

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT																
NATURE OF CONVEYANCE:	ASSIGNMENT																
CONVEYING PARTY DATA																	
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>KUO-CHENG CHIANG</td><td>11/04/2019</td></tr><tr><td>ZHI-CHANG LIN</td><td>11/04/2019</td></tr><tr><td>SHIH-CHENG CHEN</td><td>11/04/2019</td></tr><tr><td>CHIH-HAO WANG</td><td>11/22/2019</td></tr><tr><td>PEI-HSUN WANG</td><td>11/05/2019</td></tr><tr><td>LO-HENG CHANG</td><td>11/04/2019</td></tr><tr><td>JUNG-HUNG CHANG</td><td>11/04/2019</td></tr></tbody></table>	Name	Execution Date	KUO-CHENG CHIANG	11/04/2019	ZHI-CHANG LIN	11/04/2019	SHIH-CHENG CHEN	11/04/2019	CHIH-HAO WANG	11/22/2019	PEI-HSUN WANG	11/05/2019	LO-HENG CHANG	11/04/2019	JUNG-HUNG CHANG	11/04/2019	
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JUNG-HUNG CHANG	11/04/2019																
RECEIVING PARTY DATA																	
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.																
Street Address:	8, LI-HSIN RD. 6																
Internal Address:	HSINCHU SCIENCE PARK																
City:	HSINCHU																
State/Country:	TAIWAN																
Postal Code:	300-78																
PROPERTY NUMBERS Total: 1																	
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>17869163</td></tr></tbody></table>	Property Type	Number	Application Number:	17869163													
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Application Number:	17869163																
CORRESPONDENCE DATA																	
Fax Number:	(214)200-0853																
<i>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.</i>																	
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ATTORNEY DOCKET NUMBER:	2019-0669/24061.3974US02																
NAME OF SUBMITTER:	MARIA TEDESCO																
SIGNATURE:	/Maria Tedesco/																

PATENT

DATE SIGNED:	07/20/2022
Total Attachments: 4 source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif source=Assignment#page4.tif	

77 (S)

Docket No.: P20190669US00/24061.3974US01
Customer No.: 42717

ASSIGNMENT

WHEREAS, we,

- | | | | |
|-----|------------------|----|--|
| (1) | Kuo-Cheng Chiang | of | Hsinchu County, Taiwan, Republic of China |
| (2) | Zhi-Chang Lin | of | Hsinchu County, Taiwan, Republic of China |
| (3) | Shih-Cheng Chen | of | New Taipei City, Taiwan, Republic of China |
| (4) | Chih-Hao Wang | of | Hsinchu County, Taiwan, Republic of China |
| (5) | Pei-Hsun Wang | of | Hsinchu, Taiwan, Republic of China |
| (6) | Lo-Heng Chang | of | Hsinchu, Taiwan, Republic of China |
| (7) | Jung-Hung Chang | of | Hsinchu, Taiwan, Republic of China |

have invented certain improvements in

INNER SPACERS FOR GATE-ALL-AROUND TRANSISTORS

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

 of even date filed herewith; and
 X filed on 12-05-2019 and assigned application number 16/704,110; and

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.

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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.

Inventor Name: Kuo-Cheng Chiang

Residence Address: 5F., No. 8-3, Guangming 9th Rd.
Zhubei City, Hsinchu County 302, Taiwan, Republic of China

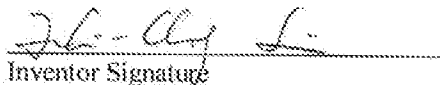
Dated: 2019. 11. 08


Inventor Signature

Inventor Name: Zhi-Chang Lin

Residence Address: 3F., No. 30, Ln. 37, Sec. 3, Xinglong Rd.
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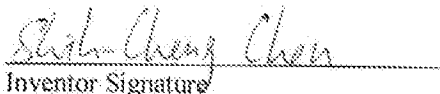
Dated: 2019. 11. 08


Inventor Signature

Inventor Name: Shih-Cheng Chen

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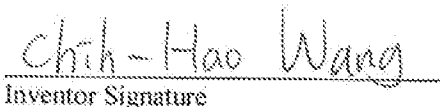
Dated: 2019. 11. 08


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Inventor Name: Chih-Hao Wang

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Dated: 11/22/2019


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Docket No.: P20190669US00/24061.3974US01
Customer No.: 42717

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Dated: 2019.11.04

Lo Heng Chang

Inventor Signature

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Dated: 2019.11.04

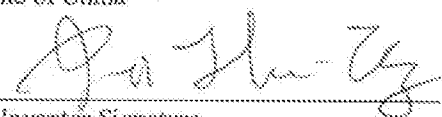
Jung Hung Chang

Inventor Signature

Inventor Name: Pei-Hsun Wang

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Dated: 11.05.2019


Inventor Signature

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Dated: _____

Inventor Signature

Inventor Name: Jung-Hung Chang

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Dated: _____

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