# 503153594 01/27/2015

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3200207

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
TINGFANG JI	01/14/2015
JOHN EDWARD SMEE	01/14/2015
JOSEPH BINAMIRA SORIAGA	01/21/2015
NAGA BHUSHAN	01/14/2015
PETER GAAL	01/15/2015
ALEXEI YURIEVITCH GOROKHOV	12/19/2014
KRISHNA KIRAN MUKKAVILLI	12/17/2014
PETER ANG	12/18/2014
MICHAEL ALEXANDER HOWARD	12/17/2014
ROTEM COOPER	12/17/2014

#### **RECEIVING PARTY DATA**

Name:	QUALCOMM INCORPORATED
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121-1714

## **PROPERTY NUMBERS Total: 1**

Property Type	Number	
Application Number:	14567985	

## **CORRESPONDENCE DATA**

503153594

**Fax Number:** (909)266-8002

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** (949) 681-8161

**Email:** qualcomm-pto@lozaip.com

Correspondent Name: LOZA & LOZA, LLP/QUALCOMM
Address Line 1: 305 N. SECOND AVE., #127
Address Line 4: UPLAND, CALIFORNIA 91786

ATTORNEY DOCKET NUMBER: QCOM-2594U2 (144914U2)

NAME OF SUBMITTER:	JEFFREY BURGESS	
SIGNATURE:	/Jeffrey Burgess/	
DATE SIGNED:	01/27/2015	
Total Attachments: 12		
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## ASSIGNMENT

WHEREAS, WE,

- 1. **Tingfang Ji,** 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, California,
- 2. **John Edward Smee**, a citizen of Canada, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714 and a resident of San Diego, California,
- 3. **Joseph Binamira Soriaga,** 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, California,
- 4. Naga Bhushan, 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, California,
- 5. **Peter Gaal**, 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, California,
- 6. **Alexei Yurievitch Gorokhov**, 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, California,
- 7. **Krishna Kiran Mukkavilli**, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714 and a resident of San Diego, California,
- 8. **Peter Ang,** a citizen of Canada, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714 and a resident of San Diego, California,
- 9. **Michael Alexander Howard,** 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 Cardiff, California,
- 10. Rotem Cooper, a citizen of Israel, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714 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 APPARATUS AND METHOD FOR INTER-BAND PAIRING OF CARRIERS FOR TIME DIVISION DUPLEX TRANSMIT- AND RECEIVE-SWITCHING AND ITS APPLICATION TO MULTIPLEXING OF DIFFERENT TRANSMISSION TIME INTERVALS (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. 14/567,985 filed December 11, 2014, Oualcomm Reference No. 144914U2, and all provisional applications relating thereto, together with U.S. Provisional Application No. 62/000,454, filed May 19, 2014, Qualcomm Reference No. 144914P1, and U.S. Provisional Application No. 62/000,443, filed May 19, 2014, Qualcomm Reference No. 144913P1, (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	En Dieso	on 1/4/2015 DATE	
	LOCATION	DATE	Tingfang Ji
Done at _	LOCATION	on	John Edward Smee
Done at _	LOCATION	on	Joseph Binamira Soriaga
Done at _	LOCATION	on	Naga Bhushan
Done at _	LOCATION	, on DATE	Peter Gaal

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:

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<del>,</del>	LOCATION	on DATE	Tingfang Ji
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Done at w	LOCATION	DATE	John Edward Smee
Done at		, on	
	LOCATION	DATE	Joseph Binamira Soriaga
Done at		. on	
Done at	LOCATION	on DATE	Naga Bhushan
Done at _		, on DATE	Peter Gaal
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Done at		, on	
	LOCATION	, onDATE	Tingfang Ji
Done at _	Y O O A PTON	on	John Edward Smee
	LOCATION	DATE	) ()
Done at	LOCATION	, on	Joseph Binamira Soriaga
Done at _	LOCATION	on	Naga Bhushan
Done at _	LOCATION	on	Peter Gaal

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Done at		_, on	·
_	LOCATION	DATE	Tingfang Ji
Done at		, on	
-	LOCATION	on	John Edward Smee
Done at	LOCATION	, on	Joseph Binamira Soriaga
Done at	SAN DIEGO	on 1-14-2019 DATE	PCN 92/1
		DATE	Naga Bhushan
	LOCATION	DATE	Peter Gaal

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·	LOCATION	, on	Tingfang Ji
Done at		, on	
	LOCATION	_, on	John Edward Smee
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0210 410 _	LOCATION	DATE	Joseph Binamira Soriaga
Done at		, on	Naga Bhushan
	LOCATION	DATE	Naga Bhushan
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Done at	San Pieco	, on <u>01/15/2015</u> DATE	2
L'ONG W	LOCATION	DATE	Peter Gaal

# **PATENT**

QUALCOMM Ref. No. 144914U2 Page 4 of 4

Done at 🕹	San Diego Location	on <u>12112/2014</u> DATE	Alexei Yurievitch Gorokhov
Done at _	LOCATION	, on	Krishna Kiran Mukkavilli
Done at _	LOCATION	, on	Peter Ang
Done at _	LOCATION	, on	Michael Alexander Howard
Done at _	LOCATION	, on	Rotem Cooper

PATENT

QUALCOMM Ref. No. 144914U2 Page 4 of 4

Done at	, on		
	LOCATION, on	DATE	Alexei Yurievitch Gorokhov
Done at	San Diego (A, on _	12/17/14	H. bushnetira
	LOCATION	DATE	Krishna Kiran Mukkavilli
Dona at	020		
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	LOCATION	DATE	Michael Alexander Howard
Done at _	, on		
	LOCATION	DATE	Rotem Cooper

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QUALCOMM Ref. No. 144914U2
Page 4 of 4

Done at	, on _		
	LOCATION	DATE	Alexei Yurievitch Gorokhov
Done at _	LOCATION , on	DATE	Krishna Kiran Mukkavilli
Done at	San Diego, on LOCATION	12/18/2014 DATE	Peter Ang
Done at _	LOCATION , on	DATE	Michael Alexander Howard
Done at	, on	DATE	Rotem Cooper

# PATENT QUALCOMM Ref. No. 144914U2 Page 4 of 4

Done at		, on		
	LOCATION		DATE	Alexei Yurievitch Gorokhov
Done at		_, on _		Krishna Kiran Mukkavilli
	LOCATION		DATE	Krishna Kiran Mukkavilli
Done at	Y O O L OYON	, on _	DATE:	Peter Ang
	LOCATION		DATE	reter Ang
Done at	Son Diego CA Location	_, on _	12/17/2014 DATE	Michael Olexander Howard  Michael Alexander Howard
Done at		_, on _		Rotem Cooper
	LOCATION		DATE	Rotem Cooper

PATENT
QUALCOMM Ref. No. 144914U2
Page 4 of 4

Done at		_, on _		
	LOCATION		DATE.	Alexei Yurievitch Gorokhov
Done at _	LOCATION	, on _	DATE	Krishna Kiran Mukkavilli
Done at_	LOCATION	, on _	DATE	Peter Ang
Done at _	LOCATION	, on _	DATE	Michael Alexander Howard
			12/17/2014	
DOME at	LOCATION			Rotem Cooper

PATENT REEL: 034824 FRAME: 0840

**RECORDED: 01/27/2015**