

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 Hoon Lee</td> <td>07/31/2012</td> </tr> <tr> <td>Hyun Seok Kim</td> <td>07/31/2012</td> </tr> <tr> <td>Sung Hwan Bae</td> <td>07/31/2012</td> </tr> <tr> <td>Jong-Nam Baek</td> <td>07/31/2012</td> </tr> <tr> <td>Jae Yong Jeong</td> <td>07/31/2012</td> </tr> </tbody> </table>		Name	Execution Date	Sang Hoon Lee	07/31/2012	Hyun Seok Kim	07/31/2012	Sung Hwan Bae	07/31/2012	Jong-Nam Baek	07/31/2012	Jae Yong Jeong	07/31/2012
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CORRESPONDENCE DATA													
Fax Number: 9198541401 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Email: gbailey@myersbigel.com Correspondent Name: Gwen R. Bailey/MBSS Address Line 1: 4140 Parklake Avenue, Suite 600 Address Line 4: Raleigh, NORTH CAROLINA 27612													
NAME OF SUBMITTER:	Gwen R. Bailey												
Total Attachments: 6 source=5649-3494_Assignment#page1.tif													

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ASSIGNMENT

THIS ASSIGNMENT, made by us, **Sang Hoon Lee**, citizen of the Republic of Korea, residing at 302-601, Dongmun 3 Cha Apt., Dongcheon-dong, Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea; **Hyun Seok Kim**, citizen of the Republic of Korea, residing at B-701, Hyundai Millart 2 Cha, Baekseok-dong, Ilsandong-gu, Goyang-si, Gyeonggi-do, Republic of Korea; **Sung-Hwan Bae**, citizen of the Republic of Korea, residing at 101-1801, Lake Palace Apt., Jamsil 3 dong, Songpa-gu, Seoul, Republic of Korea; **Jong-Nam Baek**, citizen of the Republic of Korea, residing at 3rd Floor, 122-11, Bangsong-dong, Hwaseong-si, Gyeonggi-do, Republic of Korea; and **Jae Yong Jeong**, citizen of the Republic of Korea, residing at 102-101, Jukhyeon Maeul LG Xi Apt., Bojeong-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **NON-VOLATILE MEMORY, METHOD OF OPERATING THE SAME, MEMORY SYSTEM INCLUDING THE SAME, AND METHOD OF OPERATING THE SYSTEM** 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. 13/618,604, filed 09/14/12) 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 129 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742 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 3/ day of 7, 2012.

Lee Sang Hoon (SEAL)
Sang Hoon Lee

Witnessed by:

Date: _____

ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 3 day
of 7, 2012.

Hyun Seok Kim (SEAL)
Hyun Seok Kim

Witnessed by:

Date: _____

ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 31 day
of 7, 2012.

Sung Hwan Bae (SEAL)
Sung-Hwan Bae

Witnessed by:

Date: _____

ASSIGNMENT – CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 31 day
of 7, 2012.

Jong-Nam Baek (SEAL)
Jong-Nam Baek

Witnessed by:

Date: _____

ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 2 day
of 7, 2012.

 (SEAL)
Jae Yong Jeong

Witnessed by:

Date: _____