

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4491294

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MUHAMMAD NAZMUL ISLAM	06/19/2017
NAVID ABEDINI	06/19/2017
TAO LUO	06/16/2017
SUNDAR SUBRAMANIAN	06/19/2017
JUERGEN CEZANNE	06/21/2017
ASHWIN SAMPATH	06/20/2017
ALEXEI YURIEVITCH GOROKHOV	06/28/2017
JUNYI LI	06/19/2017
BILAL SADIQ	06/20/2017
<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: 5</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15608884
Application Number:	62344381
Application Number:	62350171
Application Number:	62401801
Application Number:	62410073
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)857-6395
<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>	213-629-7400
<b>Email:</b>	patentdocket@arentfox.com
<b>Correspondent Name:</b>	ARENT FOX, LLP AND QUALCOMM, INCORPORATE
<b>Address Line 1:</b>	1717 K STREET, NW

PATENT

<b>Address Line 4:</b> WASHINGTON, D.C. 20006-5344	
<b>ATTORNEY DOCKET NUMBER:</b>	030284.13757/ 163659U3
<b>NAME OF SUBMITTER:</b>	MARIA CHUA
<b>SIGNATURE:</b>	/MARIA CHUA/
<b>DATE SIGNED:</b>	07/06/2017
<b>Total Attachments: 12</b> source=163659U3_SignedAssignment-#page1.tif source=163659U3_SignedAssignment-#page2.tif source=163659U3_SignedAssignment-#page3.tif source=163659U3_SignedAssignment-#page4.tif source=163659U3_SignedAssignment-#page5.tif source=163659U3_SignedAssignment-#page6.tif source=163659U3_SignedAssignment-#page7.tif source=163659U3_SignedAssignment-#page8.tif source=163659U3_SignedAssignment-#page9.tif source=163659U3_SignedAssignment-#page10.tif source=163659U3_SignedAssignment-#page11.tif source=163659U3_SignedAssignment-#page12.tif	

ASSIGNMENT

WHEREAS, WE,

1. Muhammad Nazmul ISLAM, a citizen of Bangladesh, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Edison, New Jersey,
2. Navid ABEDINI, a citizen of Iran, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Raritan, New Jersey,
3. Tao LUO, a citizen of 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. Sundar SUBRAMANIAN, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Bridgewater, New Jersey,
5. Juergen CEZANNE, a citizen of Germany, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Ocean Township, New Jersey,
6. Ashwin SAMPATH, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Skillman, New Jersey,
7. Alexei Yurievitch GOROKHOV, a citizen of 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,
8. Junyi LI, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Chester, New Jersey,
9. Bilal SADIQ, a citizen of Pakistan, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 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 **TIME DIVISION MULTIPLEXING OF SYNCHRONIZATION CHANNELS** (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). 15/608,884 filed May 30, 2017, Qualcomm Reference No. 163659U3, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/344,381, filed June 1, 2016, Qualcomm Reference No. 163659P1, 62/350,171, filed June 14, 2016, Qualcomm Reference No. 163659P2, 62/401,801, filed September 29, 2016, Qualcomm Reference No. 163659P3, and 62/410,073, filed October 19, 2016, Qualcomm Reference No. 170326P1, (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 Bridgewater<sup>NJ</sup>, on 6/19/17  
LOCATION DATE

Muhammad Nazmul ISLAM

Done at Bridgewater<sup>NJ</sup>, on 6/19/17  
LOCATION DATE

Navid ABEDINI

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

Tao LUO

Done at Bridgewater<sup>NJ</sup>, on 6/19/17  
LOCATION DATE

Sundar SUBRAMANIAN

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

Done at Bridgewater<sup>NJ</sup>, on 6/21/17  
LOCATION DATE

Juergen Cezanne  
Juergen CEZANNE

Done at Bridgewater<sup>NJ</sup>, on 6/20/17  
LOCATION DATE

Ashwin Sampath  
Ashwin SAMPATH

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

Alexei Yurievitch GOROKHOV

Done at Bridgewater<sup>NJ</sup>, on 6/19/17  
LOCATION DATE

Junyi Li  
Junyi LI

Done at Bridgewater<sup>NJ</sup>, on 6/20/17  
LOCATION DATE

Bilal Sadiq  
Bilal SADIQ

ASSIGNMENT

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5. Juergen CEZANNE, a citizen of Germany, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Ocean Township, New Jersey,
6. Ashwin SAMPATH, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Skillman, New Jersey,
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8. Junyi LI, a citizen of United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714, and a resident of Chester, New Jersey,
9. Bilal SADIQ, a citizen of Pakistan, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 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 TIME DIVISION MULTIPLEXING OF SYNCHRONIZATION CHANNELS (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

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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). 15/608,884 filed May 30, 2017, Qualcomm Reference No. 163659U3, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/344,381, filed June 1, 2016, Qualcomm Reference No. 163659P1, 62/350,171, filed June 14, 2016, Qualcomm Reference No. 163659P2, 62/401,801, filed September 29, 2016, Qualcomm Reference No. 163659P3, and 62/410,073, filed October 19, 2016, Qualcomm Reference No. 170326P1, (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 Muhammad Nazmul ISLAM

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Navid ABEDINI

Done at San Diego, on 06/16/2017  
LOCATION DATE Tao LUO

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Sundar SUBRAMANIAN

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Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Juergen CEZANNE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Ashwin SAMPATH

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Alexei Yurievitch GOROKHOV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Junyi LI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Bilal SADIQ

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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 Muhammad Nazmul ISLAM

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Navid ABEDINI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Tao LUO

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Sundar SUBRAMANIAN

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 Juergen CEZANNE

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Ashwin SAMPATH

Done at SAN DIEGO, on 06/28/2019  
LOCATION DATE Alexei Yurievitch GOROKHOV

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Junyi LI

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Bilal SADIQ

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