## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4885080

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
KISHORE KUMAR MUCHHERLA	03/15/2018
PETER SEAN FEELEY	03/06/2018
ASHUTOSH MALSHE	03/15/2018
SAMPATH RATNAM	03/16/2018
HARISH SINGIDI	03/15/2018
VAMSI PAVAN RAYAPROLU	03/15/2018

## **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:	15924951	

## **CORRESPONDENCE DATA**

**Fax Number:** (612)339-3061

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** 612-373-6900

Email: request@slwip.com

Correspondent Name: SCHWEGMAN LUNDBERG & WOESSNER, P.A.

Address Line 1: P.O. BOX 2938

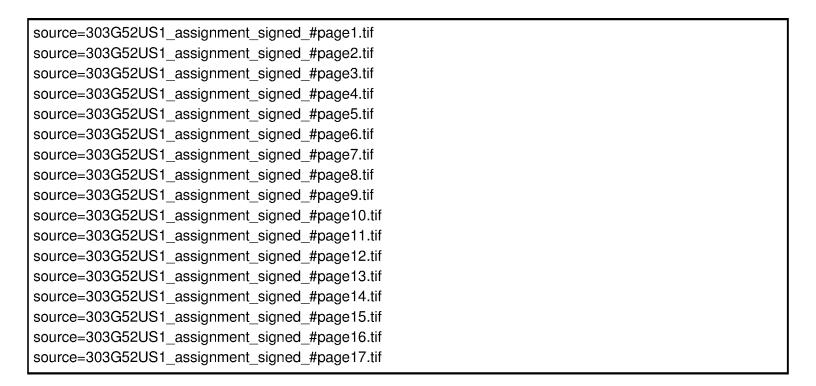
Address Line 4: MINNEAPOLIS, MINNESOTA 55402-0938

ATTORNEY DOCKET NUMBER:	303.G52US1
NAME OF SUBMITTER:	JULIE A. NELSON
SIGNATURE:	/ Julie A. Nelson /
DATE SIGNED:	03/27/2018

**Total Attachments: 17** 

PATENT REEL: 045359 FRAME: 0912

504838343



# RECORDATION FORM COVER SHEET PATENTS ONLY

Atty Ref/Docket No.: 303.G52US1 Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Please re	cord the attached original documents or copy thereof.
Name of conveying party(ies):	2. Name and address of receiving party(ies):
Kishore Kumar Muchherla, Peter Sean Feeley, Ashutosh	Name: Micron Technology, Inc.
Malshe, Sampath Ratnam, Harish Singidi, Vamsi Pavan Rayaprolu	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	Additional name(s) & address(es) attached? [ ]Yes [X]No
3. Nature of conveyance:	
[X] Assignment [ ] Merger [ ] Security Agreement [ ] Change of Name [ ] Other	
Execution Date: March 15, 2018, March 6, 2018, March 15, 2018, March 16, 2018, March 15, 2018, March 15, 2018	
4. Application number(s) or patent number(s):	
If this document is being filed together with a new application, the e	execution date of the application is:
A. Patent Application No.(s)  B. Patent No.(s)	
Serial No. 15/924,951	
Additional numbers attached? [ ]Yes [X]No	
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved: <u>1</u>
concerning document should be mailed:	7. Total fee (37 CFR 3.41):\$ <u>0.00</u>
Name: <u>David R. Cochran</u>	[]Enclosed
Address: Schwegman Lundberg & Woessner, P.A.	[]Authorized to be charged to deposit account 19-0743
P.O. Box 2938 Minneapolis, Minnesota 554020938	8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 19-0743
DO NOT USE TI	HIS SPACE
9. Statement and signature. To the best of my knowledge and belief, the foregoing information the original document.  David R. Cochran/Reg. No. 46,632  Name of Person Signing	26 March 2018 Signature  Date
Total n	umber of pages including cover sheet: 17

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, Kishore Kumar Muchherla, Peter Sean Feeley, Ashutosh Malshe, Sampath Ratnam, Harish Singidi and Vamsi Pavan Rayaprolu (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "Invention"); as described in the patent application filed on  $\underline{March\ 19,2018}$ , assigned US application serial number 15/924,951, and titled TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES.

