

## 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>Zhenyu Sun</td> <td>03/13/2013</td> </tr> <tr> <td>Raghu Sagar Madala</td> <td>03/08/2013</td> </tr> <tr> <td>Senthil Kumar Govindaswamy</td> <td>03/08/2013</td> </tr> <tr> <td>Kendrick H. Yuen</td> <td>03/08/2013</td> </tr> <tr> <td>Wenqing Wu</td> <td>03/08/2013</td> </tr> <tr> <td>Peiyuan Wang</td> <td>03/08/2013</td> </tr> </tbody> </table>		Name	Execution Date	Zhenyu Sun	03/13/2013	Raghu Sagar Madala	03/08/2013	Senthil Kumar Govindaswamy	03/08/2013	Kendrick H. Yuen	03/08/2013	Wenqing Wu	03/08/2013	Peiyuan Wang	03/08/2013
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Wenqing Wu	03/08/2013														
Peiyuan Wang	03/08/2013														
RECEIVING PARTY DATA															
Name:	QUALCOMM Incorporated														
Street Address:	5775 Morehouse Drive														
Internal Address:	Patent Department														
City:	San Diego														
State/Country:	CALIFORNIA														
Postal Code:	92121-1714														
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>13792440</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13792440										
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Application Number:	13792440														
CORRESPONDENCE DATA															
Fax Number:	8586582502														
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>															
Phone:	858-658-4351														
Email:	us-docketing@qualcomm.com														
Correspondent Name:	QUALCOMM Incorporated														
Address Line 1:	5775 Morehouse Drive														
Address Line 2:	Patent Department														
Address Line 4:	San Diego, CALIFORNIA 92121-1714														
ATTORNEY DOCKET NUMBER:	123947														

CH \$40.00 13792440

NAME OF SUBMITTER:

Nicholas J. Pauley

**Total Attachments: 5**

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## ASSIGNMENT

WHEREAS, WE,

1. Zhenyu Sun, a citizen of China, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of New York, New York
2. Raghu Sagar Madala, a citizen of India, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of San Diego, California
3. Senthil Kumar Govindaswamy, a citizen of India, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of San Diego, California
4. Kendrick H. Yuen, a citizen of the United States, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of San Diego, California
5. Wenqing Wu, a citizen of China, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of San Diego, California
6. Peiyuan Wang, a citizen of China, having a mailing address of 5775 Morehouse Drive, San Diego, CA 92121; and a resident of San Diego, California

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to **MAGNETIC TUNNELING JUNCTION NON-VOLATILE REGISTER WITH FEEDBACK FOR ROBUST READ AND WRITE OPERATIONS** (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, QUALCOMM Incorporated (hereinafter "ASSIGNEE"), a Delaware corporation, having a place of business at 5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A., desires to acquire or otherwise obtain the entire right, title, and interest in and to said INVENTIONS, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 13792440 filed March 11, 2013, Qualcomm Reference No. 123947, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 61/751,966, filed January 14, 2013, Qualcomm Reference No. 123947 (and do hereby authorize

ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at Pittsburgh, on 03/13/2013 Zhenyu Sun  
LOCATION DATE Zhenyu Sun

Done at San Diego, on 03/08/2013 Ragu Sagar Madala  
LOCATION DATE Ragu Sagar Madala

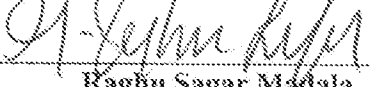
Done at San Diego, on 3/8/2013 Senthil Kumar Govindaswamy  
LOCATION DATE Senthil Kumar Govindaswamy

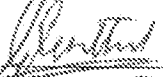
Done at San Diego, on 3/8/2013 Kendrick H. Yuen  
LOCATION DATE Kendrick H. Yuen

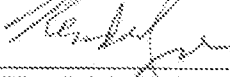
Done at San Diego, on 3/8/2013 Wenqing Wu  
LOCATION DATE Wenqing Wu


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Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Zhenyu Sun

Done at San Diego, on 03/08/2013  
LOCATION DATE  
  
Raghur Sagar Madala

Done at SAN DIEGO, on 3/8/2013  
LOCATION DATE  
  
Senthil Kumar Govindaswamy

Done at SAN DIEGO, on 3/8/2013  
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Kendrick L. Yuen

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Wengqing Wu

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Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Zhenyu Sun

Done at \_\_\_\_\_, on \_\_\_\_\_  
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Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Wenqing Wu

Done at San Diego, on 3/8/2013  
LOCATION DATE Peiyuan Wang  
Peiyuan Wang

PATENT