

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6853600

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
XIAOXIA ZHANG	07/16/2021
JUN MA	07/20/2021
MORTEZA SOLTANI	07/20/2021
JING SUN	07/23/2021
IYAB ISSAM SAKHNINI	08/04/2021
TAO LUO	07/16/2021
HEMANT SAGGAR	08/02/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	QUALCOMM INCORPORATED
<b>Street Address:</b>	5775 MOREHOUSE DRIVE
<b>City:</b>	SAN DIEGO
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	92121-1714
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17375610
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(619)235-0398
<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>	
<b>Phone:</b>	619-238-1900
<b>Email:</b>	Docketing@procopio.com, Patrick.Lemus@procopio.com
<b>Correspondent Name:</b>	PROCOPIO CORY HARGREAVES & SAVITCH LLP.
<b>Address Line 1:</b>	525 B STREET, SUITE 2200
<b>Address Line 4:</b>	SAN DIEGO, CALIFORNIA 92101
<b>ATTORNEY DOCKET NUMBER:</b>	129025-0920UT01/2104844
<b>NAME OF SUBMITTER:</b>	PATRICK LEMUS
<b>SIGNATURE:</b>	/Patrick Lemus/
<b>DATE SIGNED:</b>	08/06/2021

**Total Attachments: 9**

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**ASSIGNMENT**

WHEREAS, WE,

1. **Xiaoxia ZHANG**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
2. **Jun MA**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
3. **Morteza SOLTANI**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
4. **Jing SUN**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
5. **Iyab Issam SAKHNINI**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
6. **Tao LUO**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,
7. **Hemant SAGGAR**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**,

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 **PHASE TRACKING REFERENCE SIGNAL INSERTION WITH HIGHER-RANK SINGLE-CARRIER WAVEFORM** (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). 17/375,610** filed **July 14, 2021**, **Qualcomm Reference Number 2104844**, and all provisional applications relating thereto, (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;

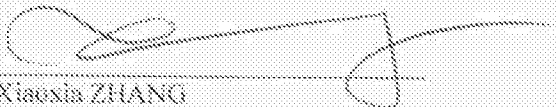
AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, 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 Diego, CA<sup>US</sup>, on 07/16/2021  
City, State, Country Date

  
Xiaoxia ZHANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date

Jun MA

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date

Morteza SOLTANI

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date

Jing SUN

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date

Iyab Issam SAKHINI

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 Xiaoxia ZHANG

Done at San Diego, CA, US, on 7/20/21  
City, State, Country Date   
Jun MA

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Morteza SOLTANI


Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jing SUN

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Iyab Issam SAKHINI

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 Xiaoxia ZHANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jun MA

Done at San Diego, CA, USA, on 07/20/2021  
City, State, Country Date   
Morteza SOLTANI

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jing SUN

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Iyab Issam SAKHNINI

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 Xiaoxia ZHANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jun MA

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Morteza SOLTANI

Done at Sun Xiang  
CA USA, on 7/2/11  
City, State, Country Date Jing SUN

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Iyab Issam SAKHINI



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 Xiaoxia ZHANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jun MA

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Morteza SOLTANI

Done at \_\_\_\_\_, on \_\_\_\_\_  
City, State, Country Date Jing SUN

Done at SANDISBORO, NJ, on 4 AUG 2021  
City, State, Country Date Iyab Issam SAKHNINI

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

Done at SMDL on 07/16/2021 [Signature]  
City, State, Country Date Tao LEO

Done at \_\_\_\_\_ on \_\_\_\_\_  
City, State, Country Date Hemant SAGGAR

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 Tao LUO

Done at JARDINE, CA, USA, on 20<sup>th</sup> August 2021  
City, State, Country Date Hemant SAGGAR