503861296 06/08/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3907945

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| KENICHIROU KADA | 04/26/2016 |
| SHINYA TAKEDA | 04/26/2016 |
| TOSHIHIKO KITAZUME | 04/26/2016 |
| MIKIO TAKASUGI | 05/11/2016 |
| NOBUHIRO TSUJI | 04/27/2016 |
| SHUNSUKE KODERA | 04/27/2016 |
| TETSUYA IWATA | 04/28/2016 |
| YOSHIO FURUYAMA | 05/09/2016 |
| HIROSUKE NARAI | 04/27/2016 |

RECEIVING PARTY DATA

| Name: | me: KABUSHIKI KAISHA TOSHIBA | |
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| City: | TOKYO | |
| State/Country: | JAPAN | |
| Postal Code: | 105-8001 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number | | |
|---------------------|----------|--|--|
| Application Number: | 15062018 | | |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | TAI/1280US |
|-------------------------|------------------|
| NAME OF SUBMITTER: | FREDERICK D. KIM |

PATENT REEL: 038842 FRAME: 0232 503861296

| SIGNATURE: /Frederick D. Kim/ | |
|-------------------------------|--|
| DATE SIGNED: | 06/08/2016 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

Total Attachments: 3

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PATENT REEL: 038842 FRAME: 0233

AMG097705USAAS (TAI/1280US)

ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

WHEREAS:

Names and Addresses of Inventors:

| 1) | Kenichirou KADA Yokohama Kanagawa Japan | 2) | Shinya TAKEDA Yokohama Kanagawa Japan |
|-----|---|----|--|
| 3) | Toshihiko KITAZUME Kawasaki Kanagawa Japan | 4) | Mikio TAKASUGI Kawasaki Kanagawa Japan |
| (5) | Nobuhiro TSUJI Yokohama Kanagawa Japan | 6) | Shunsuke KODERA Yokohama Kanagawa Japan |
| 7) | Tetsuya IWATA Yokohama Kanagawa Japan | 8) | Yoshio FURUYAMA Yokosuka Kanagawa Japan |
| 9) | Hirosuke NARAI Yokosuka Kanagawa Japan | | |

(hereinafter referred to as Assignors), have invented a certain invention entitled:

MEMORY SYSTEM INCLUDING TEST CIRCUIT

enclosed herewith or for which application for Letters Patent in the United States was filed on Mar/04/2016 under Serial No. 15/062.018; and

WHEREAS, Kabushiki Kaisha Toshiba, a Japanese corporation, having a business address at 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan , a Japanese corporation, having a business address at (hereinafter referred to as Assignes), are desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

 Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for

> PATENT REEL: 038842 FRAME: 0234

the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.

- Said Assignors hereby coverant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filling and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filling and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.
- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered above at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of Patterson & Sheridan, LLP, to insert above the filing date and/or Application No. of said application.
 - This declaration is directed to the above-identified application.

As a below named inventor, I hereby declare that:

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; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

| 1) | Apr. 26, 2016 (DATE) | Kenichirou Kada |
|-----|----------------------|--------------------|
| • | 30000 | Kenichirou KADA |
| 2) | Apr. 26.20(6 (DATE) | Shinga Takeda |
| | | Shinya TAKEDA |
| 3) | Apr. 76, 20/6 (DATE) | Toshihiko Kitazume |
| - 1 | | Toshihiko KITAZUME |

2426274

4) May, 11, 2016 (DATE) White Takasusi

5) Apr. 27, 2016 (DATE) Mobulato Faugi
Nobulato TSUJI

6) Apr. 27, 2016 (DATE) Shunsuke Kodora
Shunsuke KODERA

7) Apr. 28, 2016 (DATE) Tetsuya IVATA

8) Apr. 27, 2016 (DATE) Shiro Fun fa M9
Yoshio FURUYAMA

9) Apr. 27, 2016 (DATE) Hirosuke NARAI

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RECORDED: 06/08/2016

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