

PATENT ASSIGNMENT

Electronic Version v1.1
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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>Chang-han Choi</td> <td>12/15/2008</td> </tr> <tr> <td>Ho-keun Cho</td> <td>12/15/2008</td> </tr> <tr> <td>Byung-gil Choi</td> <td>12/15/2008</td> </tr> <tr> <td>Ki-sung Kim</td> <td>12/15/2008</td> </tr> <tr> <td>Jong-chul Park</td> <td>12/15/2008</td> </tr> <tr> <td>Jong-soo Seo</td> <td>12/15/2008</td> </tr> </tbody> </table>		Name	Execution Date	Chang-han Choi	12/15/2008	Ho-keun Cho	12/15/2008	Byung-gil Choi	12/15/2008	Ki-sung Kim	12/15/2008	Jong-chul Park	12/15/2008	Jong-soo Seo	12/15/2008
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RECEIVING PARTY DATA															
Name:	Samsung Electronics Co., Ltd.														
Street Address:	416 Maetan-dong, Yeongtong-gu														
Internal Address:	Suwon-si														
City:	Gyeonggi-do														
State/Country:	REPUBLIC OF KOREA														
PROPERTY NUMBERS Total: 1															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>12350344</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	12350344										
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CORRESPONDENCE DATA															
Fax Number:	(919)854-1401														
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>															
Phone:	919-854-1400														
Email:	awooten@myersbigel.com														
Correspondent Name:	MYERS BIGEL SIBLEY & SAJOVEC														
Address Line 1:	PO BOX 37428														
Address Line 4:	RALEIGH, NORTH CAROLINA 27627														
ATTORNEY DOCKET NUMBER:	5649-2492														
NAME OF SUBMITTER:	Audra Wooten														

CH \$40.00 12350344

Total Attachments: 7

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ASSIGNMENT

THIS ASSIGNMENT, made by us, **Chang-han Choi**, citizen of the Republic of Korea, residing at 103-1902, Solnae Maeul Hyundai Apt., Mabuk-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea; **Ho-keun Cho**, citizen of the Republic of Korea, residing at 103-1103, Yeonwon Maeul Samsung Myeongga, Bojeong-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea; **Byung-gil Choi**, citizen of the Republic of Korea residing at Rm. 201, Jinsung Mansion, 476-61, Gongse-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea; **Ki-sung Kim**, citizen of the Republic of Korea residing at 102-516, Jugong Apt., Daebang-dong, Dongjak-gu, Seoul, Republic of Korea; **Jong-chul Park**, citizen of the Republic of Korea residing at 1-1210, Shindong-a Apt., Bon-dong, Dongjak-gu, Seoul, Republic of Korea and **Jong-soo Seo** citizen of the Republic of Korea, residing at 303-1204, Sinyeongtong Hyundai Apt., Banwol-dong, Hwaseong-si, Gyeonggi-do, Republic of Korea;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **PHASE-CHANGE RANDOM ACCESS MEMORY DEVICES AND RELATED METHODS OF OPERATION** for which an application for United States Letters Patent has been filed, or is being filed concurrently, in the United States Patent and Trademark Office. We hereby authorize and request Myers Bigel Sibley & Sajovec, P.A., to insert here in parentheses (Application No. 12/350,344, filed 1-8-09) the filing date and application number of said application when known or to file this Assignment concurrently with the application, and

WHEREAS, **Samsung Electronics Co., Ltd.**, a Korean corporation having a principal place of business at 416 Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, the entire right, title and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof,



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 15 day
of 12, 2008.

Ho-keun Cho ²⁰ (SEAL)

Witnessed by:

Date: _____



ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 15 day
of 12, 2008.


Byung-gil Choi (SEAL)
Byung-gil Choi

Witnessed by:

Date: _____

ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 15 day
of 12, 2008.



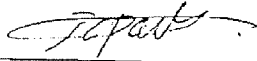
Ki-sung Kim (SEAL)

Witnessed by:

Date: _____

ASSIGNMENT – CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 15 day
of 12, 2008.



Jong-chul Park (SEAL)

Witnessed by:

Date: _____

ASSIGNMENT - CONTINUED

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 15 day
of 12, 2008.

Jong-soo Seo (SEAL)
Jong-soo Seo

Witnessed by:

Date: _____