

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7175042

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
KEIICHI KUBOTA	07/13/2019
TAO LUO	08/21/2019
ALEXANDROS MANOLAKOS	08/21/2019
WOOSEOK NAM	09/03/2019
SUMIT VERMA	08/22/2019
PETER GAAL	08/21/2019
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:	17452222
CORRESPONDENCE DATA	
Fax Number:	(214)200-0853
<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:	2146515000
Email:	ipdocketing@haynesboone.com
Correspondent Name:	HAYNES AND BOONE, LLP
Address Line 1:	2323 VICTORY AVENUE
Address Line 2:	SUITE 700
Address Line 4:	DALLAS, TEXAS 75219
ATTORNEY DOCKET NUMBER:	49606.531US02 (183012C1)
NAME OF SUBMITTER:	BRETT BOSTROM
SIGNATURE:	/Brett Bostrom/
DATE SIGNED:	02/14/2022

Total Attachments: 9

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source=183012C1_Assignment_49606531US02_AsFiled#page9.tif

ASSIGNMENT

WHEREAS, WE,

1. **Keiichi KUBOTA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
2. **Tao LUO**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
3. **Alexandros MANOLAKOS**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
4. **Wooseok NAM**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
5. **Sumit VERMA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
6. **Peter GAAL**, 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 **UPLINK SIGNALING OF DIRECT CURRENT (DC) TONE LOCATION IN NEW RADIO (NR)** (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). **16/378,401** filed **April 8, 2019**, Qualcomm Reference Number **183012**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/655,797**, filed **April 10, 2018**, Qualcomm Reference Number **183012P1**,

and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/660,164**, filed **April 19, 2018**, Qualcomm Reference Number **183012P2**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/680,225**, filed **June 04, 2018**, Qualcomm Reference Number **183012P3**, (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;

PATENT

Qualification Reference Number: 183012

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 Agart, India, on 01/13/2019
City, State Date
Ketichi KUROTA

Done at _____, on _____
City, State Date
Tao LUO

Done at _____, on _____
City, State Date
Alexandros MANOLAKOS

Done at _____, on _____
City, State Date
Wooseok NAM

Done at _____, on _____
City, State Date
Sumit VERMA

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

4812 (04/18-07/19) 1/1

PATENT

REEL: 059006 FRAME: 0108

ASSIGNMENT

WHEREAS, WE,

1. **Keiichi KUBOTA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
2. **Tao LUO**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
3. **Alexandros MANOLAKOS**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
4. **Wooseok NAM**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
5. **Sumit VERMA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
6. **Peter GAAL**, 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 **UPLINK SIGNALING OF DIRECT CURRENT (DC) TONE LOCATION IN NEW RADIO (NR)** (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). **16/378,401** filed **April 8, 2019**, Qualcomm Reference Number **183012**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/655,797**, filed **April 10, 2018**, Qualcomm Reference Number **183012P1**,

and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/660,164**, filed **April 19, 2018**, Qualcomm Reference Number **183012P2**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/680,225**, filed **June 04, 2018**, Qualcomm Reference Number **183012P3**, (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 _____
City, State Date

Keiichi KUBOTA

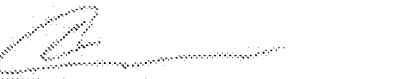
Done at San Diego, CA, on 08/21/2018
City, State Date


Tao LUO

Done at San Diego, CA, on 08/21/2019
City, State Date


Alexandros MANOLAKOS


Done at San Diego, on 9/3/2019
City, State Date


Woosook NAM

Done at _____, on _____
City, State Date

Sumit VERMA

Done at San Diego, CA, on 08/21/2019
City, State Date


Peter GAAL

4812-2424-0779 v.1

ASSIGNMENT

WHEREAS, WE,

1. **Keiichi KUBOTA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
2. **Tao LUO**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
3. **Alexandros MANOLAKOS**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
4. **Wooseok NAM**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
5. **Sumit VERMA**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121**,
6. **Peter GAAL**, 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 **UPLINK SIGNALING OF DIRECT CURRENT (DC) TONE LOCATION IN NEW RADIO (NR)** (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). **16/378,401** filed **April 8, 2019**, Qualcomm Reference Number **183012**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/655,797**, filed **April 10, 2018**, Qualcomm Reference Number **183012P1**,

and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/660,164**, filed **April 19, 2018**, Qualcomm Reference Number **183012P2**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). **62/680,225**, filed **June 04, 2018**, Qualcomm Reference Number **183012P3**, (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 _____
City, State Date

Keiichi KUBOTA

Done at _____, on _____
City, State Date

Tao LUO

Done at _____, on _____
City, State Date

Alexandros MANOLAKOS

Done at _____, on _____
City, State Date

Woosuk NAM

Done at SAN DIEGO, CA, on 08/22/2019
City, State Date


Sumit VERMA

Done at _____, on _____
City, State Date

Peter GAAL

4812-2424-0779 v.1