

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

EPAS ID: PAT5603197

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
SEYEDKIANOUSH HOSSEINI	05/20/2019
GABI SARKIS	05/20/2019
WEI YANG	05/15/2019
CHIH-PING LI	05/15/2019
HEECHOOON LEE	05/30/2019
JING JIANG	06/12/2019
PETER GAAL	05/21/2019
WANSHI CHEN	05/20/2019
LINHAI HE	05/20/2019
JOSEPH BINAMIRA SORIAGA	05/21/2019

**RECEIVING PARTY DATA**

<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

**PROPERTY NUMBERS Total: 2**

Property Type	Number
<b>Application Number:</b>	16405817
<b>Application Number:</b>	62669341

**CORRESPONDENCE DATA**

**Fax Number:** (303)473-2720

*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:** 303-473-2700

**Email:** bmssoares@hollandhart.com

**Correspondent Name:** MICHAEL DRAPKIN

**Address Line 1:** P.O. BOX 11583

**Address Line 4:** SALT LAKE CITY, UTAH 84147

<b>ATTORNEY DOCKET NUMBER:</b>	PN867.01 (93519.2628)
<b>NAME OF SUBMITTER:</b>	MICHAEL L. DRAPKIN
<b>SIGNATURE:</b>	/Michael L. Drapkin/
<b>DATE SIGNED:</b>	07/03/2019
<b>Total Attachments: 6</b> source=183283_Assignment#page1.tif source=183283_Assignment#page2.tif source=183283_Assignment#page3.tif source=183283_Assignment#page4.tif source=183283_Assignment#page5.tif source=183283_Assignment#page6.tif	

ASSIGNMENT

WHEREAS, I/WE,

1. Seyedkianoush HOSSEINI, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
2. Gabi SARKIS, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
3. Wei YANG, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
4. Chih-Ping LI, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
5. Heechoon LEE, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
6. Jing JIANG, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
7. Peter GAAL, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
8. Wanshi CHEN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
9. Linhai HE, having a mailing address located at 5775 Morehouse Drive, San Diego, CA, 92121,
10. Joseph Binamira SORIAGA, 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 **SERVICE AND FORMAT INDICATION TECHNIQUES FOR DOWNLINK CONTROL INFORMATION** (collectively the "INVENTIONS") for which I/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, I/WE do hereby acknowledge that I/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. 16/405,817 filed May 7, 2019, Qualcomm Reference No. 183283, and all provisional applications relating thereto, together with U.S. Provisional Application No. 62/669,341, filed May 9, 2018, Qualcomm Reference No. 183283P1, (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 I/WE further do acknowledge and agree that I/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;

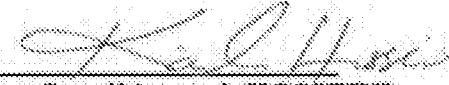
AND I/WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

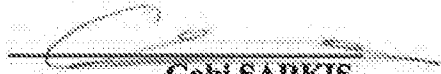
AND I/WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date 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 I/WE may be entitled, or that I/WE may collect for any


infringement or from any settlement or agreement related to any of said patents before or after issuance;

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

Done at San Diego, on 05/20/2019  
LOCATION DATE  
  
Seyedkianoush HOSSEINI


Done at San Diego, CA, on 2019/5/20  
LOCATION DATE  
  
Gabi SARKIS

Done at San Diego, CA, on 05/15/2019  
LOCATION DATE  
  
Wei YANG

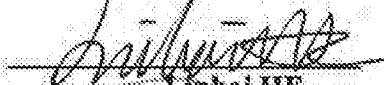
Done at San Diego, CA, on 5/15/2019  
LOCATION DATE  
  
Chih-Ping LI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Heechoon LEE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Jing JIANG

Done at San Diego, on 05/21/2019  
LOCATION DATE  
  
Peter GAAL

Done at San Diego, CA, on 5/20/2019  
LOCATION DATE  
  
Wanshi CHEN

Done at San Diego, CA, on 5/20/2019  
LOCATION DATE  
  
Linhai HE

Done at San Diego, CA, on 5/21/2019  
LOCATION DATE  
  
Joseph Binamira SORIAGA

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

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Seyedkianoush HOSSEINI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Gabi SARKIS

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Wei YANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Chih-Ping LI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Heechoon LEE

Done at San Diego, CA, on 6-12-2019  
LOCATION DATE Jing JIANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Peter GAAL

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Wanshi CHEN

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Linhai HE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Joseph Binamira SORIAGA

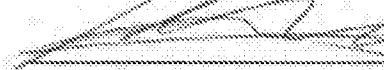
AND I/WE HEREBY covenant that I/WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Seyedkianoush HOSSEINI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Gabi SARKIS

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Wei YANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Chih-Ping LI

Done at San Diego, CA, on 05/30/19  
LOCATION DATE  
  
Heechoon LEE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Jing JIANG

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Peter GAAL

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Wanshi CHEN

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Linhai HE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE  
Joseph Binamira SORIAGA