PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5037028

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DANDAN ZHAO	04/03/2018
REIKA ICHIHARA	05/18/2018
HARUKA SAKUMA	05/10/2018
YUUICHIRO MITANI	04/03/2018

RECEIVING PARTY DATA

Name:	TOSHIBA MEMORY CORPORATION
Street Address:	1-1, SHIBAURA 1-CHOME
City:	MINATO-KU, TOKYO
State/Country:	JAPAN
Postal Code:	105-0023

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15912664

CORRESPONDENCE DATA

Fax Number: (703)413-2220

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: (703) 413-3000
Email: JYKim@oblon.com
Correspondent Name: OBLON, ET AL.
Address Line 1: 1940 DUKE STREET

Address Line 4: ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	511890US
NAME OF SUBMITTER:	JUNG-YON KIM
SIGNATURE:	/Jung-Yon Kim/
DATE SIGNED:	07/05/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

source=511890US_Assignment#page1.tif

PATENT REEL: 046270 FRAME: 0711

504990281

source=511890US_Assignment#page2.tif source=511890US_Assignment#page3.tif source=511890US_Assignment#page4.tif

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of MEMORY ELEMENT
Invention
As the below named inventor, I hereby declare that:
This declaration [] The attached application, or
is directed to: United States application or PCT international application number 15/912,664 filed on March 6, 2018
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.
WHEREAS. Toshiba Memory Comporation
(hereinafter referred to as "ASSIGNEE") having places of business at: 1-1 , Shibaura 1-chome, Minato-ku, Tokyo 105-0023, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;
NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.
I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.
Purther, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.
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.
LEGAL NAME OF INVENTOR
Inventor: Dandan ZHAO Date: Apr 3 2019
Signature: Dandan There

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of

Title of Invention	MEMORY ELEMENT	
As the below was		
	ed inventor, I hereby declare that:	
•	The attached application, or	
ł.	United States application or PCT international application filed on March 6, 2018	
The above-identified	ed application was made or authorized to be made by me	3.
I believe that I am th	the original inventor or an original joint inventor of a cla	imed invention in the application
WILKEAS. Tosh	hiha Memory Composition	
105-0023, Japan is Letters Patent that n foreign countries;	d to as "ASSIGNEE") having places of business at: 1 s desirous of acquiring the entire right, title and interest may be granted therefore in the United States and its	-1, Shibaura 1-chome, Minato-ku, Tokyo in and to said invention and in and to any territorial possessions and in any and all
said ASSIGNEE, the and in all foreign con other relevant Interna- interest in and to an possessions and in a substitutions and rene	•	presents do sell, assign and transfer unto nited States and its territorial possessions terms of the International Convention and application) and the entire right, title and or in the United States and its territorial and all divisions, reissues, continuations,
assignee of my entire (his) successors and a entirely as the same w	we and request the Patent Office Officials in the United countries to issue any and all of said Letters Patent, we right, title and interest in and to the same, for the sole assigns, to the full end of the term for which said Let would have been held by me had this Assignment and so	when granted, to said ASSIGNEE as the e use and behoof of said ASSIGNEE, its ters Patent may be granted, as fully and ale not been made.
Further, I agree the respecting said inverse continuation, substituted all of said Letters Papersible to aid said Agreement in the Uniter	hat I will communicate to said ASSIGNEE or its (his) action, and testify in any legal proceeding, sign all ute, renewal and reissue applications, execute all necess atent to be issued to said ASSIGNEE, make all right ASSIGNEE, its (his) successors and assigns, to obtained States and its territorial possessions and in any and all	representatives any facts known to me lawful papers, execute all divisional, sary assignment papers to cause any and tful oaths, and, generally do everything and enforce proper protection for said of the foreign countries.
I hereby acknowled	edge that any willful false statement made in this declara ent of not more than five (5) years, or both.	ation is punishable under 18 U.S.C. 1001
EGAL NAME OF IN		
nventor: Reika ICH	IIIIARA D	ate: May 18, 2018
Signature: Roi	ika Idukara	11.00y - 0 / 20 (0

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of	MEMORY ELEMENT
As the below named	inventor, I hereby declare that:
This declaration	The attached application, or
	United States application or PCT international application number
The above-identified	application was made or authorized to be made by me.
I believe that I am the	e original inventor or an original joint inventor of a claimed invention in the application.
(hereinafter referred 105-0023, Japan, is	iba Memory Corporation to as "ASSIGNEE") having places of business at: 1-1, Shibaura 1-chome, Minato-ku, Tokyo desirous of acquiring the entire right, title and interest in and to said invention and in and to any nay be granted therefore in the United States and its territorial possessions and in any and all
acknowledged, and f said ASSIGNEE, the and in all foreign con other relevant Interna- interest in and to an	ORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto a full and exclusive right to the said invention in the United States and its territorial possessions antries (including the right to claim priority under the terms of the International Convention and ational Treaties and Arrangements from the aforesaid application) and the entire right, title and y and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, ewals thereof.
any and all foreign of assignee of my entire (his) successors and	e and request the Patent Office Officials in the United States and its territorial possessions and countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the e right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its assigns, to the full end of the term for which said Letters Patent may be granted, as fully and would have been held by me had this Assignment and sale not been made.
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.	
	edge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 tent of not more than five (5) years, or both.
LEGAL NAME OF	
Inventor: Haruka S	
Signature: Na	ruka Sakuma

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Invention	MEMOK A BURMENT
As the below name	d inventor, I hereby declare that:
This declaration [The attached application, or
is directed to:	United States application or PCT international application number 15/912,664 filed on March 6, 2018
The above-identifie	d application was made or authorized to be made by me.
I believe that I am ti	he original inventor or an original joint inventor of a claimed invention in the application.
WHEREAS, Tosh	niba Memory Corporation
*A^_AA^A	i to as "ASSIGNEE") having places of business at: 1-1. Shibaura 1-chome. Minato-ku. Tokyo desirous of acquiring the entire right, title and interest in and to said invention and in and to any may be granted therefore in the United States and its territorial possessions and in any and all
said ASSIGNEE, the and in all foreign co- other relevant Intern- interest in and to an	ORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto e full and exclusive right to the said invention in the United States and its territorial possessions untries (including the right to claim priority under the terms of the International Convention and national Treaties and Arrangements from the aforesaid application) and the entire right, title and my and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, newals thereof.
assignce of my entir (his) successors and	se and request the Patent Office Officials in the United States and its territorial possessions and countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the e right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its assigns, to the full end of the term for which said Letters Patent may be granted, as fully and would have been held by me had this Assignment and sale not been made.
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.	
I hereby acknowle by fine or imprisonm	edge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ent of not more than five (5) years, or both.
LEGAL NAME OF	INVENTOR
Inventor: Yuuichire	Date
Signature:	vichiro mitani

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

PATENT REEL: 046270 FRAME: 0716

RECORDED: 07/05/2018