

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

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>Curt A. Richter</td> <td>11/30/2012</td> </tr> <tr> <td>Hyuk-Jae Jang</td> <td>11/30/2012</td> </tr> </tbody> </table>		Name	Execution Date	Curt A. Richter	11/30/2012	Hyuk-Jae Jang	11/30/2012
Name	Execution Date						
Curt A. Richter	11/30/2012						
Hyuk-Jae Jang	11/30/2012						
RECEIVING PARTY DATA							
Name:	The National Institute of Standards and Technology, Government of the United States of America, as Represented by the Secretary of Commerce						
Street Address:	100 Bureau Drive						
Internal Address:	MS 2000						
City:	Gaithersburg						
State/Country:	MARYLAND						
Postal Code:	20899-2200						
PROPERTY NUMBERS Total: 1							
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13690803</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13690803		
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Application Number:	13690803						
CORRESPONDENCE DATA							
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<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>							
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NAME OF SUBMITTER:	David L. Atallah						
Total Attachments: 2 source=009PUS1_ExecutedAssignment#page1.tif source=009PUS1_ExecutedAssignment#page2.tif							

CH \$40.00 13690803

**ASSIGNMENT**  
**(Joint Inventors)**

WHEREAS, we, **Curt A. Richter** and **Hyuk-Jae Jang** (hereinafter referred to as Assignors), residing respectively at **17447 Macduff Ave, Olney, MD 20832**; and **312-A, Cross Green Street, Gaithersburg, MD 20878**, have invented new and useful improvements in:

**VOLTAGE CONTROLLED SPIN TRANSPORT CHANNEL**


which is set forth in an application for Letters Patent in the United States executed on even date herewith; Attorney Docket No. 67387-009 PUS1; 12-006:

AND WHEREAS, **The National Institute of Standards and Technology, Government of the United States of America, as Represented by the Secretary of Commerce**, (hereinafter referred to as Assignee), of **100 Bureau Drive, MS 2000, Gaithersburg, Maryland 20899-2200** is desirous of acquiring the entire right, title and interest in and to said invention and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

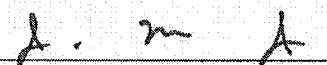
NOW, THEREFORE, be it known by all whom it may concern, that for and in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the Assignors have assigned, sold and set over, and by these presents assign, sell and set over unto the Assignee, its successors, legal representatives and assigns, for the territory of the United States of America and all foreign countries, the entire right, title and interest in and to said invention, said application for Letters Patent, including the right to file and prosecute foreign patent applications corresponding to said application in foreign patent offices, and the right to claim the priority date of said United States patent application and any legal equivalents thereof, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and to any and all divisions, continuations, and continuations-in-part of said application, or re-issues or extensions of said Letters Patent or Patents prepared and executed by Assignors on even date herewith, the same to be held and enjoyed by the Assignee, as fully and entirely as the same would have been held by the Assignors had this Assignment and sale not been made.

AND the Assignors hereby covenant and agree that the Assignors will at any time upon the request and at the expense of the Assignee execute and deliver any and all papers and do all lawful acts that may be necessary or desirable to perfect the title to said invention and to obtain Letters Patent therefor, and the Assignors hereby authorize and request the Commissioner of Patents to issue said Letters Patent to the said Assignee in accordance with this Agreement.

Nov 30, 2012  
Date

  
Curt A. Richter

11/30/12  
Date

  
Hyuk-Jae Jang

**Please address all correspondence and telephone calls and, upon recordation, please return this document to:**

**David L. Atallah  
Carlson, Gaskey & Olds, P.C.  
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(248) 988-8360**