

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Yong-Hoon Son</td> <td>06/02/2009</td> </tr> <tr> <td>Jong-Wook Lee</td> <td>06/02/2009</td> </tr> <tr> <td>Jong-Hyuk Kang</td> <td>06/02/2009</td> </tr> </tbody> </table>		Name	Execution Date	Yong-Hoon Son	06/02/2009	Jong-Wook Lee	06/02/2009	Jong-Hyuk Kang	06/02/2009
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td>Samsung Electronics Co., Ltd.</td> </tr> <tr> <td>Street Address:</td> <td>416, Maetan-dong, Yeongtong-gu</td> </tr> <tr> <td>City:</td> <td>Suwon-si, 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	City:	Suwon-si, Gyeonggi-do	State/Country:	REPUBLIC OF KOREA
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CORRESPONDENCE DATA									
<p>Fax Number: (617)742-7774</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 617-994-4900</p> <p>Email: mail@millsonello.com</p> <p>Correspondent Name: MILLS & ONELLO LLP</p> <p>Address Line 1: ELEVEN BEACON STREET</p> <p>Address Line 2: SUITE 605</p> <p>Address Line 4: BOSTON, MASSACHUSETTS 02108</p>									
ATTORNEY DOCKET NUMBER:	SAM-1367								
NAME OF SUBMITTER:	Steven M. Mills								
<p>Total Attachments: 2</p> <p>source=1367_executedassignment#page1.tif</p> <p>source=1367_executedassignment#page2.tif</p>									

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ASSIGNMENT

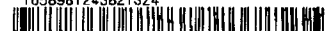
We, Yong-Hoon Son, of 301-801 Byeoksan Apt., Jukjeon-dong, Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea; Jong-Wook Lee, of 105-204 Dongbo 1 Cha Apt., Pungdeokcheon 1-dong, Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea; and Jong-Hyuk Kang, of 944-1314 Byeokjeokgol 9 Danji Apt., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; having invented improvements in VERTICAL-TYPE SEMICONDUCTOR DEVICE, METHOD OF MANUFACTURING A VERTICAL-TYPE SEMICONDUCTOR DEVICE AND METHOD OF OPERATING A VERTICAL-TYPE SEMICONDUCTOR DEVICE described in an application for Letters Patent of the United States, executed by us on even date herewith, for good and valuable consideration, receipt of which is hereby acknowledged from Samsung Electronics Co., Ltd., a Korean corporation having a place of business at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee our entire right, title, and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application;

And for the same consideration We do also hereby sell, assign, and transfer unto the Assignee, all our rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treaties of like purpose in respect of said inventions and said application, and We do hereby authorize the Assignee to apply in our name or its own name or its designee for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;

And for the same consideration, We do hereby agree for ourselves and for our heirs, executors, and administrators, promptly upon request of the Assignee to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, reissue or other application or applications for patent or patents or like rights of exclusion of any country, or other lawful documents and any further assurances that may be deemed necessary or desirable by the Assignee, fully to secure to it said right, title, and interest as aforesaid in and to said inventions, applications, and said several patents and like rights of exclusion (including extensions thereof) or any of them, all, however, at the expense of the Assignee, its successors, or assigns;

And We do hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee, any and all patents and like rights of exclusion which may be granted in any country upon said United States application on or for said inventions;

And We do hereby covenant for ourselves and our legal representatives and agree with the Assignee, that We have granted no right or license to make, use, or sell said inventions to anyone except the Assignee, that prior to the execution of this deed our right, title, and interest in and to said inventions has not been otherwise encumbered by us, and that We have not executed and will not execute any instruments in conflict herewith.



Reference No.: SAM-1367

First or Sole Inventor:

Signature: Yong-Hoon Son
Yong-Hoon Son

Date: 06/02/2009

Second Joint Inventor:

Signature: Jong-Wook Lee
Jong-Wook Lee

Date: 06/02/2009

Third Joint Inventor:

Signature: Jong-Hyuk Kang
Jong-Hyuk Kang

Date: 06/02/2009

REFERENCE NO.: SAM-1367
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