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PAIENI	<b>3 01</b> 1035/9776
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)	2. Name and address of receiving party(ies)
Ho-Young Kim	Name: Samsung Electronics Co., Ltd.
Jung-Bae Lee	Internal Address:
Additional name(s) of conveying party(ies) attached? Yes X No	
3. Nature of conveyance/Execution Date(s):  Execution Date(s)September 22, 2009	Street Address: 416, Maetan-dong, Yeongtong-gu
X Assignment	
	City: Suwon-si, Gyeonggi-do
Security Agreement Change of Name	
Joint Research Agreement	State:
Government Interest Assignment	Country: Republic of Korea Zip:
Executive Order 9424, Confirmatory License	
Other	Additional name(s) & address(es) attached? Yes X No
	document is being filed together with a new application.
A. Patent Application No.(s)	B. Patent No.(s)
12587674	
Additional numbers att	ached? Yes No
5. Name and address to whom correspondence 6. Total number of applications and patents	
concerning document should be mailed:	involved: 1
Name: Steven M. Mills	7 Total for (27 CED 1 21/b) 8 2 41) \$ 40.00
Internal Address: Mills & Onello, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$_40.00
Internal Address. Willis & Orieno, Edi	Authorized to be charged to deposit account
	X Enclosed
Street Address: 11 Beacon Street, Suite 605	None required (government interest not affecting title)
	8. Payment Information
City: Boston	
State: MA Zip: 02108	
Phone Number: 617-994-4900	Deposit Account Number501798
Fax Number: 617-742-7774	,
Email Address: mail@millsonello.com	Authorized User Name_ <u>Mills &amp; Onello, LLP</u>
9. Signature: Seuli ll	10/27/09
Signature	Date
Steven M. Mills; Registration No.: 36,610  Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:

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

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Reference No.: SAM-1390

## ASSIGNMENT

We, Ho-Young Kim, of 201, 515-14, Seryu 3(sam)-dong, Gwonseon-gu, Suwon-si, Gyeonggi-do 441-870, Republic of Korea; and Jung-Bae Lee, of 509-801, Samsung 5-cha Apt., Pungdeokcheon 2(i)-dong, Suji-gu, Yongin-si, Gyeonggi-do 448-785, Republic of Korea having invented improvements in SEMICONDUCTOR MEMORY DEVICE HAVING SHARED TEMPERATURE CONTROL CIRCUIT 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.

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Reference No.: SAM-1390

First or Sole Inventor:

Signature:

Ho-Young Kim

Date: 22. 5001 2009

Second Joint Inventor:

Signature:

Jung-Bae Lee
Jung-Bae Loc

Date: 22nd, Sept. 2009

REFERENCE NO.: SAM-1390 1:\SAM\1390\assignment-mult-inv.wpd

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PATENT

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