

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KABUSHIKI KAISHA TOSHIBA	09/05/2017
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<b>PROPERTY NUMBERS Total: 9</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14202802
Application Number:	14807267
Application Number:	14203249
Application Number:	14203422
Application Number:	14203400
Application Number:	15257112
Application Number:	15262821
Application Number:	14656410
Application Number:	15268497
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<b>DATE SIGNED:</b>	09/12/2017
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**Total Attachments: 3**

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## ASSIGNMENT

KABUSHIKI KAISHA TOSHIBA, (referred to hereinafter as the "Assignor"), a Corporation organized under the laws of Japan and having a place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo, JAPAN, is a partial owner of the right, title and interest in and to the U.S. Patent Applications listed on the attached list (Appendix A) and the inventions described and claimed therein.

TOSHIBA MEMORY CORPORATION (referred to hereinafter as the "Assignee"), a corporation organized under the laws of Japan and having a place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-0023 JAPAN is desirous of acquiring the entirety of said Assignor's right, title and interest in and to said U.S. Patent Applications listed on attached list (Appendix A) and the inventions described and claimed therein.

For good and valuable consideration, the receipt of which is hereby acknowledged, said owner hereby sells, assigns, transfers and sets over to said Assignee, its successors, assigns or other legal representatives, its entire right, title and interest in and to said U.S. Patent Applications listed on attached list (Appendix A) and the inventions described and claimed therein, including all reissues and reexaminations, together with all claims for damages by reason of past infringement of said U.S. Patent Applications, with the right to sue for and collect same for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives.

SK HYNIX, INC., a corporation organized under the laws of the Republic of Korea and having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do KOREA, will remain a partial owner of the right, title and interest in and to said U.S. Patent Applications listed on attached list (Appendix A) and the inventions described and claimed therein.

IN WITNESS WHEREOF Assignor has caused the signature of its proper officer  
to be subscribed hereto this 5 day of September 2017.

KABUSHIKI KAISHA TOSHIBA

By: Ikuko Shimogawara  
Name : Ikuko SHIMOGAWARA  
Title : General Manager, Intellectual Property Division

## Appendix A - List of U.S. Patent Applications

	U.S. Patent Application No.	Filing date	U.S. Patent No.	Docket #
1	14/202802	2014/3/10	9123879	13691
2	14/807267	2015/7/23	9406871	13691D
3	14/203249	2014/3/10	9385304	13702
4	14/203422	2014/3/10	9093632	13681
5	14/203400	2014/3/10	9105572	13680
6	15/257112	2014/6/24		14215
7	15/262821	2014/7/14		14246
8	14/656410	2015/3/12		14597
9	15/268497	2016/9/16		16176