

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>Boyoung Seo</td> <td>03/22/2012</td> </tr> <tr> <td>Yongkyu Lee</td> <td>03/22/2012</td> </tr> <tr> <td>Hyucksoo Yang</td> <td>03/22/2012</td> </tr> <tr> <td>Yongtae Kim</td> <td>03/22/2012</td> </tr> <tr> <td>Byungsup Shim</td> <td>03/22/2012</td> </tr> </tbody> </table>		Name	Execution Date	Boyoung Seo	03/22/2012	Yongkyu Lee	03/22/2012	Hyucksoo Yang	03/22/2012	Yongtae Kim	03/22/2012	Byungsup Shim	03/22/2012
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RECEIVING PARTY DATA													
Name:	Samsung Electronics Co., Ltd.												
Street Address:	416 Maetan-dong, Yeongtong-gu, Suwon-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>13428965</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13428965								
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Application Number:	13428965												
CORRESPONDENCE DATA													
Fax Number:	(919)854-1401												
Phone:	9198541400												
Email:	awooten@myersbigel.com												
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>													
Correspondent Name:	Audra Wooten												
Address Line 1:	4140 Parklake Avenue, Suite 600												
Address Line 4:	Raleigh, NORTH CAROLINA 27612												
ATTORNEY DOCKET NUMBER:	5649-3404												
NAME OF SUBMITTER:	Audra Wooten												
Total Attachments: 6													

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ASSIGNMENT

THIS ASSIGNMENT, made by us, **BOYOUNG SEO**, citizen of the Republic of Korea, with a residential address of 507-1602, Sinnamusil 5 danji Apt., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; **YONGKYU LEE**, citizen of the Republic of Korea, with a residential address of 503-205, Jugong Apt., Byeolgyang-dong, Gwacheon-si, Gyeonggi-do, Republic of Korea; **HYUCKSOO YANG**, citizen of the Republic of Korea, with a residential address of Banpo Riche Apt., Banpo 1-dong, Seocho-gu, Seoul, Republic of Korea; **YONGTAE KIM**, citizen of the Republic of Korea, with a residential address of 307-1404, Hyundai Morning Side 1-cha Apt., Bora-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea; and **BYUNGSUP SHIM**, citizen of the Republic of Korea, with a residential address of 108-801, Jugong 1 Danji Apt., Pungdeokcheon 2-dong, Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **NONVOLATILE MEMORY DEVICES INCLUDING NOTCHED WORD LINES AND METHODS OF MANUFACTURING THE SAME** for which an application for United States Letters Patent has been filed, or is being filed concurrently, in the United States Patent and Trademark Office. We hereby authorize and request Myers Bigel Sibley & Sajovec, P.A., to insert here in parentheses (Application No. 13/428,965, filed March 23, 2012) the filing date and application number of said application when known or to file this Assignment concurrently with the application, and

WHEREAS, **Samsung Electronics Co., Ltd.**, a Korean corporation having a principal place of business at 416 Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, the entire right, title and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign



ASSIGNMENT - CONTINUED

countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns and other legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 22nd day of MAR, 2012.

MB (SEAL)
BOYOUNG SEO

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 22th day
of March, 2012.

Lee, Yong Kyu (SEAL)
YONGKYU LEE

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 22 day
of March, 2012.

양희수 (SEAL)
HYUCKSOO YANG

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 22 day
of March, 2012


YONGTAE KIM (SEAL)

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 22 day
of March, 2012.

Shim (SEAL)
BYUNGSUP SHIM

Witnessed by:

Date: _____

