

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5753107

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	SONY AKKARAKARAN	09/19/2019
	TAO LUO	09/20/2019
	JUNYI LI	09/25/2019
	GUTTORM RINGSTAD OPSHAUG	09/19/2019
	JOSEPH BINAMIRA SORIAGA	09/25/2019
	ALEXANDROS MANOLAKOS	09/19/2019
	SVEN FISCHER	09/24/2019
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:	16536032	
CORRESPONDENCE DATA		
Fax Number:		
<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:	7036217140	
Email:	meo.docket@mg-ip.com	
Correspondent Name:	MUNCY, GEISSLER, OLDS & LOWE, P.C./QC	
Address Line 1:	4000 LEGATO ROAD, SUITE 310	
Address Line 4:	FAIRFAX, VIRGINIA 22033	
ATTORNEY DOCKET NUMBER:	QC184504	
NAME OF SUBMITTER:	RENEE ELDER	
SIGNATURE:	/RENEE ELDER/	
DATE SIGNED:	10/03/2019	

Total Attachments: 12

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ASSIGNMENT

WHEREAS, WE,

1. Sony AKKARAKARAN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
2. Tao LUO, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
3. Junyi LI, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
4. Guttorm Ringstad OPSHAUG, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
5. Joseph Binamira SORIAGA, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
6. Alexandros MANOLAKOS, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
7. Sven FISCHER, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 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 **USING PHYSICAL CHANNELS FOR POSITIONING MEASUREMENT SIGNALS** (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., 16/536,032 filed August 8, 2019, Qualcomm

Reference Number 184504, and all provisional applications relating thereto, together with Greek Application No. 20180100379, filed August 9, 2018, Qualcomm Reference Number 184504GRI, (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, on 9/17/2019
City, State Date

Sony AKKARAKARAN

Done at San Diego, CA, on 09/20/2018
City, State Date

Tao LUO

Done at _____, on _____
City, State Date

Junyi LI

Done at _____, on _____
City, State Date

Guttorm Ringstad OPSHAUG

Done at San Diego, CA, on 9/15/2018
City, State Date

Joseph Binamira SORIAGA

Done at San Diego, CA, on 09/19/2019
City, State Date

Alexandros MANOLAKOS

Done at _____, on _____
City, State Date

Sven FISCHER

ASSIGNMENT

WHEREAS, WE,

1. Sony AKKARAKARAN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
2. Tao LUO, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
3. Junyi LI, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
4. Guttorm Ringstad OPSHAUG, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
5. Joseph Binamira SORIAGA, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
6. Alexandros MANOLAKOS, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
7. Sven FISCHER, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 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 **USING PHYSICAL CHANNELS FOR POSITIONING MEASUREMENT SIGNALS** (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., 16/536,032 filed August 8, 2019, Qualcomm

Reference Number 184504, and all provisional applications relating thereto, together with Greek Application No. 20180100379, filed August 9, 2018, Qualcomm Reference Number 184504GRI, (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

Sony AKKARAKARAN

Done at _____, on _____
City, State Date

Tao LUO

Done at Bridgewater NJ, on 9-25-2019
City, State Date

Junyi LI

Done at _____, on _____
City, State Date

Guttorm Ringstad OPSHAUG

Done at _____, on _____
City, State Date

Joseph Binamira SORIAGA

Done at _____, on _____
City, State Date

Alexandros MANOLAKOS

Done at _____, on _____
City, State Date

Sven FISCHER

ASSIGNMENT

WHEREAS, WE,

1. Sony AKKARAKARAN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
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6. Alexandros MANOLAKOS, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
7. Sven FISCHER, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 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 **USING PHYSICAL CHANNELS FOR POSITIONING MEASUREMENT SIGNALS** (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.

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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;

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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 Sony AKKARAKARAN

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

Done at _____, on _____
City, State Date Junyi LI

Done at SAN JOSE, CA, on 7/19/19
City, State Date 
Guttorm Ringstad OPSHAUG

Done at _____, on _____
City, State Date Joseph Binamira SORIAGA

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

Done at _____, on _____
City, State Date Sven FISCHER

ASSIGNMENT

WHEREAS, WE,

1. Sony AKKARAKARAN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714,
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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;

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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	_____
	Sony AKKARAKARAN
Done at _____, on _____ City, State Date	_____
	Tao LUO
Done at _____, on _____ City, State Date	_____
	Junyi LI
Done at _____, on _____ City, State Date	_____
	Guttorm Ringstad OPSHAUG
Done at _____, on _____ City, State Date	_____
	Joseph Bisamira SORIAGA
Done at _____, on _____ City, State Date	_____
	Alexandros MANOLAKOS
Done at <u>Munich</u> , on <u>Sep 24 2019</u> City, State Date	<u>S. Fischer</u> Sven FISCHER