

12-11-2006



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103347107

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

12.4.06

**1. Name of conveying party(ies)**  
 Chang-Woo Oh  
 Sung-Hwan Kim  
 Dong-Gun Park

Additional name(s) of conveying party(ies) attached?  Yes  No

**2. Name and address of receiving party(ies)**  
 Name: Samsung Electronics Co., Ltd.  
 Internal Address: \_\_\_\_\_  
 Street Address: 416, Maetan-dong,  
Yeongtong-gu  
 City: Suwon-si, Gyeonggi-do  
 State: \_\_\_\_\_  
 Country: Republic of Korea Zip: \_\_\_\_\_

Additional name(s) & address(es) attached?  Yes  No

113264 U.S. PTO  
11/633408

120406

**3. Nature of conveyance/Execution Date(s):**  
 Execution Date(s) November 21, 2006

Assignment  Merger  
 Security Agreement  Change of Name  
 Joint Research Agreement  
 Government Interest Assignment  
 Executive Order 9424, Confirmatory License  
 Other \_\_\_\_\_

**4. Application or patent number(s):**  This document is being filed together with a new application.

A. Patent Application No.(s) \_\_\_\_\_  
 B. Patent No.(s) \_\_\_\_\_

Additional numbers attached?  Yes  No

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Steven M. Mills  
 Internal Address: \_\_\_\_\_  
 Street Address: Mills & Onello LLP  
Eleven Beacon Street, Suite 605  
 City: Boston  
 State: Massachusetts Zip: 02108  
 Phone Number: (617) 994-4900  
 Fax Number: (617) 742-7774  
 Email Address: mail@millsonello.com

**6. Total number of applications and patents involved:** 1

**7. Total fee (37 CFR 1.21(h) & 3.41) \$** 40.00

Authorized to be charged by credit card  
 Authorized to be charged to deposit account  
 Enclosed  
 None required (government interest not affecting title)

**8. Payment Information**

a. Credit Card Last 4 Numbers 1008  
 Expiration Date 05/11

b. Deposit Account Number \_\_\_\_\_  
 Authorized User Name \_\_\_\_\_

**9. Signature:** Steven M. Mills 12/4/06  
 Signature Date

Steven M. Mills, Registration No. 36,610  
 Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 3

## ASSIGNMENT

We, Chang-Woo Oh, of 439-206, Samsung Raemian, 1046-1, Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; Sung-Hwan Kim, of 804-2001, Byeokjeokgol 8danji Apt., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; and Dong-Gun Park, of 102-903, Yangjimaoul Geumho 1danji Apt., Sunae-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea, having invented improvements in SEMICONDUCTOR DEVICES AND METHODS OF FABRICATING THE SAME, 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.