505197159 11/19/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KEIJI KITAGAITO	10/26/2015
FUMIYA KOBAYASHI	10/21/2015
MAJU TOMURA	10/21/2015

RECEIVING PARTY DATA

Name:	TOKYO ELECTRON LIMITED
Street Address:	3-1, AKASAKA 5-CHOME, MINATO-KU,
City:	TOKYO
State/Country:	JAPAN
Postal Code:	107-6325

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16194848

CORRESPONDENCE DATA

Fax Number: (202)797-8188

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Email: IPUSA@IPUSAPAT.COM, ips@itohpat.co.jp

IPUSA, P.L.L.C **Correspondent Name:**

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Address Line 2: SUITE 400

Address Line 4: WASHINGTON, D.C. 20007

ATTORNEY DOCKET NUMBER:	15EL-018C1
NAME OF SUBMITTER:	KYOKO MACKILLOP
SIGNATURE:	/Kyoko MacKillop/
DATE SIGNED:	11/19/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

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> **PATENT REEL: 047540 FRAME: 0888**

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PATENT REEL: 047540 FRAME: 0889

ASSIGNMENT

THIS ASSIGNMENT, by (1) Keiji KITAGAITO, (2) Fumiya KOBAYASHI, and (3) Maju TOMURA, (hereinafter referred to as "Assignors"), residing at (1) Kurokawa-gun, Miyagi, Japan, (2) Kurokawa-gun, Miyagi, Japan, and (3) Kurokawa-gun, Miyagi, Japan, respectively;

WHEREAS, Assignors hav PLASMA ETCHING METHOD AT	e invented certain new and us ND PLASMA ETCHING AP	
(Application No)
set forth in a patent application for I		ates, either previously

WHEREAS, Tokyo Electron Limited (hereinafter referred to as "Assignee"), having offices at 3-1, Akasaka 5-chome, Minato-ku, Tokyo 107-6325 Japan, is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefor and thereon;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations, continued prosecutions, and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignce, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and Assignment not been made;

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles, and or interests that have arisen to Assignee under the law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and application for Letters Patent above-mentioned, and that the same are

unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives, and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns shall advise; that any proceeding in connection with said inventions, or said patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation, continued prosecutions, or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable;

AND Assignors hereby request that the Director of the United States Patent and Trademark Office issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the said Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns;

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document: All practitioners associated with the Customer Number 77464.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

10 / 2b / 2015.	Keiji Kitagaita Keiji KITAGAITO		
Date	Kelji KITAGAITO		
Date	Fumiya KOBAYASHI		
10/21/2015	majy comerce		
Date	Maiu TOMURA		

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THIS ASSIGNMENT, by (1) Keiji KITAGAITO, (2) Fumiya KOBAYASHI, and (3) Maju TOMURA, (hereinafter referred to as "Assignors"), residing at (1) Kurokawa-gun, Miyagi, Japan, (2) Kurokawa-gun, Miyagi, Japan, and (3) Kurokawa-gun, Miyagi, Japan, respectively;

WHEREAS, Assignors have inven PLASMA ETCHING METHOD AND PL	nted cer	rtain new and useful improvement	ents in
E TAYOUR DI CHIM (O MIDITIOD IN (DI I)	YYDIYIY	LEICHING ALLAKATUS,	
(Application No	, file	ed)
set forth in a patent application for Letters ! filed or executed concurrently herewith; an	Patent nd	of the United States, either pre-	viously

WHEREAS, Tokyo Electron Limited (hereinafter referred to as "Assignee"), having offices at 3-1, Akasaka 5-chome, Minato-ku, Tokyo 107-6325 Japan, is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefor and thereon;

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Date	ate Keiji KITAGAITO		
20/5 Date	/ 10 /2/ <u>Fumilja Kalvayashi</u> Fumiya KOBAYASHI		
Date	Maju TOMURA		