

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Eun-Seok CHOI</td> <td>07/08/2013</td> </tr> <tr> <td>Sa-Yong SHIM</td> <td>07/08/2013</td> </tr> <tr> <td>In-Hey LEE</td> <td>07/08/2013</td> </tr> <tr> <td>Sung-Wook JUNG</td> <td>07/08/2013</td> </tr> <tr> <td>Jung-Seok OH</td> <td>07/08/2013</td> </tr> </tbody> </table>		Name	Execution Date	Eun-Seok CHOI	07/08/2013	Sa-Yong SHIM	07/08/2013	In-Hey LEE	07/08/2013	Sung-Wook JUNG	07/08/2013	Jung-Seok OH	07/08/2013
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Sung-Wook JUNG	07/08/2013												
Jung-Seok OH	07/08/2013												
RECEIVING PARTY DATA													
Name:	SK hynix Inc.												
Street Address:	2091, Gyeongchung-daero, Bubal-eub, Icheon-si												
City:	Gyeonggi-do												
State/Country:	KOREA, REPUBLIC OF												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13944120</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13944120								
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CORRESPONDENCE DATA													
Fax Number:	5713275452												
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>													
Phone:	571-327-5450												
Email:	ipntlaw@ipntlaw.com												
Correspondent Name:	IP & T GROUP LLP												
Address Line 1:	8230 Leesburg Pike												
Address Line 2:	Suite 650												
Address Line 4:	Vienna, VIRGINIA 22182												
ATTORNEY DOCKET NUMBER:	P12H0276/US												
NAME OF SUBMITTER:	Jun Jeong PARK												
Signature:	/Jun Jeong PARK/												

PATENT

Date:	07/17/2013
	This document serves as an Oath/Declaration (37 CFR 1.63).
<p><b>Total Attachments: 5</b> source=IVX000131903_P12H0276US_ASSIGNMENT&amp;DECLARATION#page1.tif source=IVX000131903_P12H0276US_ASSIGNMENT&amp;DECLARATION#page2.tif source=IVX000131903_P12H0276US_ASSIGNMENT&amp;DECLARATION#page3.tif source=IVX000131903_P12H0276US_ASSIGNMENT&amp;DECLARATION#page4.tif source=IVX000131903_P12H0276US_ASSIGNMENT&amp;DECLARATION#page5.tif</p>	

Attorney Docket No.: \_\_\_\_\_

**ASSIGNMENT OF AND DECLARATION FOR APPLICATION  
FOR UNITED STATES LETTERS PATENT**

WHEREAS CHOI, Eun-Seok, hereinafter referred to collectively as the assignor and inventor, has invented a certain improvement relating to NONVOLATILE MEMORY DEVICE AND METHOD FOR FABRICATING THE SAME

said application being attached hereto;  
 said application having been filed in the United States Patent and Trademark Office on \_\_\_\_\_, as Application Serial No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable);  
 the specification of which was filed under the Patent Cooperation Treaty on \_\_\_\_\_, Serial No. \_\_\_\_\_, the United States of America being designated.

AND WHEREAS SK hynix Inc. hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;

NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.

AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.

AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.

As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.

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.

**ASSIGNOR (INVENTOR):**

Signature: Choi Eun Seok Date: July 8, 2013

Printed or Typed Name: CHOI, Eun-Seok

Attorney Docket No.: \_\_\_\_\_

**ASSIGNMENT OF AND DECLARATION FOR APPLICATION  
FOR UNITED STATES LETTERS PATENT**

WHEREAS SHIM, Sa-Yong, hereinafter referred to collectively as the assignor and inventor, has invented a certain improvement relating to NONVOLATILE MEMORY DEVICE AND METHOD FOR FABRICATING THE SAME

said application being attached hereto;  
 said application having been filed in the United States Patent and Trademark Office on \_\_\_\_\_, as Application Serial No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable);  
 the specification of which was filed under the Patent Cooperation Treaty on \_\_\_\_\_, Serial No. \_\_\_\_\_, the United States of America being designated.

AND WHEREAS SK hynix Inc. hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;

NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.

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AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.

As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.

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.

**ASSIGNOR (INVENTOR):**

Signature: Shim, Sa-Yong Date: July 8, 2013

Printed or Typed Name: SHIM, Sa-Yong

Attorney Docket No.: \_\_\_\_\_

**ASSIGNMENT OF AND DECLARATION FOR APPLICATION  
FOR UNITED STATES LETTERS PATENT**

WHEREAS LEE, In-Hey, hereinafter referred to collectively as the assignor and inventor, has invented a certain improvement relating to NONVOLATILE MEMORY DEVICE AND METHOD FOR FABRICATING THE SAME

said application being attached hereto;  
 said application having been filed in the United States Patent and Trademark Office on \_\_\_\_\_, as Application Serial No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable);  
 the specification of which was filed under the Patent Cooperation Treaty on \_\_\_\_\_, Serial No. \_\_\_\_\_, the United States of America being designated.

AND WHEREAS SK hynix Inc. hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;

NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.

AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.

AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.

As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.

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.

**ASSIGNOR (INVENTOR):**

Signature: Lee Inhey Date: July 8, 2013

Printed or Typed Name: LEE, In-Hey

Attorney Docket No.: \_\_\_\_\_

**ASSIGNMENT OF AND DECLARATION FOR APPLICATION  
FOR UNITED STATES LETTERS PATENT**

WHEREAS JUNG, Sung-Wook, hereinafter referred to collectively as the assignor and inventor, has invented a certain improvement relating to NONVOLATILE MEMORY DEVICE AND METHOD FOR FABRICATING THE SAME

said application being attached hereto;  
 said application having been filed in the United States Patent and Trademark Office on \_\_\_\_\_, as Application Serial No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable);  
 the specification of which was filed under the Patent Cooperation Treaty on \_\_\_\_\_, Serial No. \_\_\_\_\_, the United States of America being designated.

AND WHEREAS SK hynix Inc. hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;

NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.

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AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.

As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.

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.

**ASSIGNOR (INVENTOR):**

Signature: Jung sung wook Date: July 8, 2013

Printed or Typed Name: JUNG, Sung-Wook

Attorney Docket No.: \_\_\_\_\_

**ASSIGNMENT OF AND DECLARATION FOR APPLICATION  
FOR UNITED STATES LETTERS PATENT**

WHEREAS OH, Jung-Seok, hereinafter referred to collectively as the assignor and inventor, has invented a certain improvement relating to NONVOLATILE MEMORY DEVICE AND METHOD FOR FABRICATING THE SAME

said application being attached hereto;  
 said application having been filed in the United States Patent and Trademark Office on \_\_\_\_\_, as Application Serial No. \_\_\_\_\_, and was amended on \_\_\_\_\_ (if applicable);  
 the specification of which was filed under the Patent Cooperation Treaty on \_\_\_\_\_, Serial No. \_\_\_\_\_, the United States of America being designated.

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**ASSIGNOR (INVENTOR):**

Signature: Jungseok Oh Date: July 8, 2013

Printed or Typed Name: OH, Jung-Seok