

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5721362

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the CONVEYING PARTY DATA OF FIRST INVENTOR IN EPAS RECEIPT & ASSIGNMENT SIGNATURE BLOCK; ADDING MIDDLE NAME "REDDY". previously recorded on Reel 050091 Frame 0634. Assignor(s) hereby confirms the FIRST INVENTOR'S MIDDLE NAME IS "REDDY"..
CONVEYING PARTY DATA	
Name	Execution Date
PRASAD REDDY KADIRI	09/09/2019
KARTHIKA PALADUGU	08/30/2019
AMER CATOVIC	09/04/2019
UMESH PHUYAL	09/03/2019
ALBERTO RICO ALVARINO	09/03/2019
MASATO KITAZOE	09/06/2019
RECEIVING PARTY DATA	
Name:	QUALCOMM INCORPORATED
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121-1714
PROPERTY NUMBERS Total: 2	
Property Type	Number
Application Number:	16459173
Application Number:	62701502
CORRESPONDENCE DATA	
Fax Number:	(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>	
Phone:	213-629-7400
Email:	patentdocket@arentfox.com, rachele.wittwer@arentfox.com
Correspondent Name:	ARENT FOX, LLP AND QUALCOMM, INCORPORATED
Address Line 1:	1717 K STREET, NW
Address Line 4:	WASHINGTON, D.C. 20006-5344
ATTORNEY DOCKET NUMBER:	030284.17348/184172
NAME OF SUBMITTER:	RACHELE WITTWER

SIGNATURE:	/Rachele Wittwer/
DATE SIGNED:	09/16/2019
Total Attachments: 16 source=184172 Corrective Assignment#page1.tif source=184172 Corrective Assignment#page2.tif source=184172 Corrective Assignment#page3.tif source=184172 Corrective Assignment#page4.tif source=184172 Corrective Assignment#page5.tif source=184172 Corrective Assignment#page6.tif source=184172 Corrective Assignment#page7.tif source=184172 Corrective Assignment#page8.tif source=184172 Corrective Assignment#page9.tif source=184172 Corrective Assignment#page10.tif source=184172 Corrective Assignment#page11.tif source=184172 Corrective Assignment#page12.tif source=184172 Corrective Assignment#page13.tif source=184172 Corrective Assignment#page14.tif source=184172 Corrective Assignment#page15.tif source=184172 Corrective Assignment#page16.tif	

ASSIGNMENT

WHEREAS, WE,

1. **Prasad Reddy KADIRI**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
2. **Karthika PALADUGU**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
3. **Amer CATOVIC**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
4. **Umesh PHUYAL**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
5. **Alberto RICO ALVARINO**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
6. **Masato KITAZOE**, 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 **METHODS AND APPARATUS FOR HANDOVER ENHANCEMENTS** (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). 16/459,173 filed July 1, 2019, Qualcomm Reference No. **184172**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/701,502, filed July 20, 2018, Qualcomm Reference No. **184172P1**, (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 09/09/2019 *[Signature]*
City, State Date Prasad Reddy KADIRI

Done at San Diego, CA, on 08/30/19 *[Signature]*
City, State Date Karthika PALADUGU

Done at San Diego, on 09/04/19 *[Signature]*
City, State Date Amer CATOVIC

Done at San Diego, CA, on 9/3/2019 *[Signature]*
City, State Date Umesh PHUYAL

Done at San Diego, CA, on 09/23/2019 *[Signature]*
City, State Date Alberto RICO ALVARINO

Done at _____, on _____
City, State Date Masato KITAZOE

ASSIGNMENT

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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.

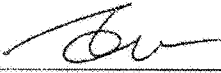
Done at _____, on _____
City, State Date **Prasad Reddy KADIRI**

Done at _____, on _____
City, State Date **Karthika PALADUGU**

Done at _____, on _____
City, State Date **Amer CATOVIC**

Done at _____, on _____
City, State Date **Umesh PHUYAL**

Done at _____, on _____
City, State Date **Alberto RICO ALVARINO**

Done at Tokyo, on September 6, 2019
City, State Date 
Masato KITAZOE



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUGUST 20, 2019

PTAS

ARENT FOX, LLP AND QUALCOMM,
INCORPORATED
1717 K STREET, NW
WASHINGTON, DC 20006-5344

505628493

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT RECORDATION BRANCH OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 08/19/2019

REEL/FRAME: 050091/0634
NUMBER OF PAGES: 8

BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: 030284.17348/184172

ASSIGNOR:

KADIRI, PRASAD

DOC DATE: 08/12/2019

ASSIGNOR:

PALADUGU, KARTHIKA

DOC DATE: 08/13/2019

ASSIGNOR:

CATOVIC, AMER

DOC DATE: 08/13/2019

ASSIGNOR:

PHUYAL, UMESH

DOC DATE: 08/12/2019

ASSIGNOR:

RICO ALVARINO, ALBERTO

DOC DATE: 08/13/2019

ASSIGNOR:

KITAZOE, MASATO

DOC DATE: 08/15/2019

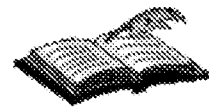
ASSIGNEE:

