504152537 12/22/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4199210

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
LALAN JEE MISHRA	12/08/2016
RICHARD WIETFELDT	10/20/2016
MOHIT PRASAD	11/30/2016
JAMES PANIAN	11/22/2016

RECEIVING PARTY DATA

Name:	QUALCOMM INCORPORATED	
Street Address:	5775 MOREHOUSE DRIVE	
City:	SAN DIEGO	
State/Country:	CALIFORNIA	
Postal Code:	92121-1714	

PROPERTY NUMBERS Total: 3

Property Type	Number
Application Number:	15097237
Application Number:	62147238
Application Number:	62233278

CORRESPONDENCE DATA

Fax Number: (949)202-3133

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: 9492023000

Email: monique.lesadahiro@haynesboone.com

Correspondent Name: HAYNES AND BOONE, LLP
Address Line 1: 2323 VICTORY AVE. #700
Address Line 4: DALLAS, TEXAS 75219

ATTORNEY DOCKET NUMBER:	49606.295US03 (152898)	
NAME OF SUBMITTER: JONATHAN W. HALLMAN		
SIGNATURE:	/Jonathan W. Hallman/	
DATE SIGNED:	12/22/2016	

Total Attachments: 12

PATENT REEL: 040756 FRAME: 0677

504152537



WHEREAS, WE,

- 1. Lalan Jee MISHRA, a citizen of the United States, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Diego, California,
- 2. Richard WIETFELDT, a citizen of the United States, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Diego, California,
- 3. Mohit PRASAD, a citizen of the United States, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Diego, California,
- 4. James PANIAN, a citizen of the United States, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Marcos, California,

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 ENHANCED VIRTUAL GPIO WITH MULTI-MODE MODULATION (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). 15/097.237 filed April 12, 2016, Qualcomm Reference No. 152898, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/147,238, filed April 14, 2015, Qualcomm Reference No. 152898P1, and 62/233,278, filed September 25, 2015, Qualcomm Reference No. 152898P2 (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 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 No. 152898

QUALCOMM Ref. No. 152898 Page 3 of 3

WHEREAS, WE,

- 1. Lalan Jee MISHRA, a citizen of the United States, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Diego, California,
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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). 15/097.237 filed April 12, 2016. Qualcomm Reference No. 152898, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/147.238, filed April 14, 2015, Qualcomm Reference No. 152898P1, and 62/233.278, filed September 25, 2015, Qualcomm Reference No. 152898P2 (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 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;

PATENT QUALCOMM Ref. No. 152898

Page 3 of 3

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

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gr www.	LOCATION	DATE	Lalan Jee MISHRA
Done at S	an Diego CA, or	10/20/16	Nichard withelf
	LOCATION	DATE	Richard WIETFELDT
Done at	, or	1	
	LOCATION	DATE	Mohit PRASAD
Done at _	, or		
	LOCATION	DATE	James PANIAN

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PATENT QUALCOMM Ref. No. 152898 Page 3 of 3

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	LOCATION	DATE	Lalan Jee MISHRA
Done at _	• C	n	
	LOCATION	DATE	Richard WIETFELDT
Done at S	AN DIEGO (A, o	on 11 30/16	Mass
9999 179 1 - 99 17 L 9 999	LOCATION	DATE	Mohit PRASAD
Done at _	, 0	m	•
	LOCATION	DATE	Ismes PANIAN

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PATENT QUALCOMM Ref. No. 152898 Page 3 of 3

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::	LOCATION	DATE	Lalan Jee MISHRA
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	LOCATION	DATE	Richard WIETFELDT
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	LOCATION	DATE	Mohit PRASAD
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PATENT REEL: 040756 FRAME: 0690

RECORDED: 12/22/2016