

<b>PATENT ASSIGNMENT COVER SHEET</b>
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<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KABUSHIKI KAISHA TOSHIBA	11/09/2018
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15414725
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<b>DATE SIGNED:</b>	11/21/2018
<b>Total Attachments: 2</b>	
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PATENT ASSIGNMENT

WHEREAS KABUSHIKI KAISHA TOSHIBA, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan, (hereinafter "Assignor") is the owner of the following United States Letters Patent(s), and the invention(s) set forth therein, as shown by the records of the United States Patent and Trademark Office:

U.S. PATENT APPLICATION NO.	FILING DATE	TITLE
15/414,725	1/25/2017	SEMICONDUCTOR MANUFACTURING APPARATUS

WHEREAS TOSHIBA ELECTRONIC DEVICES & STORAGE CORPORATION, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-0023 Japan (hereinafter referred to as "Assignee") is desirous of acquiring the full right, title and interest in and to said invention for the United States of America, and in and to said United States Patent Application;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Assignor, Assignor has sold, assigned, transferred and set over, and by these presents hereby sells, assigns, transfers and sets over to Assignee the entire and exclusive right, title and interest in and to said inventions for the United States of America, and in and to said application for Letters Patent listed above, including any and all divisional, continuation, continuation-in-part, reissues or extensions thereof, to be held and enjoyed by Assignee for its own use as fully and entirely as the same would have been held and enjoyed by Assignor had this assignment not been made; the Commissioner of Patents and Trademarks of the United States of America is hereby authorized to transfer the portion of the title indicated to said application to said Assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the Assignor, but also that such assigned rights are not encumbered by any grant, license, or other right theretofore given; Assignor hereby undertakes to execute and deliver to Assignee upon request all lawful documents which may be requested by Assignee, and to furnish Assignee with all facts relating to said invention as may be requested.

The undersigned hereby grant the firm of FOLEY & LARDNER LLP, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

KABUSHIKI KAISHA TOSHIBA

Date: Nov. 9, 2018

By: Ikuko Shimogawa  
Name: Ikuko SHIMOGAWARA  
Title: General Manager, Intellectual Property Division

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