Form **PTO-1595** (Rev. 09/04) OMB No. 0651-0027 (exp. 6/30/2005)



U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

__103116334__ To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. 2. Name and address of receiving party(ies) 1. Name of conveying party(ies)/Execution Date(s): Name: Samsung Electronics Co., Ltd Woo-Seop Jeong Internal Address: __ Execution Date(s) October 27, 2005 Street Address: 416, Maetan-dong, Additional name(s) of conveying party(ies) attached? Yes V Yeongtong-gu 3. Nature of conveyance: ✓ Assignment Merger City: Suwon-si, Gyeonggi-do ___ Security Agreement Change of Name State: Government Interest Assignment Country: Republic of Korea Zip: Executive Order 9424, Confirmatory License Other Additional name(s) & address(es) attached? ☐ Yes ✔ No This document is being filed together with a new application. 4. Application or patent number(s): B. Patent No.(s) A. Patent Application No.(s) Additional numbers attached? 6. Total number of applications and patents 5. Name and address to whom correspondence concerning document should be mailed: involved: Name: Steven M. Mills 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 Internal Address:___ Authorized to be charged to deposit account ✓ Enclosed Street Address: Mills & Onello LLP None required (government interest not affecting title) Eleven Beacon Street, 605 8. Payment Information City: Boston a. Credit Card Last 4 Numbers _____ State: Massachusetts Zip: 02108 Expiration Date _____ Phone Number: (617) 994-4900 b. Deposit Account Number _____ Fax Number: (617) 742-7774 Authorized User Name ___ Email Address: mail@millsonello.com 9. Signature: Signature Total number of pages including cover Steven M. Mills, Registration No. 36,610 sheet, attachments, and documents: Name of Person Signing

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:

Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

01 FC:8021

PATENT REEL: 017188 FRAME: 0307

Reference No.: SAM-0671

ASSIGNMENT

I, Woo-Seop Jeong, of 719-52 Nongsco-ri, Giheung-eup, Yongin-si, Gyeonggi-do, Republic of Korea, having invented improvements in SEMICONDUCTOR MEMORY DEVICE WITH REDUCED NUMBER OF PADS, described in an application for Letters Patent of the United States, executed by me of 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, Maetandong, 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 my 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 I do also hereby sell, assign, and transfer unto the Assignee, all my rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treatics of like purpose in respect of said inventions and said application, and I do hereby authorize the Assignee to apply in my 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 filling date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty:

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

Page 1 of 2

Reference No.: SAM-0671

First or Sole Inventor:

1

Signature:

Jeong Woo Seap Woo-Seop Jeong

Date: 20 Oct. 2005

REFERENCE NO.: SAM-0671 (IISAMY06/I) kitaligament wood

Page 2 of 2

PATENT REEL: 017188 FRAME: 0309

RECORDED: 10/31/2005