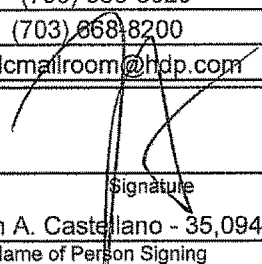


Form PTO-1595 (Rev. 01-09)
OMB No. 0651-0027 (exp. 02/28/2008)U.S. DEPARTMENT OF COMMERCE
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RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies): Hauk Han (09/30/2011), Byoung-Kyu Lee (09/30/2011), Jingi Hong (09/30/2011), Changwon Lee (09/30/2011), Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. Name and address of receiving party(ies) Name: <u>Samsung Electronics Co., Ltd.</u> Internal Address: _____ Street Address: _____ 416 Maetan-dong, Yeongtong-gu City: <u>Suwon-si, Gyeonggi-do</u> State: _____ Country: <u>Republic of Korea</u> Zip: _____ Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance/Execution Date(s): Execution Date(s): <u>in parentheses after inventor name</u> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name <input type="checkbox"/> Security Agreement <input type="checkbox"/> Joint Research Agreement <input type="checkbox"/> Government Interest Assignment <input type="checkbox"/> Executive Order 9424, Confirmatory License <input type="checkbox"/> Other _____		4. Application or patent number(s): <input type="checkbox"/> This document is being filed together with a new application. A. Patent Application No.(s) <u>13/273, 935</u> B. Patent No.(s) _____ Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Name and address to whom correspondence concerning document should be mailed: Name: <u>John A. Castellano</u> <u>HARNES, DICKEY & PIERCE, P.L.C.</u> Internal Address: <u>Atty. Dkt.: 8947-000576/US</u> Street Address: <u>P.O. Box 8910</u> City: <u>Reston</u> State: <u>VA</u> Zip: <u>20195</u> Phone Number: <u>(703) 668-8029</u> Fax Number: <u>(703) 668-8200</u> Email Address: <u>dcmalroom@hdp.com</u>		6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ <u>40.00</u> <input checked="" type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Enclosed <input type="checkbox"/> None required (government interest not affecting title)	
9. Signature:  _____ Signature <u>John A. Castellano - 35,094</u> Name of Person Signing		8. Payment Information Deposit Account Number <u>08-0750</u> Authorized User Name <u>John A. Castellano</u> Date <u>October 17, 2011</u> Total number of pages including cover sheet, attachments, and documents: 5	

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**RECORDATION FORM COVER SHEET (PTO-1595)
(supplemental sheet)****Additional Conveying Party(ies)/Execution Date(s) (1. Continued):**

Eungjoon Lee (09/30/2011), Je-Hyeon Park (09/30/2011), and Jeonggil Lee (09/30/2011)

Additional Assignees (2. Continued):

Assignee Name: _____

Internal Address: _____

Street Address: _____

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address: _____

Street Address: _____

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address: _____

Street Address: _____

City: _____ State: _____ Country: _____ Zip: _____

Additional Applications and/or Patents (4. Continued):Additional Patent Application Numbers
4A. Continued:Additional Patent Numbers
4B. Continued:

Additional numbers attached?

Yes

No

ASSIGNMENT

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

SEMICONDUCTOR DEVICES AND METHODS OF FABRICATING THE SAME

for which Assignor is about to make or has made United States or International application for patent

- (a) executed on even date preparatory to filing (each inventor should sign this Assignment on the same day as he/she signs the Declaration and Power of Attorney);
- (b) executed on _____, _____, _____; or
- (c) filed on _____, and assigned Serial No. _____ or PCT International Application No. _____; and

WHEREAS, Samsung Electronics Co., Ltd., 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as Assignee, is desirous of acquiring all right, title, and interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy whereof is hereby acknowledged, Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

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

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

The undersigned hereby grant(s) the law firm of Harness, Dickey & Pierce, P.L.C. the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

~~Handwritten signature~~ ASSIGNMENT

Hauk HAN

Dated 2011.09.30

Byoung-Kyu LEE

~~Handwritten signature~~
Dated 2011.09.30

Jingi HONG

~~Handwritten signature~~
Dated 2011.09.30

Changwon LEE

~~Handwritten signature: Changwon Lee~~
Dated 2011.09.30

Eungjoon LEE

~~Handwritten signature: Eung Joon Lee~~
Dated 2011.09.30

Je-Hyeon PARK

~~Handwritten signature~~
Dated 2011.09.30

Jeonggil LEE

~~Handwritten signature~~
Dated 2011-09-30

HARNES, DICKEY & PIERCE, P.L.C.

Attorneys and Counselors

P.O. Box 8910

Reston, Virginia 20195

Phone: 703-668-8000

Fax: 703-668-8200

Troy, MI • St. Louis, MO

DATE:	October 14, 2011	NO. OF PAGES (INCLUDING THIS PAGE):	5
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COMMENTS:
Appln. No.: <i>13/273, 935</i> Filing Dt.: October 14, 2011 Attorney Ref.: 8947-000576/US
Please see the attached request for Assignment Recordation. Please return the recorded assignment via facsimile to:
John A. Castellano Harness, Dickey & Pierce, P.L.C. <u>Fax No.: 703-668-8200</u>
If you have any questions, please call John A. Castellano at 703-668-8000.