503159544 01/30/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3206158

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WENG HONG TEH	12/04/2012
CHIA-PIN CHIU	12/03/2012

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:	13707159			

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	884.M13US1
NAME OF SUBMITTER:	NANCY CUNDALL
SIGNATURE:	/Nancy Cundall/
DATE SIGNED:	01/30/2015

Total Attachments: 5

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PATENT 503159544 REEL: 034855 FRAME: 0167

RECORDATION FORM COVER SHEET PATENTS ONLY

Patent and Trademark Office Atty Ref/Docket No.: 884.M13US1

To the Director of the U.S. Patent and Trademark Office: Ple					
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):				
Weng Hong Teh, Chia-Pin Chiu	Name: Intel Corporation				
Additional name(s) of conveying party(ies) attached?	Street Address: 2200 Mission College Blvd.				
[]Yes [X]No	City: <u>Santa Clara</u> State: <u>CA</u> Zip: <u>95054</u> Country: <u>United States of America</u>				
3. Nature of conveyance:	Additional name(s) & address(es) attached? []Yes [X]No				
[X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other					
Execution Date: <u>December 4, 2012, December 3, 2012</u>					
4. Application number(s) or patent number(s):					
If this document is being filed together with a new application	on, the execution date of the application is:				
A. Patent Application No.(s)	B. Patent No.(s)				
Serial No. 13/707,159					
Additional numbers attached? []Yes [X]No					
5 37 1 11 0 0 1 1	6. Total number of applications and patents involved: 1				
5. Name and address of party to whom correspondence concerning document should be mailed:	7. Total fee (37 CFR 3.41):\$ <u>0.00</u>				
Name: Rigel J. Menard	[[Enclosed				
Address: Schwegman Lundberg & Woessner, P.A.	Authorized to be charged to deposit account 504238				
P.O. Box 2938 Minneapolis, MN 554020938	8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 504238				
DO NOT US	E THIS SPACE				
9. Statement and signature. To the best of my knowledge and belief, the foregoing inform of the original document.	nation is true and correct and any attached copy is a true copy				
Rigel J. Menard/Reg. No. 66,520	/Rigel J Menard/ 01/27/2015				
Name of Person Signing	Signature Date				
То	tal number of pages including cover sheet: 5				
Mail documents to be recorded with required cover sheet info	ormation to:				

Commissioner of Patents and Trademarks Mail Stop Assignment Recordation Services P.O. Box 1450

Alexandria, VA 22313-1450

PATENT REEL: 034855 FRAME: 0168

Attorney Docket No. 884/M13US1 Client Ref. No. P49052

ASSIGNMENT

WHEREAS, Weng Hong Teh and Chia-Pin Chiu (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 $\underline{December~6,2012}$ which application was assigned US patent application serial number $\underline{13/707,159}$, and which is titled HIGH DENSITY SUBSTRATE ROUTING IN BBUL PACKAGE.

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;

PATENT REEL: 034855 FRAME: 0169 Assignment
Assignment Weng Hong Teh et al.
Tale: HIGH DENSITY SUBSTRATE ROUTING IN BBUL PACKAGE

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:

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> PATENT REEL: 034855 FRAME: 0170

Assignment Assignors: Wong Title: HIGH DEN Fage 3 of 4	Hosg Ten et al. SITY SUBSTRATE ROUTING IN BBUL PACKAG	Docket No: 884 M13US1 Client Perf. No. P490S1 E
Assignor:		
(Signature):		
	Name: Weng Hong Teh	
	City/State: Phoenix, AZ	
Date: 12 4	1/12	

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Assignment Wong Hong Thin of it.
This: MIGH OFNSTEY SHOTTER ROLTING IN BOLD, PACE AGAI

Page 4 of 4

Dwcket No: \$84 MT3U31 Client Per, No. P49050.

Assignor:

Name: Chia-Pin Chiu

City/State: Tempe, AZ

Date: 12-3-2072....

PATENT REEL: 034855 FRAME: 0172

RECORDED: 01/30/2015