

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>David M. JACOBSON</td> <td>04/25/2012</td> </tr> <tr> <td>Xiaochun ZHU</td> <td>05/02/2012</td> </tr> <tr> <td>Wenqing WU</td> <td>04/25/2012</td> </tr> <tr> <td>Kendrick Hoy Leong YUEN</td> <td>04/25/2012</td> </tr> <tr> <td>Seung H. KANG</td> <td>05/02/2012</td> </tr> </tbody> </table>		Name	Execution Date	David M. JACOBSON	04/25/2012	Xiaochun ZHU	05/02/2012	Wenqing WU	04/25/2012	Kendrick Hoy Leong YUEN	04/25/2012	Seung H. KANG	05/02/2012
Name	Execution Date												
David M. JACOBSON	04/25/2012												
Xiaochun ZHU	05/02/2012												
Wenqing WU	04/25/2012												
Kendrick Hoy Leong YUEN	04/25/2012												
Seung H. KANG	05/02/2012												
RECEIVING PARTY DATA													
Name:	QUALCOMM Incorporated												
Street Address:	5775 Morehouse Drive												
Internal Address:	Patent Department/Central Administration												
City:	San Diego												
State/Country:	CALIFORNIA												
Postal Code:	92121												
PROPERTY NUMBERS Total: 2													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13367322</td> </tr> <tr> <td>Application Number:</td> <td>61536769</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13367322	Application Number:	61536769						
Property Type	Number												
Application Number:	13367322												
Application Number:	61536769												
CORRESPONDENCE DATA													
Fax Number:	(858)658-2502												
Phone:	858-845-4265												
Email:	us-docketing@qualcomm.com												
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>													
Correspondent Name:	QUALCOMM INCORPORATED												
Address Line 1:	5775 MOREHOUSE DR.												
Address Line 4:	SAN DIEGO, CALIFORNIA 92121												
ATTORNEY DOCKET NUMBER:	112188												

CH \$80.00 13367322

PATENT

NAME OF SUBMITTER:

Cindy McClure

Total Attachments: 3

source=112188_Assignment-executed#page1.tif

source=112188_Assignment-executed#page2.tif

source=112188_Assignment-executed#page3.tif

ASSIGNMENT

WHEREAS, WE,

1. **David M. JACOBSON**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121 and a resident of San Diego, California;
2. **Xiaochun ZHU**, a citizen of the People's Republic of China, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121 and a resident of San Diego, California;
3. **Wenqing WU**, a citizen of the People's Republic of China, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121 and a resident of Carlsbad, California;
4. **Kendrick Hoy Leong YUEN**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121 and a resident of San Diego, California; and,
5. **Seung H. KANG**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California 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 **Entropy source with magneto-resistive element for random number generator** (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. **13/367,322**, filed **February 6, 2012**, Qualcomm Reference No. 112188, and all provisional applications relating thereto, together

with U.S. Provisional Application No. **61/536,769**, filed **September 20, 2011**, Qualcomm Reference No. 112188P1 (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 San Diego, on 4/25/2012
LOCATION DATE


David M. JACOBSON

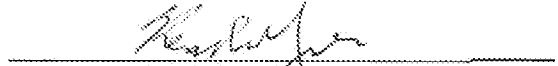
Done at San Diego, on 5/2/2012
LOCATION DATE


Xiaochun ZHU

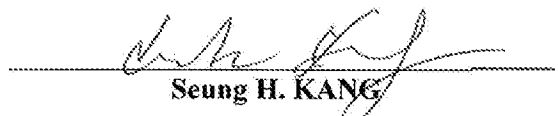
Done at San Diego, on 4/25/2012
LOCATION DATE


Wenqing WU

Done at SAN DIEGO, on 4/25/2012
LOCATION DATE


Kendrick Hoy Leong YUEN

Done at San Diego, on 5/2/2012
LOCATION DATE


Seung H. KANG