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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KUO-CHIANG TSAI	01/18/2019
KE-JING YU	01/18/2019
FU-HSIANG SU	01/18/2019
YI-JU CHEN	01/18/2019
JYH-HUEI CHEN	01/18/2019

RECEIVING PARTY DATA

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Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16263143

CORRESPONDENCE DATA

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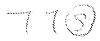
ATTORNEY DOCKET NUMBER:	2018-1215/24061.3800US01
NAME OF SUBMITTER:	MARCY OGADO
SIGNATURE:	/Marcy Ogado/
DATE SIGNED:	01/31/2019

Total Attachments: 3

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Docket No.; P20181215US00/24061.3800US01

Customer No.: 000042717

ASSIGNMENT

WHEREAS, we,

(1)	Kuo-Chiang Tsai	of	Hsinchu City, Taiwan (R.O.C.)
(2)	Ke-Jing Yu	of	Kaohsiung City, Taiwan (R.O.C.)
(3)	Fu-Hsiang Su	of	Hsinchu, Taiwan (R.O.C.)
(4)	Yi-Ju Chen	of	Tainan City, Taiwan (R.O.C.)
(5)	Jyh-Huei Chen	of	Hsinchu City, Taiwan (R.O.C.)

have invented certain improvements in

USING MASK LAYERS TO FACILITATE THE FORMATION OF SELF-ALIGNED CONTACTS AND VIAS

for which we have executed an application for Letters Patent of the United States of America,

X	of even date filed herewith; and
	filed on $01/31/2019$ and assigned application number $16/263,143$; an

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., ("TSMC"), 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, Republic of China. is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

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AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor Name: Residence Address:	Kuo-Chiang Tsai Hsinchu City, Taiwan (R.O.C.)	
Dated: 2019.	1, 18	Kun - Chiang Tsan Inventor Signature
Inventor Name: Residence Address:	Ke-Jing Yu Kaohsiung City, Taiwan (R.O.C	T)
Dated: 20 9 - 1	. 18	Ke - Jing YU Inventor Signature
Inventor Name: Residence Address: Dated: > 0/9	Fu-Hsiang Su Hsinchu, Taiwan (R.O.C.)	Fu - H Siang Sy Inventor Signature
	Yi-Ju Chen Tainan City, Taiwan (R.O.C.)	Yr-Ju Chan Inventor Signature

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Customer No.: 000042717

Inventor Name:

Jyh-Huei Chen

2019/01/18

Residence Address:

Hsinchu City, Taiwan (R.O.C.)

Dated:

Inventor Signature

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RECORDED: 01/31/2019

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