

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>SEQUENCE:</b>	3
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TAKUMI ABE	10/31/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	KABUSHIKI KAISHA TOSHIBA
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<b>City:</b>	TOKYO
<b>State/Country:</b>	JAPAN
<b>Postal Code:</b>	105-8001
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15253740
<b>CORRESPONDENCE DATA</b>	
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<b>NAME OF SUBMITTER:</b>	FREDERICK D. KIM
<b>SIGNATURE:</b>	/Frederick D. Kim/
<b>DATE SIGNED:</b>	11/11/2016
<b>Total Attachments: 4</b>	
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## ASSIGNMENT

WHEREAS, the undersigned inventor(s) (hereinafter referred to as "INVENTOR(S)") desire(s) to transfer to Toshiba America Electronic Components, Inc. (hereinafter referred to as "TAEC"), organized and existing under the laws of the United States, having a place for the transaction of business at 9740 Irvine Boulevard, Suite D700, Irvine, CA 92618, all right, title and interest in and to the inventions disclosed in the following Invention Disclosure Form(s):

- "STORAGE SYSTEM THAT RELIABLY STORES LOWER PAGE DATA", submitted by Daisuke Hashimoto and Takumi Abe, on \_\_\_\_\_;

And such inventions which if now or hereafter are disclosed in the patent application(s):

- (a)  U.S. patent application executed on \_\_\_\_\_,
- (b)  U.S. application no. 15/253,740 filed on August 31, 2016,
- (c)  International (e.g., PCT, JP) application no. \_\_\_\_\_ filed on \_\_\_\_\_,

(collectively, the "INVENTIONS");

WHEREAS, TAEC desires to acquire all of the right, title and interest of INVENTOR(S) in, to and under the INVENTIONS and TAEC further desires to transfer all such right, title and interest to Kabushiki Kaisha Toshiba (hereinafter referred to as "TOSHIBA") a corporation duly organized and existing under the laws of Japan, with offices at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, INVENTOR(S) hereby sell(s), assign(s) and transfer(s) to TAEC the entire right, title and interest for the United States and its territorial possessions, and in all foreign countries, in and to the INVENTIONS and any and all improvements thereon which are the subject of the INVENTIONS, and in and to any U.S. or foreign patent application for such INVENTIONS and improvements and any legal equivalent thereof in a foreign country, including the right to claim priority, and in and to any division, continuation or continuation-in-part, renewal or substitute thereof, and in and to all resulting Letters Patents or any reissue, reexamination certificate, supplemental examination certificate, post grant review certificate, inter partes review certificate, or otherwise, thereof, to have and to hold the same to the full end of the term or terms for which any and all of said Letters Patent may be granted (collectively, the "ASSIGNED INVENTIONS");

And for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, TAEC hereby sells, assigns and transfers to TOSHIBA the entire right, title and interest to the ASSIGNED INVENTIONS;

INVENTOR(S) and TAEC authorize and request the issuing authority to issue any and all patents on said application or applications to TOSHIBA or its successors and assigns;

INVENTOR(S) and TAEC hereby covenant that INVENTOR(S) and TAEC, respectively, has/have the full power to make this assignment, and that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment; and

Without further payment or compensation by TAEC, TOSHIBA or their successors and assigns, INVENTOR(S) further covenant(s) and agree(s) to communicate to TAEC, TOSHIBA, their representatives, agents, their successors or their assigns, or to subsequent assignees of the ASSIGNED INVENTIONS, any facts relating to the ASSIGNED INVENTIONS including evidence for purposes of interference or derivation proceedings or other administrative or legal proceedings whenever requested;



**ASSIGNMENT FOR APPLICATION FOR PATENT  
WITH DECLARATION STATEMENT**

WHEREAS:

Names and Addresses of Inventors:

1)	Takumi ABE Kanagawa Yokohama, Japan	2)	
3)		4)	

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

**STORAGE SYSTEM THAT RELIABLY STORES LOWER PAGE DATA**

enclosed herewith or for which application for Letters Patent in the United States was filed on August 31, 2016 under Serial No. 15/253,740; and

WHEREAS, Kabushiki Kaisha Toshiba, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan, is 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 Assignees:

1. 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 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.

2. Said Assignors hereby covenant and agree to cooperate with said Assignees to enable said Assignees 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 Assignees (a) for perfecting in said Assignees the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing 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

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cooperation shall be paid for by said Assignees.

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.

4. 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.

6. 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 Assignees on the dates indicated below.

1) 10/31/2016 (DATE) Takumi Abe  
Takumi ABE