504358173 05/09/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WEN-SHIANG LIAO	04/28/2017
CHEWN-PU JOU	04/28/2017
CHIH-HANG TUNG	04/28/2017
CHEN-HUA YU	04/28/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.	
Street Address:	NO.8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK	
City:	HSINCHU	
State/Country:	TAIWAN	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15581649

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SIGNATURE:	/Anthony King/
DATE SIGNED:	05/09/2017

Total Attachments: 2

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PATENT REEL: 042301 FRAME: 0589

Your Ref.: P20161444US00

US ONLY

ASSIGNMENT

WHEREAS, I(we), <u>LIAO</u>, <u>WEN-SHIANG</u>, <u>JOU</u>, <u>CHEWN-PU</u>, <u>TUNG</u>, <u>CHIH-HANG</u> and <u>YU</u>, <u>CHEN-HUA</u> whose post office address(es) appear(s) below, hereinafter referred to as ASSIGNOR, have invented certain new and useful invention entitled

SEMICONDUCTOR STRUCTURE AND MANUFACTURING METHOD THEREOF

(nereinanter referred to as the INVENTION) for which an applic		Letters Patent /Utility Patent
is executed on even date herewith unless at least one of the fol	lowing is checked:	
☐ United States Design Patent was		
□ executed on:		
☐ filed on: 28 April 2017 Serial N ☐ established by PCT International Patent Application N	o.: 15/581,649 lo.: filed:	designating the
United States of America		
☐ issued on as U.S. Patent No.:		

WHEREAS, <u>TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.</u> whose post office address is <u>NO.8</u>, <u>LI-HSIN RD. 6</u>, <u>HSINCHU SCIENCE PARK</u>, <u>HSINCHU</u>, <u>TAIWAN</u>, <u>R.O.C.</u> hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to the same in the United States and its territorial possessions;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I (we), ASSIGNOR, by these presents do sell, assign and transfer unto said ASSIGNEE, the entire right, title, and interest in and to said INVENTION and application throughout the United States of America, including any and all Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application for the full term or terms for which the same may be granted, including all priority rights under any International Convention.

ASSIGNOR further covenants that no assignments, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment;

ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) in the United States for said INVENTION, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said INVENTION, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE'S expense, to identify and communicate to ASSIGNEE at ASSIGNEE'S request documents and information concerning the INVENTION that are within ASSIGNOR'S possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance, litigation and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOR'S obligations under this instrument shall extend to ASSIGNOR'S heirs, executors, administrators and other legal representatives.

ALSO, ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patent referred to above to ASSIGNEE, as the ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE'S sole use and behoof, and for the use and behoof of ASSIGNEE'S legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

Assignor Name LIAO, WEN-SHIANG	Address NO. 252, CHUNG CHEN ROAD, TOUFEN TOWNSHIP, MIAOLI COUNTY, TAIWAN (R.O.C.)
Signature of Assignor (X) Wen Shang Lad	Date of Signature (X) April 28th, 20/7
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

PATENT REEL: 042301 FRAME: 0590

Assignor Name JOU, CHEWN-PU Leggar	Address NO. 123, 4F-10, PUTING 2ND RD., HSINCHU CITY, TAIWAN (R.O.C.)
Signature of Assignor (X) Rough	Date of Signature (X) Apr. 28, 2017
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

Assignor Name TUNG, CHIH-HANG	Address 3F., NO. 55, HSIEN-CHENG ST. 3, CHU PEI, HSINCHU COUNTY, TAIWAN (R.O.C.)
Signature of Assignor (X)	Date of Signature Apr 28, 2017
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

Assignor Name YU, CHEN-HUA	Address NO. 3, 38 WATERFRONT ROAD 2, HSINCHU CITY, TAIWAN (R.O.C.)
Signature of Assignor (X)	Date of Signature 4/28/1, 7
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)