2019/8/20 Date	Chia-Heng TSAI Name: Chia-Heng TSAI
Date	Name: Chia-Heng 18A1
08/22/2019 Date	Name: Mirng Ji LII
2019/08/20	Weit LIAO
Date	Name: Weii LIAO

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