

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4050769

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	CHUN-HAO CHANG	09/07/2016
	HSUEH-YI CHUNG	09/07/2016
	SHANG-YUN HUANG	09/07/2016
	JUI-PING CHUANG	09/07/2016
	LI-KONG TURN	09/07/2016
	FEI-GWO TSAI	09/07/2016
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED	
<b>Street Address:</b>	NO. 8, LI-HSIN ROAD, VI	
<b>Internal Address:</b>	HSINCHU SCIENCE PARK	
<b>City:</b>	HSINCHU	
<b>State/Country:</b>	TAIWAN	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	14258503
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(212)755-7306	
<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>		
<b>Email:</b>	erosenfelder@JonesDay.com	
<b>Correspondent Name:</b>	JONES DAY	
<b>Address Line 1:</b>	250 VESEY STREET	
<b>Address Line 4:</b>	NEW YORK, NEW YORK 10281-1047	
<b>ATTORNEY DOCKET NUMBER:</b>	181877-625107	
<b>NAME OF SUBMITTER:</b>	MATTHEW W. JOHNSON	
<b>SIGNATURE:</b>	/Matthew W. Johnson/	
<b>DATE SIGNED:</b>	09/14/2016	
<b>Total Attachments: 2</b>		
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## JOINT

## ASSIGNMENT

WHEREAS, WE, CHUN-HAO CHANG, HSUEH-YI CHUNG, SHANG-YUN HUANG, JUI-PING CHUANG, LI-KONG TURN and FEI-GWO TSAI citizen of the Republic of China, having the mailing addresses listed as below.

CHUN-HAO CHANG having a mailing address of 12F, No. 606, Nuan-Nuan St. Keelung city, TAIWAN residing at Keelung city, TAIWAN;

HSUEH-YI CHUNG having a mailing address of 11F., No. 393, Sec. 1, Xinglong Rd., Zhubei City, Hsinchu County 302, Taiwan residing at Hsinchu County, Taiwan;

SHANG-YUN HUANG having a mailing address of 9F., No.48, Jiafeng 3rd St., Zhubei City, Hsinchu County 30271, Taiwan residing at Hsinchu County, Taiwan;

JUI-PING CHUANG having a mailing address of 6F., No.8, Zhucun 7th Rd., East Dist., Hsinchu City 300, Taiwan residing at Hsinchu City, Taiwan;

LI-KONG TURN having a mailing address of #294-6, Sec. 3, Wen-shin Rd., Taichung, Taiwan residing at Taichung, Taiwan;

FEI-GWO TSAI having a mailing address of 11F., No. 520-1, Sec. 4, Ren-Ai Rd., Xinyi Dist., Taipei City 110, Taiwan residing at Taipei City, Taiwan,

ASSIGNORS, are the inventors of the invention in "SYSTEMS AND METHODS FOR EDGE BEAD REMOVAL" for which we have executed an application for a Patent of the United States

- ☒ which is executed on ☒ even date herewith or ☐  
☒ which is identified by Jones Day docket no. 181877-625107  
☐ which was filed on \_\_\_\_\_, 2014, Application No. \_\_\_\_\_  
☐ We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number \_\_\_\_\_, filed \_\_\_\_\_) the filing date and application number of said application when known.

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

NOW, THEREFORE, 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 ASSIGNEE, 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 ASSIGNEE, 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 ASSIGNEE, 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 ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date 9/7 2016  
2014 Chun-Hao Chang L.S.  
CHUN-HAO CHANG

Date 9/7 2016  
2014 Hsueh-Yi Chung L.S.  
HSUEH-YI CHUNG

Date 9/7 2016  
2014 Shang-Yun Huang L.S.  
SHANG-YUN HUANG

Date 9/7 2016  
2014 Jui-Ping Chuang L.S.  
JUI-PING CHUANG

Date 09/07 2016  
2014 Li-Kong Turn L.S.  
LI-KONG TURN

Date 9/7 2016  
2014 Fei-Gwo Tsai L.S.  
FEI-GWO TSAI