PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

EPAS ID: PAT5696811

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MAKESH PRAVIN JOHN WILSON	07/31/2018
TAO LUO	07/25/2018
HUNG LY	07/20/2018
HEECHOON LEE	07/31/2018
PETER GAAL	07/20/2018
MUHAMMAD NAZMUL ISLAM	07/30/2018
WANSHI CHEN	07/18/2018
BILAL SADIQ	07/20/2018

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:	16428033

CORRESPONDENCE DATA

Fax Number:

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:	5714320800
Email:	sstesney@harrityllp.com
Correspondent Name:	HARRITY & HARRITY, LLP
Address Line 1:	11350 RANDOM HILLS ROAD
Address Line 2:	SUITE 600
Address Line 4:	FAIRFAX, VIRGINIA 22030

ATTORNEY DOCKET NUMBER:	180988WOC1
NAME OF SUBMITTER:	NATALIE PARCELL
SIGNATURE:	/Natalie Parcell/

DATE SIGNED:	08/30/2019

Total Attachments: 8

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source=180988 Assignment as filed 30 August 2019#page8.tif

ASSIGNMENT

WHEREAS, WE,

1. **Makesh Pravin JOHN WILSON**, a citizen of **India**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

2. **Tao LUO**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

3. **Hung LY**, a citizen of **Vietnam**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

4. **Heechoon LEE**, a citizen of **Republic of Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 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, California 92121-1714**, and a resident of **San Diego, California**,

6. **Muhammad Nazmul ISLAM**, a citizen of **Bangladesh**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **Edison, New Jersey**,

7. **Wanshi CHEN**, a citizen of the **People's Republic of China**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**, and

8. **Bilal SADIQ**, a citizen of **Pakistan**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **Basking Ridge, New Jersey**,

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 **TECHNIQUES AND APPARATUSES FOR REUSING REMAINING MINIMUM SYSTEM INFORMATION CONFIGURATION BITS TO SIGNAL A SYNCHRONIZATION SIGNAL BLOCK LOCATION** (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). **15/968,569**, filed **May 1, 2018**, Qualcomm Reference No. **180988**, and all provisional applications relating thereto, together with U.S. Provisional Application No. **62/506,960**, filed **May 16, 2017**, Qualcomm Reference No. **174393P1**, and **62/591,116**, filed **November 27, 2017**, Qualcomm Reference No. **180988P1**, and **62/595,028**, filed **December 5, 2017**, Qualcomm Reference No. **180988P2**, and **62/710,295**, filed **February 16, 2018**, Qualcomm Reference No. **182255P1**, (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 on 07/31/2018
LOCATION DATE
Makesh Pravin JOHN WILSON

Done at San Diego, on 07/20/2018
LOCATION DATE
Tao LUO

Done at San Diego, on 07/20/18
LOCATION DATE
Hung LY

Done at San Diego, on 07/31/18
LOCATION DATE
Heechoon LEE

Done at San Diego, on 07/20/2018
LOCATION DATE
Peter GAAL

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 **Muhammad Nazmul ISLAM**

Done at San Diego CA, on July 18, 2018 ________________________
LOCATION DATE **Wanshi CHEN**

Done at ________________, on ________________ ________________________
LOCATION DATE **Bilal SADIQ**

ASSIGNMENT

WHEREAS, WE,

1. **Makesh Pravin JOHN WILSON**, a citizen of **India**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

2. **Tao LUO**, a citizen of the **United States of America**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

3. **Hung LY**, a citizen of **Vietnam**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**,

4. **Heechoon LEE**, a citizen of **Republic of Korea**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 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, California 92121-1714**, and a resident of **San Diego, California**,

6. **Muhammad Nazmul ISLAM**, a citizen of **Bangladesh**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **Edison, New Jersey**,

7. **Wanshi CHEN**, a citizen of the **People's Republic of China**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **San Diego, California**, and

8. **Bilal SADIQ**, a citizen of **Pakistan**, having a mailing address located at **5775 Morehouse Drive, San Diego, California 92121-1714**, and a resident of **Basking Ridge, New Jersey**,

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 **TECHNIQUES AND APPARATUSES FOR REUSING REMAINING MINIMUM SYSTEM INFORMATION CONFIGURATION BITS TO SIGNAL A SYNCHRONIZATION SIGNAL BLOCK LOCATION** (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). **15/968,569**, filed **May 1, 2018**, Qualcomm Reference No. **180988**, and all provisional applications relating thereto, together with U.S. Provisional Application No. **62/506,960**, filed **May 16, 2017**, Qualcomm Reference No. **174393P1**, and **62/591,116**, filed **November 27, 2017**, Qualcomm Reference No. **180988P1**, and **62/595,028**, filed **December 5, 2017**, Qualcomm Reference No. **180988P2**, and **62/710,295**, filed **February 16, 2018**, Qualcomm Reference No. **182255P1**, (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 **Makesh Pravin JOHN WILSON**

Done at ________________, on _______________ ________________________________
LOCATION DATE **Tao LUO**

Done at ________________, on _______________ ________________________________
LOCATION DATE **Hung LY**

Done at ________________, on _______________ ________________________________
LOCATION DATE **Heechoon LEE**

Done at ________________, on _______________ ________________________________
LOCATION DATE **Peter GAAL**

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

Done at Bridgewater NJ, on 7-30-18		Nazmul
LOCATION	DATE	**Muhammad Nazmul ISLAM**
Done at ______, on ______		______
LOCATION	DATE	**Wanshi CHEN**
Done at Bridgewater NJ, on 7-20-18		
LOCATION	DATE	**Bilal SADIQ**