

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2746862

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>DARIO FERTONANI</td> <td>01/23/2014</td> </tr> <tr> <td>INSUNG KANG</td> <td>01/06/2014</td> </tr> <tr> <td>AAMOD DINKAR KHANDEKAR</td> <td>01/06/2014</td> </tr> <tr> <td>QIANG SHEN</td> <td>02/20/2014</td> </tr> </tbody> </table>		Name	Execution Date	DARIO FERTONANI	01/23/2014	INSUNG KANG	01/06/2014	AAMOD DINKAR KHANDEKAR	01/06/2014	QIANG SHEN	02/20/2014
Name	Execution Date										
DARIO FERTONANI	01/23/2014										
INSUNG KANG	01/06/2014										
AAMOD DINKAR KHANDEKAR	01/06/2014										
QIANG SHEN	02/20/2014										
RECEIVING PARTY DATA											
Name:	QUALCOMM INCORPORATED										
Street Address:	5775 MOREHOUSE DRIVE										
City:	SAN DIEGO										
State/Country:	CALIFORNIA										
Postal Code:	92121-1714										
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>14029409</td> </tr> <tr> <td>Application Number:</td> <td>61704311</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14029409	Application Number:	61704311				
Property Type	Number										
Application Number:	14029409										
Application Number:	61704311										
CORRESPONDENCE DATA											
Fax Number:	(310)201-5219										
Phone:	310-277-7200										
Email:	qualcomm-uspto@seyfarth.com										
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>											
Correspondent Name:	SEYFARTH SHAW LLP										
Address Line 1:	2029 CENTURY PARK EAST, SUITE 3500										
Address Line 4:	LOS ANGELES, CALIFORNIA 90067										
ATTORNEY DOCKET NUMBER:	124580										
NAME OF SUBMITTER:	PUYA PARTOW-NAVID										

Signature:	/Puya Partow-Navid/
Date:	02/27/2014
Total Attachments: 12 source=124580_Assignment_AsFiled_27February2014#page1.tif source=124580_Assignment_AsFiled_27February2014#page2.tif source=124580_Assignment_AsFiled_27February2014#page3.tif source=124580_Assignment_AsFiled_27February2014#page4.tif source=124580_Assignment_AsFiled_27February2014#page5.tif source=124580_Assignment_AsFiled_27February2014#page6.tif source=124580_Assignment_AsFiled_27February2014#page7.tif source=124580_Assignment_AsFiled_27February2014#page8.tif source=124580_Assignment_AsFiled_27February2014#page9.tif source=124580_Assignment_AsFiled_27February2014#page10.tif source=124580_Assignment_AsFiled_27February2014#page11.tif source=124580_Assignment_AsFiled_27February2014#page12.tif	

ASSIGNMENT

WHEREAS, WE,

1. **Dario FERTONANI**, a citizen of **Italy**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **La Jolla, CA**,
2. **Insung KANG**, a citizen of **Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
3. **Aamod Dinkar KHANDEKAR**, a citizen of **The United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
4. **Qiang SHEN**, a citizen of **Canada**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

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 **FREQUENCY TRACKING LOOPS IN WIRELESS NETWORK** (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). **14/029,409** filed **September 17, 2013**, Qualcomm Reference No. **124580**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/704,311**, filed **September 21, 2012**, Qualcomm Reference No. **124580P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at SAU DIEGO, on 1/23/2014 Dario Fertoni
LOCATION DATE Dario FERTONANI

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
 LOCATION DATE Insung KANG

Done at _____, on _____
 LOCATION DATE Aamod Dinkar KHANDEKAR

Done at _____, on _____
 LOCATION DATE Qiang SHEN

ASSIGNMENT

WHEREAS, WE,

1. **Dario FERTONANI**, a citizen of **Italy**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **La Jolla, CA**,
2. **Insung KANG**, a citizen of **Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
3. **Aamod Dinkar KHANDEKAR**, a citizen of **The United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
4. **Qiang SHEN**, a citizen of **Canada**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

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 **FREQUENCY TRACKING LOOPS IN WIRELESS NETWORK** (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). **14/029,409** filed **September 17, 2013**, Qualcomm Reference No. **124580**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/704,311**, filed **September 21, 2012**, Qualcomm Reference No. **124580P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE **Dario FERTONANI**

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at San Diego, CA, on 1/6/14 *Insung Kang*
LOCATION DATE **Insung KANG**

Done at _____, on _____
LOCATION DATE **Aamod Dinkar KHANDEKAR**

Done at _____, on _____
LOCATION DATE **Qiang SHEN**

ASSIGNMENT

WHEREAS, WE,

1. **Dario FERTONANI**, a citizen of **Italy**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **La Jolla, CA**,
2. **Insung KANG**, a citizen of **Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
3. **Aamod Dinkar KHANDEKAR**, a citizen of **The United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
4. **Qiang SHEN**, a citizen of **Canada**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

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 **FREQUENCY TRACKING LOOPS IN WIRELESS NETWORK** (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). **14/029,409** filed **September 17, 2013**, Qualcomm Reference No. **124580**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/704,311**, filed **September 21, 2012**, Qualcomm Reference No. **124580P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE **Dario FERTONANI**

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE Insung KANG

Done at San Diego, CA, on 1/6/2014
LOCATION DATE Aamod Dinkar KHANDEKAR

Done at _____, on _____
LOCATION DATE Qiang SHEN

ASSIGNMENT

WHEREAS, WE,

1. **Dario FERTONANI**, a citizen of **Italy**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **La Jolla, CA**,
2. **Insung KANG**, a citizen of **Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
3. **Aamod Dinkar KHANDEKAR**, a citizen of **The United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,
4. **Qiang SHEN**, a citizen of **Canada**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714** and a resident of **San Diego, CA**,

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 **FREQUENCY TRACKING LOOPS IN WIRELESS NETWORK** (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). **14/029,409** filed **September 17, 2013**, Qualcomm Reference No. **124580**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **61/704,311**, filed **September 21, 2012**, Qualcomm Reference No. **124580P1**, (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 covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
 LOCATION DATE Dario FERTONANI

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at _____, on _____
LOCATION DATE **Insung KANG**

Done at _____, on _____
LOCATION DATE **Aamod Dinkar KHANDEKAR**

Done at San Diego, on 02/20/2014
LOCATION DATE 
Qiang SHEN