PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3728917

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JOHN LEIDEL	05/13/2015
RICHARD C MURPHY	05/28/2015

RECEIVING PARTY DATA

Name:	MICRON TECHNOLOGY, INC.	
Street Address:	8000 SO. FEDERAL WAY	
City:	BOISE	
State/Country:	IDAHO	
Postal Code:	83716-9632	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14706516

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ATTORNEY DOCKET NUMBER: 303.F18US1	
NAME OF SUBMITTER:	JULIE A. NELSON
SIGNATURE:	/ Julie A. Nelson /
DATE SIGNED:	02/05/2016

Total Attachments: 5

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PATENT REEL: 037674 FRAME: 0965

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RECORDATION FORM COVER SHEET PATENTS ONLY

Atty Ref/Docket No.: 303.F18US1 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: Micron Technology, Inc. John Leidel, Richard C Murphy Street Address: 8000 So. Federal Way Additional name(s) of conveying party(ies) attached? City: Boise State: ID Zip: 83716-9632 Country: United States of America []Yes [X]No 3. Nature of conveyance: Additional name(s) & address(es) attached? []Yes [X]No [X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other Execution Date: May 13, 2015, May 28, 2015 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. 14/706,516 Additional numbers attached? []Yes [X]No 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):\$ 0.00 Name: Paul J. Urbanski []Enclosed []Authorized to be charged to deposit account 19-Address: 0743 Schwegman Lundberg & Woessner, P.A. P.O. Box 2938 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 9. 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. Paul J. Urbanski/Reg. No. 58,351 Name of Person Signing Date Total number of pages including cover sheet: 5

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, John Leidel and Richard C Murphy (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 May 7, 2015, which application was assigned US patent application serial number 14/706,516, and which is titled HYBRID MEMORY CUBE SYSTEM INTERCONNECT DIRECTORY-BASED CACHE COHERENCE METHODOLOGY; which are described in a patent application filed on May 8, 2014, which application was assigned US application serial number 61/990,207, and which is titled HYBRID MEMORY CUBE SYSTEM INTERCONNECT DIRECTORY-BASED CACHE COHERENCE METHODOLOGY.

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 Micron Technology, Inc. (the "Assignee"), a corporation of the State of Delaware, having a place of business at 8000 So. Federal Way, Boise, ID 83716-9632, 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;

PATENT REEL: 037674 FRAME: 0967 AssignmentDocket No: 303.F18US1Assignors: John Leidel et al.Client Ref. No. 2014-0115.00/US

Title: HYBRID MEMORY CUBE SYSTEM INTERCONNECT DIRECTORY-BASED CACHE COHERENCE METHODOLOGY

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AUTHORIZE AND REQUEST that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 73115 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;

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:

Assignor:		
(Signature):		
	Name: John Leidel	
	City/State: McKinney, TX	
Date;	5/13/15	
STATE OF	<u>levas</u>	
)ss	

On this 13th day of 100 , 2015 before me personally appeared John Leidel, to me known and known to me to be the person described in and who executed the foregoing instrument, and he/she duly acknowledged to me that he/she executed the same for the uses and purposes therein set forth.

[SEAL]

CHRISTIE PARIS Commission Expires June 21, 2017

Notary Public

Assignor:	
(Signature):	Q C. Vugly
	Name: Richard C Murphy
	City/State: Boise, ID
Date:	5/28/205
STATE OF Tolako	
COUNTY OF	Ada)

On this _______, day of _______, 2015_ before me personally appeared <u>Richard C</u> <u>Murphy</u>, to me known and known to me to be the person described in and who executed the foregoing instrument, and he/she duly acknowledged to me that he/she executed the same for the uses and purposes therein set forth.



RECORDED: 02/05/2016

Notary Public 49 2/20/2018