506787597 07/27/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6834416

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WEN-HAO CHENG	05/17/2019
YEN-YU CHEN	05/17/2019
CHIH-WEI LIN	05/17/2019
YI-MING DAI	05/17/2019

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
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Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17383215

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ATTORNEY DOCKET NUMBER:	T1516.10487US02
NAME OF SUBMITTER:	R. BURNS ISRAELSEN
SIGNATURE:	/R. Burns Israelsen, Reg. No. 42685/
DATE SIGNED:	07/27/2021

Total Attachments: 2

source=T1516.10487US02 Assignment#page1.tif source=T1516.10487US02 Assignment#page2.tif

ASSIGNMENT

This assign	nment agreemen	t is applicable to an invention entitle	ed (Invention Title)
		ICE AND METHOD OF FORMIN	
The PATE	ENT RIGHTS re	ferred to in this agreement are:	
(check one	e) ⊠a patent apj	plication for this invention, executed	by the ASSIGNOR(S)
		y with this assignment.	
	XU.S. patent	application Serial No. 16/430,075	,filed June 3, 2019
		nt application based on PCT Internat	
	No	filed on (date)	U.S. patent application
	Serial No	, if known).	
		No, issued	
The PATE	ENT RIGHTS als	so include all divisions, reissues, co	ntinuations and extensions of
the patents	s and patent appl	ications identified above.	
The PATE	ENT RIGHTS as	signed under this agreement are:	
	⊠U.S. patent i	rights only.	
The ASSI	GNOR(S) refere	ed to in this agreement is (or are) the	e inventor(s) whose signatures
appear on	page 2 of this A	ssignment and any Supplemental Sh	eet(s).
The ASSI	GNEE referred t	o in this agreement is:	
(Name of	Assignee <u>) TAIW</u>	AN SEMICONDUCTOR MANUE	ACTURING CO., LTD.
(Address)	NO.8. LI-HSIN	RD.6, SCIENCE-BASED INDUST	RIAL PARK, HSINCHU.
TAIWAN	300, R.O.C.		
The ASSI	GNEE is:		
(check on	e)[[]An individu	al.	
	A Partnershi		
		on of <u>TAIWAN, R.O.C.</u> (spec	ify state or country)
	(other)		
		nsideration of \$10.00 paid by the A	
valuable o	consideration, re-	ceipt of which is acknowledged, her	eby assign(s) the following
rights to t	he ASSIGNEE,	its successors and assigns:	
	-	t to the invention;	
		nterest in and to the PATENT RIGH	TS;
		er for any past infringement; and	
		under 35 USC 119, 35 USC 120, or	
provision	s, based on any	earlier patent applications for this in	vention.

RECORDED: 07/27/2021

THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO ASSIGNEE <u>TAIWAN SEMICONDUCTOR MANUFACTURING COLUDE</u> INVENTION TITLE: <u>SEMICONDUCTOR DEVICE AND METHOD OF</u> FORMING THE SAME

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 ouths 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 filling date in this document after it has been executed.

Wen-Hao CHENG		
Name of sole or first inventor	Signature	Date
Yen-Yu CHEN	The Track	,
Name of second inventor, if any	Signature	Date
Chih-Wei LIN	All Survey Con	2879 3
Name of third inventor, if any	Signature	Date
Yi-Ming DAI	<u> 4-404 Dai</u>	201/ 7.7/
Name of fourth inventor, if any	Signature	Date