

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

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>Sang Hyun OH</td> <td>08/28/2012</td> </tr> <tr> <td>Seiichi Aritome</td> <td>08/28/2012</td> </tr> <tr> <td>Sang Bum LEE</td> <td>08/28/2012</td> </tr> </tbody> </table>		Name	Execution Date	Sang Hyun OH	08/28/2012	Seiichi Aritome	08/28/2012	Sang Bum LEE	08/28/2012
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Sang Hyun OH	08/28/2012								
Seiichi Aritome	08/28/2012								
Sang Bum LEE	08/28/2012								
RECEIVING PARTY DATA									
Name:	SK hynix Inc.								
Street Address:	2091, Gyeongchung-daero, Bubal-eub								
City:	Icheon-si 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>13601531</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13601531				
Property Type	Number								
Application Number:	13601531								
CORRESPONDENCE DATA									
Fax Number:	6309087653								
Phone:	630 908 7652								
Email:	uspto.actions@wwplaw.com								
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
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Address Line 1:	930 N. York Road, Suite 201								
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ATTORNEY DOCKET NUMBER:	PA0849-0								
NAME OF SUBMITTER:	Woochoon William Park								
Total Attachments: 2 source=PA0849-0_Assignment#page1.tif source=PA0849-0_Assignment#page2.tif									

OP \$40.00 13601531

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ASSIGNMENT OF APPLICATION

Now, therefore, in consideration of the sum of one dollar (\$1), the receipt whereof is acknowledge, and other good and valuable consideration, I/We, the assignor(s)

ASSIGNOR(S)

Sang Hyun OH

301-1507, Eunhasu Shinsung Apt., Bisan-dong, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

Seichi Aritome

520-1302, Yangji Maeul Hanyang Apt., Sunae -dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea.

Sang Bum LEE

206-507, Hanwha 2 Danji Apt., Sangok 2-dong, Bupyeong-gu, Incheon, Republic of Korea

by these presents do sell, assign and transfer unto said assignee

ASSINGEE

SK Hynix Inc.

2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Republic of Korea

and the heirs, successors, assigns and legal representatives of the assignee the full and exclusive right to the said invention in the United States which are disclosed in the U.S. patent application titled

**3-D NONVOLATILE MEMORY DEVICES AND METHODS OF
MANUFACTURING THE SAME**

for which an application for a United States Patent was filed on _____ Application Number _____; or

for which an application for a United States Patent was executed by the undersigned on _____

and any and all improvements thereof, the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and for the use of his legal representatives, to the full end of the term for which said 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.

The assignor(s) agree promptly upon request of the Assignee, its heirs, successors, assigns and legal representatives of the assignee to communicate any facts known to it respecting the patent and the invention set forth therein, and to execute and deliver without further compensation any



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power of attorney, Assignment, application, whether original, continuation, divisional or reissue, or other papers that may be necessary or fully

Assignor(s) hereby covenants that no assignment, sale agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;

Assignor(s) further covenants that assignee will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to Assignor(s) and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to assignee or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

ASSIGNOR SIGNATURE(S)

Sang-Hyun OH
[Inventor #1] Sang Hyun OH

Aug. 28, 2012
Date

Seiichi Aritome
[Inventor #2] Seiichi Aritome

Aug. 28, 2012
Date

Sang Bum Lee
[Inventor #3] Sang Bum LEE

Aug. 28, 2012
Date