

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4985276

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HONGYUN COTTLE	09/06/2017
ANDREW W. METZ	09/06/2017
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<b>State/Country:</b>	JAPAN
<b>Postal Code:</b>	107-6325
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15697168
<b>CORRESPONDENCE DATA</b>	
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<b>NAME OF SUBMITTER:</b>	JOSHUA D. MATHER
<b>SIGNATURE:</b>	/Joshua D. Mather/
<b>DATE SIGNED:</b>	05/31/2018
<b>Total Attachments: 2</b>	
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**DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR  
NONPROVISIONAL UTILITY OR DESIGN PATENT APPLICATION**

**Method of Quasi Atomic Layer Etching**

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

The attached application having a docket number and title identified above, or  
United States application number or PCT international application number  
\_\_\_\_\_ filed on \_\_\_\_\_

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention  
in the above-identified application.

I have reviewed and understand the contents of the above-identified application,  
including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all  
information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is  
punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or  
both.

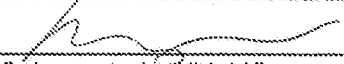
**Assignor(s):** The Assignor(s) is/are the undersigned inventor(s). The inventor(s) named below  
has/have made certain inventions, improvements, and/or discoveries (herein referred to as the  
"Invention") disclosed in the above-identified patent application.

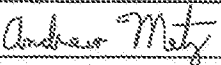
**Assignee:** The Assignee is Tokyo Electron Limited, a corporation of Japan having a place of  
business at Tokyo, Japan (herein referred to as the "ASSIGNEE"). The term "ASSIGNEE" used  
herein includes successors, legal representatives, and assigns of the ASSIGNEE. The  
ASSIGNEE desires to acquire the entire worldwide right, title, and interest in and to the  
Invention and in and to any and all patent applications and patents obtained from the Invention.

As an undersigned inventor, I hereby assign to the ASSIGNEE my entire worldwide right,  
title, and interest in and to the Invention, the above-identified United States patent application,  
and any and all other patent applications and patents for the Invention which may be applied for  
or granted therefrom in the United States and in all foreign countries and jurisdictions, including  
all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts,  
substitutes, and extensions thereof, and all rights of priority resulting from the filing of such  
applications and granting of such patents. In addition, I hereby authorize and request the  
Director of the United States Patent and Trademark Office to issue any United States Patent,  
granted for the invention, to the ASSIGNEE, and I authorize and request foreign patent  
authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE. The entire  
worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE,  
to the full end of the terms for which any and all such patents may be granted, as fully and

entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, for the ASSIGNEE, whenever requested by the ASSIGNEE.

As an undersigned inventor, I acknowledge prior and ongoing obligations to sell, assign, and/or transfer my rights in the Invention to the ASSIGNEE. I have not sold, assigned, or otherwise transferred my rights in the Invention to another, and I am under no obligation to sell, assign, or otherwise transfer my rights in the Invention to another. I also hereby grant the ASSIGNEE, the right to insert in this Declaration and Assignment any further identification (including, but not limited to, patent application number and filing date) which may be necessary or desirable for recording this Declaration and Assignment.

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