505924170 02/19/2020

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HSU-LUN LIU	01/14/2020
WEN-HSIUNG LU	01/14/2020
MING-DA CHENG	02/06/2020
CHEN-EN YEN	01/14/2020
CHENG-LUNG YANG	01/14/2020
KUANCHIH HUANG	01/14/2020

RECEIVING PARTY DATA

Name:	Taiwan Semiconductor Manufacturing Company, 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:	16746017

CORRESPONDENCE DATA

Fax Number: (972)732-9218

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: 972-732-1001

Email: docketing@slatermatsil.com

Correspondent Name: SLATER MATSIL, LLP

17950 PRESTON RD., SUITE 1000 Address Line 1:

Address Line 4: DALLAS, TEXAS 75252

ATTORNEY DOCKET NUMBER:	TSMP20191563US00
NAME OF SUBMITTER:	JENNIFER RUBIO
SIGNATURE:	/Jennifer Rubio/
DATE SIGNED:	02/19/2020

Total Attachments: 2

PATENT REEL: 051860 FRAME: 0351

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source=TSMP20191563US00 Assignment as filed 2020-02-19#page1.tif source=TSMP20191563US00 Assignment as filed 2020-02-19#page2.tif

PATENT REEL: 051860 FRAME: 0352

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made; and

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd. ("Assignee"), a corporation organized and existing under the laws of Taiwan, with its principal office at 8, Li-Hsin Rd. 6 Hsinchu Science Park, Hsinchu 300-78, Taiwan, is desirous of acquiring my entire right, title and interest in and to said invention, and to said application and any Letters Patent that may issue thereon in the United States and all other countries throughout the world,

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to said Assignee, its successors and assigns, my entire right, title and interest in and to said invention and in and to said application and all patents which may be granted therefor, and all future non-provisional applications including divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner for Patents to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to said Assignee, as assignee of my entire right, title and interest. I declare that I have not executed and will not execute any agreement in conflict herewith.

I also hereby sell and assign to Assignee, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including, but not limited to, the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said Assignee, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention or the file history thereof, and at the expense of said Assignee, its legal representatives, successors, or assigns, will testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said Assignee, its legal representatives, successors, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year,

TITLE OF INVENTION	Semiconductor Device and Method			
SIGNATURE OF INVENTOR AND NAME	Hon-Low Lin	Non-Hing Lu	//	Chen-En Ten
	Hsu-Lun Liu	Wen-Hsiung Ľu	Ming-Da Cheng	Chen-En Yen
DATE	~~~/\/ ₁ 4	41/10gg	-20 x/1	2020/1/14
RESIDENCE	Hsinchu, Taiwan	Tainan City, Taiwan	Taoyuan City, Taiwan	Changhua County, Taiwan

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Assignment

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made; and

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd. ("Assignee"), a corporation organized and existing under the laws of Taiwan, with its principal office at 8, Li-Hsin Rd. 6 Hsinchu Science Park, Hsinchu 300-78 Taiwan, is desirous of acquiring my entire right, title and interest in and to said invention, and to said application and any Letters Patent that may issue thereon in the United States and all other countries throughout the world:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to said Assignee, its successors and assigns, my entire right, title and interest in and to said invention and in and to said application and all patents which may be granted therefor, and all future non-provisional applications including divisions, reissues, substitutions, continuations, and extensions thereof, and I hereby authorize and request the Commissioner for Patents to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to said Assignee, as assignee of my entire right, title and interest. I declare that I have not executed and will not execute any agreement in conflict herewith.

I also hereby sell and assign to Assignee, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including, but not limited to, the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said Assignee, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention or the file history thereof, and at the expense of said Assignee, its legal representatives, successors, or assigns, will testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said Assignee, its legal representatives, successors, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year;

TITLE OF INVENTION	Novel Si Via Etch Process for Two Step Side Wall Scallop Control for E-Mean and EUV Device	
SIGNATURE OF INVENTOR AND NAME	, , ,	Huang Kuandhih
	Cheng-Lung Yang	Huang Kuanchih
DATE	>000,01,1V	7077 ol. 14
RESIDENCE	Kaohsiung City, Taiwan	Tainan City, Taiwan

PATENT Assignment REEL: 051860 FRAME: 0354

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RECORDED: 02/19/2020