

PATENT ASSIGNMENT

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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>Ananth Indrakanti</td> <td>05/02/2013</td> </tr> <tr> <td>Bhaskar Nagabhirava</td> <td>05/02/2013</td> </tr> <tr> <td>Alan Jensen</td> <td>05/02/2013</td> </tr> <tr> <td>Tom Choi</td> <td>05/07/2013</td> </tr> </tbody> </table>		Name	Execution Date	Ananth Indrakanti	05/02/2013	Bhaskar Nagabhirava	05/02/2013	Alan Jensen	05/02/2013	Tom Choi	05/07/2013
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RECEIVING PARTY DATA											
Name:	Lam Research Corporation										
Street Address:	4650 Cushing Parkway										
City:	Fremont										
State/Country:	CALIFORNIA										
Postal Code:	94538										
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>13888901</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13888901						
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Application Number:	13888901										
CORRESPONDENCE DATA											
Fax Number:	7038362021										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
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Correspondent Name:	BUCHANAN, INGERSOLL & ROONEY PC										
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ATTORNEY DOCKET NUMBER:	1015292-000729										
NAME OF SUBMITTER:	Peter K. Skiff										
Signature:	/Peter K. Skiff/										

Date:

05/07/2013

Total Attachments: 2

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COMBINED DECLARATION AND ASSIGNMENT (JOINT)

As one of the below named inventors, I hereby declare that this Combined Declaration and Assignment is directed to:

- (1) U.S. application number or PCT application number _____ filed on _____, entitled _____; or
- (2) the attached application entitled PULSED DIELECTRIC ETCH PROCESS FOR IN-SITU METAL HARD MASK SHAPE CONTROL TO ENABLE VOID-FREE METALLIZATION.

DECLARATION

As one of the below named inventors, I further declare that:

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

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

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

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 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.

ASSIGNMENT

THIS ASSIGNMENT, by the undersigned inventors (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements set forth in an application for Letters Patent of the United States, which is a nonprovisional application;

WHEREAS, Lam Research Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having a principal place of business at 4650 Cushing Parkway, Fremont, CA 94538 (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

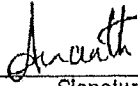

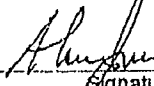
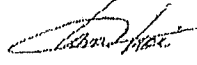
NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International

Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the 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, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, 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 Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns.

<u>May 2, 2013</u> Date	<u>Ananth Indrakanti</u> Name	<u></u> Signature
<u>05/02/13</u> Date	<u>Bhaskar Nagabhirava</u> Name	<u></u> Signature
<u>May 2, 2013</u> Date	<u>Alan Jensen</u> Name	<u></u> Signature
<u>5/7/2013</u> Date	<u>Tom Choi</u> Name	<u></u> Signature