505562349 07/09/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHIN YIN	07/02/2019
CHIH-LIN LEE	07/02/2019
SHANG-FU YEH	07/02/2019
KUO-YU CHOU	07/02/2019
CALVIN YI-PING CHAO	07/03/2019

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED
Street Address:	NO. 8, LI-HSIN ROAD, VI
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16454358

CORRESPONDENCE DATA

Fax Number: (212)755-7306

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.

Email: wtokmakidis@jonesday.com, erosenfelder@jonesday.com

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ATTORNEY DOCKET NUMBER:	181877-625405
NAME OF SUBMITTER:	MATTHEW W. JOHNSON
SIGNATURE:	/Matthew W. Johnson/
DATE SIGNED:	07/09/2019

Total Attachments: 2

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PATENT REEL: 049706 FRAME: 0134

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JOINT

ASSIGNMENT

WHEREAS, WE, Chin Yin having a mailing address of No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan residing at Tainan City, Taiwan, Chih-Lin Lee, having a mailing address of No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan residing at Miaoli County, Taiwan, Taiwan, Shang-Fu Yeh, having a mailing address of No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan residing at Hsin Chu City, Taiwan, Kuo-Yu Chou, having a mailing address of No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan residing at Hsinchu City, Taiwan, Calvin Yi-Ping Chao, having a mailing address of No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan residing at Hsinchu City, Taiwan, ASSIGNORS, are the inventors of the invention in "TIME-TO-DIGITAL CONVERTER CIRCUIT AND METHOD FOR SINGLE-PHOTON AVALANCHE DIODE BASED DEPTH SENSING" for which we have executed an application for a Patent of the United States

\boxtimes	which is executed on 💮 🔯 even date her	ewith or 📋	[DATE]	
	which is identified by Jones Day docket no. 18	1877-625405		
\boxtimes	which was filed on June 27, 2019. Application	No. <u>16/454,358</u> .		
	We hereby authorize and request attorney(s) at	Jones Day, to inse	sert here in paremheses (Application number	
	, filed) the filing date ar	and application number of said application when k	nown.

and WHEREAS. Taiwan Semiconductor Manufacturing Company Limited, a corporation organized and existing under the laws of the Republic of China, and having an office for the transaction of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Tsiyan, PROPRIETOR, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said applications.

NOW, THEREPORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said PROPRIETOR, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement.

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said PROPRIETOR, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree 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 the said PROPRIETOR, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said PROPRIETOR, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

Date	2019/09/02	Chin Yin	LS
Date	2019/07/02	Chih-Lin Lee	1S
Date	2019/07/02	Shang - Fu Yeh	LS
Date	2019/01/02	Kuo-Yu Chou	L.S
Date	2019/07/03	Callein Glad Calvin Yi-Ping Chao	1S