

PATENT ASSIGNMENT

Electronic Version v1.1

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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>Hui-jung Kim</td><td>05/11/2011</td></tr><tr><td>Yong-chul Oh</td><td>05/27/2011</td></tr><tr><td>Yoo-sang Hwang</td><td>05/26/2011</td></tr><tr><td>Hyun-woo Chung</td><td>05/27/2011</td></tr></tbody></table>	Name	Execution Date	Hui-jung Kim	05/11/2011	Yong-chul Oh	05/27/2011	Yoo-sang Hwang	05/26/2011	Hyun-woo Chung	05/27/2011	
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<table border="1"><tr><td>Name:</td><td>Samsung Electronics Co., Ltd.</td></tr><tr><td>Street Address:</td><td>416 Maetan-dong, Yeongtong-gu, Suwon-si</td></tr><tr><td>City:</td><td>Gyeonggi-do</td></tr><tr><td>State/Country:</td><td>REPUBLIC OF KOREA</td></tr></table>	Name:	Samsung Electronics Co., Ltd.	Street Address:	416 Maetan-dong, Yeongtong-gu, Suwon-si	City:	Gyeonggi-do	State/Country:	REPUBLIC OF KOREA			
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PROPERTY NUMBERS Total: 1											
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CORRESPONDENCE DATA											
Fax Number: (919)854-1401 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
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ATTORNEY DOCKET NUMBER:	5649-3191										
NAME OF SUBMITTER:	Audra Wooten										
Total Attachments: 5 source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif source=Assignment#page4.tif source=Assignment#page5.tif											

CH \$40.00 13155688

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PATENT
REEL: 026409 FRAME: 0136

ASSIGNMENT

THIS ASSIGNMENT, made by us, **Hui-jung Kim**, citizen of the Republic of Korea, residing at 613-2606, Parkview Apt., Jeongja-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea; **Yong-chul Oh**, citizen of the Republic of Korea, residing at 424-1301, Cheongmyeong Maeul Kunyoung Apt., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, **Yoo-sang Hwang**, citizen of the Republic of Korea, residing at 1001-504, BangJuk Maeul Yeongtong Tranchae Apt., Mangpo-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea and **Hyun-woo Chung**, citizen of the Republic of Korea, residing at 520-22, Mangu 3-dong, Jungnang-gu, Seoul, Republic of Korea

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **INTEGRATED CIRCUIT DEVICES INCLUDING VERTICAL CHANNEL TRANSISTORS WITH SHIELD LINES INTERPOSED BETWEEN BIT LINES AND METHODS OF FABRICATING 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 & Savovec, P.A., to insert here in parentheses (Application No. 13/155,688, filed 6/8/11) 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 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



ASSIGNMENT – CONTINUED

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 11 day of May, 2011.

Hui-jung Kim (SEAL)
Hui-jung Kim

Witnessed by:

Date: _____

ASSIGNMENT -- CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 27 day
of May, 2011.

Yongchul Oh (SEAL)
Yong-chul Oh

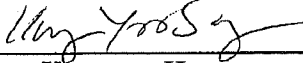
Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 26 day
of May, 2011.

 (SEAL)
Yoo-sang Hwang

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 27 day
of May, 2011.

Hyun-woo Chung (SEAL)
Hyun-woo Chung

Witnessed by:

Date: _____