QUALCOMM INCORPORATED
5775 MOREHOUSE DRIVE
SAN DIEGO, CALIFORNIA 92121-1714

APPLICATION NUMBER: 16459173 FILING DATE: 07/01/2019
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND APPARATUS FOR HANDOVER ENHANCEMENTS

APPLICATION NUMBER: 62701502 FILING DATE: 07/20/2018
PATENT NUMBER: ISSUE DATE:
TITLE: METHODS AND APPARATUS FOR HANDOVER ENHANCEMENTS

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

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Confirmation Receipt

Your assignment has been received by the USPTO.
The coversheet of the assignment is displayed below:

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1

Stylesheet Version v1.2

SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>PRASAD KADIRI</td><td>08/12/2019</td></tr><tr><td>KARTHIKA PALADUGU</td><td>08/13/2019</td></tr><tr><td>AMER CATOVIC</td><td>08/13/2019</td></tr><tr><td>UMESH PHUYAL</td><td>08/12/2019</td></tr><tr><td>ALBERTO RICO ALVARINO</td><td>08/13/2019</td></tr><tr><td>MASATO KITAZOE</td><td>08/15/2019</td></tr></tbody></table>	Name	Execution Date	PRASAD KADIRI	08/12/2019	KARTHIKA PALADUGU	08/13/2019	AMER CATOVIC	08/13/2019	UMESH PHUYAL	08/12/2019	ALBERTO RICO ALVARINO	08/13/2019	MASATO KITAZOE	08/15/2019	
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MASATO KITAZOE	08/15/2019														
RECEIVING PARTY DATA															
<table><tr><td>Name:</td><td>QUALCOMM INCORPORATED</td></tr><tr><td>Street Address:</td><td>5775 MOREHOUSE DRIVE</td></tr><tr><td>City:</td><td>SAN DIEGO</td></tr><tr><td>State/Country:</td><td>CALIFORNIA</td></tr><tr><td>Postal Code:</td><td>92121-1714</td></tr></table>	Name:	QUALCOMM INCORPORATED	Street Address:	5775 MOREHOUSE DRIVE	City:	SAN DIEGO	State/Country:	CALIFORNIA	Postal Code:	92121-1714					
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PROPERTY NUMBERS Total: 2															
<table><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>16459173</td></tr></tbody></table>	Property Type	Number	Application Number:	16459173											
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PATENT**REEL: 050394 FRAME: 0339**

8/19/2019, 2:00 PM

Application Number:	62701502
CORRESPONDENCE DATA	
Fax Number:	(202)857-6395
Phone:	213-629-7400
Email:	patentdocket@arentfox.com, rachele.wittwer@arentfox.com
<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>	
Correspondent Name:	ARENT FOX, LLP AND QUALCOMM, INCORPORATED
Address Line 1:	1717 K STREET, NW
Address Line 4:	WASHINGTON, D.C. 20006-5344
ATTORNEY DOCKET NUMBER:	030284.17348/184172
NAME OF SUBMITTER:	RACHELE WITTWER
Signature:	/Rachele Wittwer/
Date:	08/19/2019
Total Attachments: 6 source=184172 Signed Assignment#page1.tif source=184172 Signed Assignment#page2.tif source=184172 Signed Assignment#page3.tif source=184172 Signed Assignment#page4.tif source=184172 Signed Assignment#page5.tif source=184172 Signed Assignment#page6.tif	
RECEIPT INFORMATION	
EPAS ID:	PAT5675298
Receipt Date:	08/19/2019

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ASSIGNMENT

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1. **Prasad Reddy KADIRI**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
2. **Karthika PALADUGU**, having a mailing address located at **5775 Morehouse Drive, San Diego, CA 92121-1714**,
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Done at San Diego, CA, on 8/12/2019 K. V. Basadledge
City, State Date Prasad KADIRI

Done at San Diego, CA, on 08/13/2019 Karthika
City, State Date Karthika PALADUGU

Done at SAN DIEGO, on 08/13/19 Amer
City, State Date Amer CATOVIC

Done at San Diego, CA, on 8/12/2019 Umeh
City, State Date Umesh PHEYAL

Done at San Diego, CA, on 8/13/2019 Alberto
City, State Date Alberto RICO ALVARINO

Done at _____, on _____
City, State Date Masato KITAZOE

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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). 16/459,173 filed July 1, 2019, Qualcomm Reference No. **184172**, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/701,502, filed July 20, 2018, Qualcomm Reference No. **184172P1**, (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.

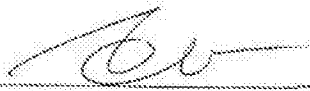
Done at _____, on _____
City, State Date Prasad KADIRI

Done at _____, on _____
City, State Date Karthika PALADUGU

Done at _____, on _____
City, State Date Amer CATOVIC

Done at _____, on _____
City, State Date Umesh PHUYAL

Done at _____, on _____
City, State Date Alberto RICO ALVARINO

Done at Tokyo, on August 15, 2019 
City, State Date Masato KITAZOE