

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

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>Deepak Kulkarni</td> <td>03/20/2013</td> </tr> <tr> <td>Michael W. Lane</td> <td>02/01/2013</td> </tr> <tr> <td>Satyanarayana V. Nitta</td> <td>01/21/2013</td> </tr> <tr> <td>Shom Ponoth</td> <td>10/12/2012</td> </tr> </tbody> </table>		Name	Execution Date	Deepak Kulkarni	03/20/2013	Michael W. Lane	02/01/2013	Satyanarayana V. Nitta	01/21/2013	Shom Ponoth	10/12/2012
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Deepak Kulkarni	03/20/2013										
Michael W. Lane	02/01/2013										
Satyanarayana V. Nitta	01/21/2013										
Shom Ponoth	10/12/2012										
RECEIVING PARTY DATA											
Name:	International Business Machines Corporation										
Street Address:	New Orchard Road										
City:	Armonk										
State/Country:	NEW YORK										
Postal Code:	10504										
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>13852296</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13852296						
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Application Number:	13852296										
CORRESPONDENCE DATA											
Fax Number:	8602860115										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
Phone:	860-286-2929										
Email:	usptopatentmail@cantorcolburn.com										
Correspondent Name:	CANTOR COLBURN LLP										
Address Line 1:	20 Church Street										
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Address Line 4:	Hartford, CONNECTICUT 06103										
ATTORNEY DOCKET NUMBER:	FIS920080213US3										
NAME OF SUBMITTER:	M. Brad Lawrence										
This document serves as an Oath/Declaration (37 CFR 1.63).											

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PATENT

Total Attachments: 9

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Doc code: Oath
Document Description: Oath or declaration filed

PTO/AIA/02 (06-12)
Approved for use through 01/31/2014 OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY
OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)**

Title of Invention	SEMICONDUCTOR CHIPS INCLUDING PASSIVATION LAYER TRENCH STRUCTURE		
This statement is directed to:			
<input checked="" type="checkbox"/> The attached application.			
OR			
<input type="checkbox"/> United States application or PCT international application number _____ filed on _____			
LEGAL NAME of inventor to whom this substitute statement applies:			
(E.g., Given Name (first and middle (if any)) and Family Name or Surname)			
Deepak Kulkarni			
Residence (except for a deceased or legally incapacitated inventor):			
City	State	Country	
Wappinger Falls	NY	US	
Mailing Address (except for a deceased or legally incapacitated inventor):			
19C Canterbury Lane			
City	State	Zip	Country
Wappinger Falls	NY	12590	US
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.			
The above-identified application was made or authorized to be made by me.			
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
Relationship to the inventor to whom this substitute statement applies.			
<input type="checkbox"/> Legal Representative (for deceased or legally incapacitated inventor only).			
<input checked="" type="checkbox"/> Assignee.			
<input type="checkbox"/> Person to whom the inventor is under an obligation to assign.			
<input type="checkbox"/> Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			
<input type="checkbox"/> Joint Inventor.			

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- Inventor is deceased,
 Inventor is under legal incapacity,
 Inventor cannot be found or reached after diligent effort, or
 Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b)

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: **Pryor A. Garnett, Senior Counsel, Reg. 32,136** 2013-03-20
Date (Optional):

Signature: 

Residence (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City **Portland** State **OR** Country **US**

Mailing Address (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

1385 NW Amberglen Parkway

City **Hillsboro** State **OR** Zip **97006** Country **US**

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

**DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING
AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT**

Title of Invention: **SEMICONDUCTOR CHIPS INCLUDING PASSIVATION LAYER TRENCH
STRUCTURE**

As a below named inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

United States application 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 application.

I have reviewed and understand the contents of the 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 CFR Section 1.56.

Whereas, the undersigned inventor(s) has/have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation, a corporation of New York having a place of business at Armonk, New York (herein referred to as "IBM"), desires to acquire, and each undersigned inventor desires to grant to IBM, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal representatives, and assigns, the 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 therefor 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, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to IBM, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by IBM, its successors, legal representatives, and assigns 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; and each undersigned inventor agrees 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, in IBM, its

successors, legal representatives, and assigns, whenever requested by IBM, its successors, legal representatives, or assigns.

Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

(1) Legal Name of Inventor: **DEEPAK KULKARNI**

Date: _____ Signature: _____

(2) Legal Name of Inventor: **MICHAEL W. LANE**

Signature: *Michael W. Lane* Date: 2/1/13

(3) Legal Name of Inventor: **SATYANARAYANA V. NITTA**

Date: _____ Signature: _____

(4) Legal Name of Inventor: **SHOM PONOTH**

Date: _____ Signature: _____

DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

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Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal representatives, and assigns, the 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 therefor 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, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to IBM, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by IBM, its successors, legal representatives, and assigns 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; and each undersigned inventor agrees 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, in IBM, its successors, legal representatives, and assigns, whenever requested by IBM, its successors, legal representatives, or assigns.

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(1) Legal Name of Inventor: DEEPAK KULKARNI

Signature: _____ Date: _____

(2) Legal Name of Inventor: MICHAEL W. LANE

Signature: _____ Date: _____

(3) Legal Name of Inventor: SATYANARAYANA V. NITTA

Signature:  _____ Date: 1/21/13

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Signature: _____ Date: _____

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(1) Legal Name of Inventor: **DEEPAK KULKARNI**

Signature: _____ Date: _____

(2) Legal Name of Inventor: **MICHAEL W. LANE**

Signature: _____ Date: _____

(3) Legal Name of Inventor: **SATYANARAYANA V. NITTA**

Signature: _____ Date: _____

(4) Legal Name of Inventor: **SHOM PONOTH**

Signature:  _____ Date: 10/12/12