PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAI-I YANG	10/20/2014
YU-CHIEH LIAO	10/20/2014
TIEN-LU LIN	10/20/2014
TIEN-I BAO	10/20/2014

RECEIVING PARTY DATA

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State/Country:	TAIWAN
Postal Code:	300-77

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16006120

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	4630.0530001	
NAME OF SUBMITTER:	CHRISTIAN A. CAMARCE	
SIGNATURE:	/Christian A. Camarce, reg. no. 65,021/	
DATE SIGNED:	06/13/2018	

Total Attachments: 2

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PATENT 504957477 REEL: 046069 FRAME: 0101

ASSIGNMENT

WHEREAS, Tai-I YANG, Yu-Chieh LIAO, Tien-Lu LIN, and Tien-I BAO
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: SEMICONDUCTO	<u>DR DEVICE STRUCTURE A</u>	ND METHOD FOR FORMING THE
SAME		
Filed: October 27, 2014	Serial No.	
Executed on:	October 20, 2014	

WHEREAS, <u>Taiwan Semiconductor Manufacturing Co., Ltd.</u> of <u>No.8, Li-Hsin Road. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, 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.

ASSIGNMENT

2014, 10.20	Tai-I YA	N 61	
Date	Name: Tai-I YANG	(Last name: YANG)	
	Y = (7a) 1	Y 4.0	
2014 . 10. 20	Yu – Chieh LIAO		
Date	Name: Yu-Chieh LIAO	(Last name: LIAO)	
De 4,10.20	Tien-Lu Lin		
Date	Name: Tien-Lu LIN	(Last name: LIN)	

Date

Tim - L B coo

Name: Tien-I BAO (Last name: BAO)

TSMC2014-0830/0503-A39014-US

RECORDED: 06/13/2018

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PATENT REEL: 046069 FRAME: 0103