505830266 12/19/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHIA LIANG TAI	11/19/2019

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:	16668854

CORRESPONDENCE DATA

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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.

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NAME OF SUBMITTER:	ANTHONY KING
SIGNATURE:	/Anthony King/
DATE SIGNED:	12/19/2019

Total Attachments: 1

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PATENT REEL: 051333 FRAME: 0357

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Your Ref.: P20183483US00

US ONLY

ASSIGNMENT

WHEREAS, I(we), <u>TAL CHIA LIANG</u> whose post office address(es) appear(s) below, hereinafter referred to as ASSIGNOR, have invented certain new and useful invention entitled

SIGNAL GENERATING DEVICE AND METHOD OF GENERATING TEMPERATURE-DEPENDENT SIGNAL

is executed on even date herewith un		• •		Letters Patent /Utility Patent
United States Design Patent		ne of the follows	mig is enecycu.	
	was			
☐ executed on:				
Mifiled on: 30 October	2019	Serial No.:	16/668,854	
C established by PCT Internati	ional Patent A		filed:	designating the
United States of America	·	•		
☐ issued on	as U.S. Pa	tent No.:		

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD. whose post office address is NO.8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK, HSINCHU, TAIWAN, R.O.C. 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 TAI, CHIA LIANG	Address NO.8, LN. 275, DOUTAN RD., SHALU DIST., TAICHUNG CITY 433, TAIWAN (R.O.C.)
Signature of Assignar (X) Chia Liury Ta;	Date of Signature (X) Z0 {
Name of Witness (aptional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

PATENT REEL: 051333 FRAME: 0358

RECORDED: 12/19/2019