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;

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:

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:			
(Signature):	Kulin	Vunu m	
	Name: <u>Kishore Kum</u>	ır Muchherla	
	City/State: Fremont,	<u>CA</u>	
Date:	03/15/20	118	

On this 15, day of 10, 2018 before me, proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted,

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

SUZANNE A. RICHUGH COMM. 82145433 Potesty Public - Celifornia Sente Clera County My Comm. Expres Star. 27, 2000

executed the instrument.

**Notary Public** 

Assignment
Assigners: Kishore Kumar Muchberla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES

Docket No. 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:	
(Signature):	
	Name: <u>Peter Sean Feeley</u> City/State: <u>Boise, ID</u>
Date:	
STATE OF	<u> </u>
	)ss*
COUNTY OF	
<u>Feeley,</u> to me kr	day of, 20 before me personally appeared <u>Peter Sean</u> lown and known to me to be the person described in and who executed the foregoing he/she duly acknowledged to me that he/she executed the same for the uses and a set forth.
[SEAL]	Notary Public

Assignment
Assignors: Kishore Kumar Muchherla et al.

Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES Page 5 of 8

Docket No: 303,G52US1 Client Ref. No. 2017-0821.00/US

Assignor:
(Signature):

Name: Ashutosh Malshe

City/State: Fremont, CA

STATE OF STA

Date:

COUNTY OF SOLES SECTION

On this 15, day of 1000, 2018 before me, personally appeared 1000, 1000, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

SUZANNE A. BICHUGH COMM. \$2145433 Notery Public - Celifornia Sente Clera County My Comm. Expires Mar. 27, 2020 **Notary Public** 

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:	
(Signature):	Land L
	Name: Sampath Ratnam
	City/State: Boise, ID
Date:	03/16/48
STATE OF	
COUNTY OF	)55 <u>La-</u>
Ratnam, to me	day of Merica 20 P before me personally appeared <u>Sampath</u> known and known to me to be the person described in and who executed the foregoing I he/she duly acknowledged to me that he/she executed the same for the uses and n set forth.
FEL SOTA COTA COTA COTA	. joj Kon postan Explant OS/+419

Assignment

Assignors: Kishore Kumar Muchherla et al.

Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES

Page 7 of 8

Assignor:

(Signature):

S. Harish Reddy

Name: Harish Singidi

City/State: Fremont, CA

Date:

03/15/2018

STATE OF CAL Rule

COUNTY OF DONA COM

್ತ್ರ On this

15 day of 124

2018 before me,

Docket No: 303.G52US1

Client Ref. No. 2017-0821.00/US

personally appeared <u>hongs</u> who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the

within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted,

executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

Jon Amak

**Notary Public** 

SUZANNE A, Stoniurovi COMM. 82145433 Notary Public - Celifornia Santa Clara County sty Comm. Express Nar. 27, 3020

SUZANNE A. SICHUGH COMM 82145433 Notary Public - California Santa Clara County y Comm. Expires Star. 27, 2020 Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:	
(Signature):	Ribers
	Name: <u>Vamsi Pavan Rayaprolu</u>
	City/State: San Jose, CA
Date:	03/15/2018
STATE O(	LEELT-
COUNTY OF	August Clare
Soladu	this
	ent and acknowledged to me that he executed the same in his authorized capacity, and
that by his sign	ature on the instrument the person, or the entity upon behalf of which the person acted,
executed the in	strument.
I certify paragraph is tru	under PENALTY OF PERJURY under the laws of the State of California that the foregoing se and correct.
WITNE	SS my hand and official seal.
[SEAL]	Dyan A make

PATENT

REEL: 045359 FRAME: 0922

Notary Public

#### ASSIGNMENT

WHEREAS, Kishore Kumar Muchherla, Peter Sean Feeley, Ashutosh Malshe, Sampath Ratnam, Harish Singidi and Vamsi Pavan Rayaprolu (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "Invention"); as described in the patent application filed on <a href="March 19, 2018"><u>March 19, 2018</u></a>, assigned US application serial number <a href="15/924,951">15/924,951</a>, and titled TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES.

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;

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;

Assignment

Assignors: Kishore Kumar Muchherla et al.

Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES

Page 2 of 8

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

\_\_\_\_\_\_

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
Assignors: Kishore Kumar Muchherla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES
Page 3 of 8

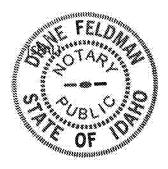
Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:						
(Signature):						
	Name: <u>Kishore Kuma</u>	ır Muchherla	_			
	City/State: Fremont,	<u>CA</u>				
Date:						
STATE OF	)					
COUNTY OF _		)				
On	this,		, ared	2018	before	me, who
	on the basis of satisfac					
within instrum	nent and acknowledged	to me that he exe	ecuted the same in his	s authoriz	ed capacit	y, and
that by his sigr	nature on the instrumen	it the person, or th	e entity upon behalf c	of which t	he person	acted,
executed the i	nstrument.					
	fy under PENALTY OF PE rue and correct.	RJURY under the l	aws of the State of Ca	lifornia th	nat the fore	egoing
WITNE	ESS my hand and official	seal.				
[SEAL]						
			Notary Public			

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:	
(Signature):	GAZZZZ
	Name: Peter Sean Feeley
	City/State: Boise, ID
Date:	3/6/18
STATE OF	<u>u.4.</u>
	)ss
COUNTY OF	<u>l.l.a.</u>

On this \_\_\_\_\_\_\_ day of \_\_\_\_\_\_\_\_, 20 //\_\_\_\_\_\_\_ before me personally appeared <u>Peter Sean</u> <u>Feeley</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.



Ocon File Expire 1: 05/02/19
Notary Public

Assignment
Assignors: Kishore Kumar Muchherla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES
Page 5 of 8

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:				
(Signature):				
	Name: <u>Ashutosh Malshe</u>			
	City/State: Fremont, CA			
Date:				
STATE OF	)			
COUNTY OF	)			
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that by his signa	ature on the instrument the I	person, or the entity upon behalf	of which the person act	æd,
executed the in	strument.			
l certify paragraph is tru		under the laws of the State of Ca	alifornia that the forego	ing
WITNES	SS my hand and official seal.			
[SEAL]	_			
		Notary Public		

Assignment
Assignors: Kishore Kumar Muchherla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES
Page 6 of 8

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:		
(Signature):		
	Name: Sampath Ratnam  City/State: Boise, ID	
Date:		
STATE OF	)	
	)ss	
COUNTY OF	)	
<u>Ratnam,</u> to me k	day of, 20 before me personally appeared known and known to me to be the person described in and who executed the d he/she duly acknowledged to me that he/she executed the same for the us in set forth.	ne foregoing
[SEAL]	Notary Public	

Assignment
Assignors: Kishore Kumar Muchherla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES
Page 7 of 8

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:							
(Signature):							
	Name: <u>Harish Singidi</u>	_					
	City/State: Fremont, CA	Ŀ					
Date:							
STATE OF	)						
COUNTY OF		)					
	this,	,			2018	before	me, who
	on the basis of satisfactor						
within instrum	ent and acknowledged to	me that	he executed	the same in his	authoriz	zed capacit	y, and
that by his sign	ature on the instrument t	he person	, or the enti	ty upon behalf c	of which t	he person	acted,
executed the ir	nstrument.						
	y under PENALTY OF PERJ ue and correct.	URY unde	r the laws of	f the State of Ca	lifornia th	nat the fore	egoing
WITNE	SS my hand and official se	al.					
[SEAL]							
				Notary Public			

Assignment
Assignors: Kishore Kumar Muchherla et al.
Title: TRACKING DATA TEMPERATURES OF LOGICAL BLOCK ADDRESSES
Page 8 of 8

Docket No: 303.G52US1 Client Ref. No. 2017-0821.00/US

Assignor:						
(Signature):						
	Name: Vamsi Pavan Ra City/State: San Jose, CA					
Date:						
STATE OF	)					
COUNTY OF		)				
	this,					me, who
	on the basis of satisfacto					to the
within instrume	ent and acknowledged to	o me that he executed	the same in his	authoriz	ed capacity	y, and
that by his signa	ature on the instrument	the person, or the enti	ty upon behalf o	f which tl	ne person a	acted,
executed the in	strument.					
l certify paragraph is tru	/ under PENALTY OF PERJue and correct.	JURY under the laws o	f the State of Cal	ifornia th	at the fore	going
WITNES	SS my hand and official se	eal.				
[SEAL]						
			Notary Public			