

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Alexey Vasilyevitch Khvalkovskiy</td> <td>08/24/2012</td> </tr> <tr> <td>Dmytro Apalkov</td> <td>08/24/2012</td> </tr> </tbody> </table>		Name	Execution Date	Alexey Vasilyevitch Khvalkovskiy	08/24/2012	Dmytro Apalkov	08/24/2012				
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Samsung Electronics Co., LTD.</td> </tr> <tr> <td>Street Address:</td> <td>129 Samsung-ro, Yeongtong-gu, Suwon-si</td> </tr> <tr> <td>City:</td> <td>Gyeonggi-do</td> </tr> <tr> <td>State/Country:</td> <td>KOREA, REPUBLIC OF</td> </tr> <tr> <td>Postal Code:</td> <td>443-742</td> </tr> </table>		Name:	Samsung Electronics Co., LTD.	Street Address:	129 Samsung-ro, Yeongtong-gu, Suwon-si	City:	Gyeonggi-do	State/Country:	KOREA, REPUBLIC OF	Postal Code:	443-742
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PROPERTY NUMBERS Total: 1											
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Application Number:	13594824										
CORRESPONDENCE DATA											
Fax Number:	6503183374										
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<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>											
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NAME OF SUBMITTER:	Debbie Nishihara										
Total Attachments: 1 source=GRAN033US_Assignment_AsFiled#page1.tif											

OP \$40.00 13594824

**ASSIGNMENT**

For good and valuable consideration, the receipt of which is hereby acknowledged, I/we, the undersigned, **Alexey Vasilyevitch Khvalkovskiy and Dmytro Apalkov**, do hereby sell, assign, and transfer to: **Samsung Electronics Co., LTD.**, a corporation having a principal place of business at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea ("Assignee"), its successors, assigns, and legal representatives, the entire right, title and interest for the United States and all foreign countries, in and to any and all improvements which are disclosed in the application for the United States Letters Patent,

☐ which has been executed by the undersigned concurrently herewith,

☒ which was filed on **August 26, 2012** and assigned Serial No. **13/594,824**

and is entitled:

**METHOD AND SYSTEM FOR PROVIDING A MAGNETIC TUNNELING JUNCTION USING SPIN-ORBIT INTERACTION BASED SWITCHING AND MEMORIES UTILIZING THE MAGNETIC TUNNELING JUNCTION**

and in and to said application and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original and reissued patents which have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application; and

Agree that said Assignee may apply for and receive Letters Patent for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and representatives, all facts known to the undersigned relating to said improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns and legal representatives; and

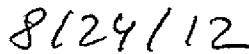
Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

And the Assignors hereby authorize and request the attorneys and agents to insert in the spaces provided above the title of the invention, filing date, application number, and attorney's docket number of said application when known.

Signed:



\_\_\_\_\_  
Inventor's Signature



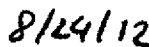
\_\_\_\_\_  
DATE

**Alexey Vasilyevitch Khvalkovskiy**

\_\_\_\_\_  
Inventor's Printed Name



\_\_\_\_\_  
Inventor's Signature



\_\_\_\_\_  
DATE

**Dmytro Apalkov**

\_\_\_\_\_  
Inventor's Printed Name