PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
Ravi Nalla	10/10/2012	
Omar Bchir	10/22/2012	
Houssam Jomaa	10/22/2012	

RECEIVING PARTY DATA

Name:	Intel Corporation
Street Address:	2200 Mission College Blvd
City:	Santa Clara
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12059031

CORRESPONDENCE DATA

Fax Number: 6123393061

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 612-373-6900
Email: saustin@slwip-rc.com

Correspondent Name: Schwegman, Lundberg, & Woessner P.A.

Address Line 1: PO Box 2938

Address Line 4: Minneapolis, MINNESOTA 55402

ATTORNEY DOCKET NUMBER:	884.L10US1
NAME OF SUBMITTER:	Sally Austin

Total Attachments: 11

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PATENT REEL: 029393 FRAME: 0305 CH \$40,00

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RECORDATION FORM COVER SHEET PATENTS ONLY

Atty Ref/Docket No.: 884.L10US1 Patent and Trademark Office To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Name: Intel Corporation Ravi Nalla, Omar Bchir, Houssam Jomaa Street Address: 2200 Mission College Blvd. Additional name(s) of conveying party(ies) attached? City: Santa Clara State: CA Zip: 95054 Country: United States of America []Yes [X]No Additional name(s) & address(es) attached? []Yes [X]No 3. Nature of conveyance: [X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other Execution Date: October 10, 2012, October 22, 2012, October 22, $201\overline{2}$ 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) B. Patent No.(s) Serial No. 12/059,031, filed March 31, 2008 Additional numbers attached? []Yes [X]No 6. Total number of applications and patents involved: 1 5. Name and address of party to whom correspondence 7. Total fee (37 CFR 3.41):\$ 40.00 concerning document should be mailed: Name: David C. Peterson []Enclosed [X] Authorized to be charged to deposit account Address: 19-0743 Schwegman, Lundberg & Woessner, P.A. P.O. Box 2938 8. Please charge any additional fees or credit any over Minneapolis, MN 55402--0938 payments to our Deposit Account No.: 19-0743 DO NOT USE THIS SPACE Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. David C. Peterson/Reg. No. 47,857 Name of Person Signing Total number of pages including cover sheet: 11 Mail documents to be recorded with required cover sheet information to: Commissioner of Patents and Trademarks Mail Stop Assignment Recordation Services P.O. Box 1450

Alexandria, VA 22313-1450

ASSIGNMENT

WHEREAS, Ravi Nalla, Omar Bchir, Houssam Jomaa (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "Invention") which are described in a patent application filed on March 31, 2008, which application was assigned US patent application serial number 12/059,031, and which is titled MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS.

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency, and adequacy of which are hereby acknowledged by the Undersigned, the Undersigned do hereby irrevocably and unconditionally:

CONVEY, ASSIGN, AND TRANSFER to Intel Corporation (the "Assignee"), a corporation of the State of Delaware, having a place of business at 2200 Mission College Blvd., Santa Clara, CA 95054, the Undersigned's entire right, title, and interest for the United States and all foreign countries and jurisdictions in and to:

the Invention which is disclosed in the above-identified application or applications;

such application or applications, and all divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other applications for a patent or patents which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries and jurisdictions based in whole or in part on any of such Invention (including any application for a utility model or an innovation patent application);

all original and reissued patents which have been or shall be issued in the United States and all foreign countries and jurisdictions based in whole or in part on any of such Invention;

including the right to claim priority to the above-identified patent application or applications in relation to subject matter based in whole or in part on the above-identified patent application or applications and any of the foregoing including the right to file foreign applications under the provisions of any convention or treaty;

and including the right to all causes of action, remedies, and other enforcement rights related to the above-identified application or applications, including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to the above-identified patent application or applications and any of the foregoing, including the right to obtain and collect damages for past, present, or future infringement;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such Invention to the Assignee;

AUTHORIZE AND REQUEST that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 45457 may (directly or through his/her designee) delete, insert, or alter any information related to the above-identified patent application or applications or any of the foregoing, after execution of this Assignment;

Assignment Docket No: 884.L10US1
Assignors: Ravi Nalla et al. Client Ref. No. P26726

Title: MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS

Page 2 of 5

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or shall be made to others by the Undersigned, and that the full right to convey the same as herein expressed is possessed by the Undersigned;

