505831232 12/19/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5878165

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHUN-CHANG WU	11/10/2017
CHIHY-YUAN CHENG	11/10/2017
SZ-FAN CHEN	11/10/2017
SHUN-SHING YANG	11/10/2017
WEI-LIN CHANG	11/10/2017
CHING-SEN KUO	11/10/2017
FENG-JIA SHIU	11/10/2017
CHUN-CHANG CHEN	11/10/2017

RECEIVING PARTY DATA

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State/Country:	TAIWAN
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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16721565

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505831232 PATENT REEL: 051338 FRAME: 0471

SIGNATURE:	/Marcy Ogado/	
DATE SIGNED:	12/19/2019	
Total Attachments: 4		
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source=3601US02_Assignment#page3.tif		
source=3601US02_Assignment#page4.tif		

PATENT REEL: 051338 FRAME: 0472

Customer No.: 42717

ASSIGNMENT

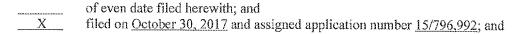
WHEREAS, we,

(1)	Chun-Chang Wu	of	Nantou County, Taiwan, R.O.C.
(2)	Chihy-Yuan Cheng	of	Tainan City, Taiwan, R.O.C.
(3)	Sz-Fan Chen	of	Hsinchu, Taiwan, R.O.C.
(4)	Shun-Shing Yang	of	Tainan City, Taiwan, R.O.C.
(5)	Wei-Lin Chang	of	Hsinchu, Taiwan, R.O.C.
(6)	Ching-Sen Kuo	of	Taipei City, Taiwan, R.O.C.
(7)	Feng-Jia Shiu	of	Hsinchu County, Taiwan, R.O.C.
(8)	Chun-Chang Chen	of	Tainan City, Taiwan, R.O.C.

have invented certain improvements in

IMPROVING SURFACE TOPOGRAPHY BY FORMING SPACER-LIKE COMPONENTS

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



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, whose duty it is to issue

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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.

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.

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PATENT REEL: 051338 FRAME: 0476

RECORDED: 12/19/2019