

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6593080

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
YI HUANG	02/17/2021
WEI YANG	01/31/2021
PETER GAAL	02/17/2021
WANSHI CHEN	01/28/2021
KRISHNA KIRAN MUKKAVILLI	01/27/2021
TINGFANG JI	02/22/2021
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:	17152402
CORRESPONDENCE DATA	
Fax Number:	
<i>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.</i>	
Phone:	303-473-2700
Email:	jdlaflleur@hollandhart.com
Correspondent Name:	HOLLAND & HART LLP/QUALCOMM
Address Line 1:	P.O. BOX 11583
Address Line 4:	SALT LAKE CITY, UTAH 84147
ATTORNEY DOCKET NUMBER:	PS196.01 (107922.0351)
NAME OF SUBMITTER:	MICHAEL L. DRAPKIN
SIGNATURE:	/Michael L. Drapkin/
DATE SIGNED:	03/10/2021
Total Attachments: 8	

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ASSIGNMENT

WHEREAS, WE,

1. **Yi HUANG**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
2. **Wei YANG**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
3. **Peter GAAL**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
4. **Wanshi CHEN**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
5. **Krishna Kiran MUKKAVILLI**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
6. **Tingfang JI**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,

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 **MULTI-BIT PAYLOAD TRANSMISSION WITH ORTHOGONAL SEQUENCES** (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). 17/152,402 filed January 19, 2021, **Qualcomm Reference Number 203326**, together with U.S Provisional Application No(s). 63/008,424 filed April 10, 2020, **Qualcomm Reference Number 203326P1**, (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 SAN JOSE, CA, USA, on 2/17/2021
City, State, Country Date


YI HUANG

Done at _____, on _____
City, State, Country Date

Wei YANG

Done at _____, on _____
City, State, Country Date

Peter GAAL

Done at _____, on _____
City, State, Country Date

Wanshi CHEN

Done at _____, on _____
City, State, Country Date

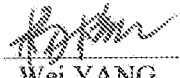
Krishna Kiran MUKKAVILLI

Done at _____, on _____
City, State, Country Date

Tingfang JI

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

Done at _____, on _____
City, State, Country Date Yi HUANG

Done at San Jose, CA, USA, on 1/11/04
City, State, Country Date 
Wei YANG

Done at _____, on _____
City, State, Country Date Peter GAAL

Done at _____, on _____
City, State, Country Date Wanshi CHEN

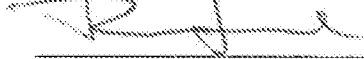
Done at _____, on _____
City, State, Country Date Krishna Kiran MUKKAVILLI

Done at _____, on _____
City, State, Country Date Tingfang Ji

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

Done at _____, on _____
City, State, Country Date Yi HUANG

Done at _____, on _____
City, State, Country Date Wei YANG

Done at San Diego, CA USA, on 07/17/2021
City, State, Country Date 
Peter GAAL

Done at _____, on _____
City, State, Country Date Wanshi CHEN

Done at _____, on _____
City, State, Country Date Krishna Kiran MUKKAVILLI

Done at _____, on _____
City, State, Country Date Tingfang Ji

PATENT

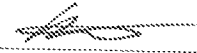
Quotation Reference Number: 263326
Page 1 of 3

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

Done at _____, on _____
City, State, Country Date YIHUANG

Done at _____, on _____
City, State, Country Date Wei YANG

Done at _____, on _____
City, State, Country Date Peter GAAL

Done at San Diego, CA USA, on 11/29/2004
City, State, Country Date 
Wanshi CHEN

Done at _____, on _____
City, State, Country Date Krishna Kiran MURKAVILLA

Done at _____, on _____
City, State, Country Date Jingfang H

PATENT

Question Reference Number: 203326
Page 3 of 3

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

Done at _____, on _____
City, State, Country Date Yi HUANG

Done at _____, on _____
City, State, Country Date Wei YANG

Done at _____, on _____
City, State, Country Date Peter GAAL

Done at _____, on _____
City, State, Country Date Wanshi CHEN

Done at Sec. 1, Austin, TX, on 01/27/2021
City, State, Country Date Krishna Kiran MURKAVILLI

Done at _____, on _____
City, State, Country Date Tingfang Ji

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

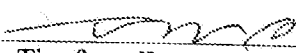
Done at _____, on _____
City, State, Country Date YI HUANG

Done at _____, on _____
City, State, Country Date Wei YANG

Done at _____, on _____
City, State, Country Date Peter GAAL

Done at _____, on _____
City, State, Country Date Wanshi CHEN

Done at _____, on _____
City, State, Country Date Krishna Kiran MUKKAVILLI

Done at San Diego, CA, USA, on 2/22/2021
City, State, Country Date 
Tingfang Ji