COVENANT, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the Undersigned shall (1) execute all provisional, non-provisional, divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other patent applications for the Invention; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers for the Invention; (3) communicate to the Assignee all facts known to the Undersigned relating to the Invention and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for the Invention; and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to such Invention in the Assignee, or for securing, maintaining and enforcing proper patent protection for the Invention;

COVENANT, that should any provision of this agreement be held unenforceable by an authority of competent jurisdiction, such a ruling shall not affect the validity and enforceability of the remaining provisions. To the extent that any such provision is found to be unenforceable, the Undersigned, when requested and without compensation shall act in good faith to substitute for such provision a new provision with content and purpose as close as possible to the provision deemed unenforceable.

THIS AGREEMENT IS TO BE BINDING on the heirs, assigns, representatives, and successors of the Undersigned, and is to extend to the benefit of the successors, assigns, and nominees of the Assignee.

AGREED as of the date of my signature below:

Assignment Docket No: 884.L10US1 Assignors: Ravi Nalla et al.

Client Ref. No. P26726
Title: MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS Page 3 of 5

Assignor:

O.Pan Kivan

Name: Ravi Nalla

City/State: SAN JoS€, CA

Assignment Docket No: 884.L10US1
Assignors: Ravi Nalla et al. Client Ref. No. P26726
Title: MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS
Page 4 of 5

Assignor:

(Signature):

Name:

Omar Bchir

City/State:

Date:

Assignment Docket No: 884.L10US1
Assignors: Ravi Nalla et al. Client Ref. No. P26726
Title: MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS
Page 5 of 5

Assignor:		
(Signature):		
Name .	Havean Inner	
Name:	Houssam Jomaa	
	City/State:	
Date:		

ASSIGNMENT

WHEREAS, Ravi Nalla, Omar Bchir, Houssam Jomaa (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "invention") which are described in a patent application filed on March 31, 2008, which application was assigned US patent application serial number 12/059,031, and which is titled MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS.

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the invention which is disclosed in the above-identified application or applications;

such application or applications, and all divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other applications for a patent or patents which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries and jurisdictions based in whole or in part on any of such invention (including any application for a utility model or an innovation patent application);

all original and reissued patents which have been or shall be issued in the United States and all foreign countries and jurisdictions based in whole or in part on any of such Invention;

including the right to claim priority to the above-identified patent application or applications in relation to subject matter based in whole or in part on the above-identified patent application or applications and any of the foregoing including the right to file foreign applications under the provisions of any convention or treaty;

and including the right to all causes of action, remedies, and other enforcement rights related to the above-identified application or applications, including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to the above-identified patent application or applications and any of the foregoing, including the right to obtain and collect damages for past, present, or future infringement;

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AUTHORIZE AND REQUEST that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 45457 may (directly or through his/her designee) delete, insert, or after any information related to the above-identified patent application or applications or any of the foregoing, after execution of this Assignment;

Assignment Docket No. 884,1.10US 1
Assignors: Ravi Nalla et al. Client Ref. No. P26726

THE MECHANICAL ADHESION OF COPPER METALLIZATION TO DIFLECTRIC WITH PARTIALLY CURED EPOXY FILLERS

Page 2 of 5

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Assignors: Ravi Nalia et al.
Citent Ref. No. P26726
Title: MECHANICAL ADHESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS.
Page 3 of 5

Assignor:

(Signature):

Name: Ravi Nalla

City/State:

Date:_____

Assignment
Assignors: Ravi Nalla et al.
Client Ref. No. P26726
Title: MECHANICAL ADRESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FRILERS
Page 4 of 5

Assignor:

(Signature):

Name:

Omar 8chir

City/State: Jan Picqu

Date: 10/22/2013

Assignment

Assignment
Assignment Ravi Nalla et al

Client Ref. No. P26726
Title: MECHANICAL ADRESION OF COPPER METALLIZATION TO DIELECTRIC WITH PARTIALLY CURED EPOXY FILLERS
Page S of S

Assignor:

(Signature):

Name:

Houssam Jomaa

City/State: Saadagaa, Callifo

Date: 30/22/2012

PATENT REEL: 029393 FRAME: 0317

RECORDED: 12/03/2012