PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

SUBMISSION TYPE: CORRECTIVE ASSIGNMENT

NATURE OF CONVEYANCE: Corrective Assignment to correct the CONVEYING PARTY DATA previously recorded on Reel 039054 Frame 0735. Assignor(s) hereby confirms the ASSIGNMENT.

CONVEYING PARTY DATA

Name	Execution Date
HARIKISHAN DESINENI	06/27/2016
ALEXY MATHEW JOSEPH	04/04/2016
SATHISHKUMAR MANI	07/31/2017
RAVI ALAMANDA	06/27/2016

RECEIVING PARTY DATA

Name: QUALCOMM INNOVATION CENTER, INC.	
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121-1714

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	14861682		

CORRESPONDENCE DATA

Fax Number: (720)536-4910

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: 720.536.4900

Email: rene@nodiplaw.com

Correspondent Name: NEUGEBOREN O'DOWD PC
Address Line 1: 1227 SPRUCE STREET

Address Line 2: SUITE 200

Address Line 4: BOULDER, COLORADO 80302

ATTORNEY DOCKET NUMBER: 150135

NAME OF SUBMITTER: SEAN R. O'DOWD

SIGNATURE: /Sean R. O'Dowd/

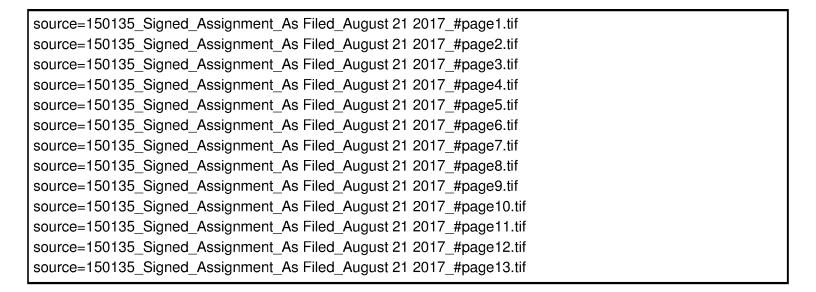
DATE SIGNED: 08/21/2017

Total Attachments: 13

PATENT REEL: 043613 FRAME: 0247

EPAS ID: PAT4558811

504512106



503896688 06/30/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HARIKISHAN DESINENI	06/27/2016
ALEXY MATHEW JOSEPH	04/04/2016
SATISHKUMAR MANI	04/18/2016
RAVI ALAMANDA	06/27/2016

RECEIVING PARTY DATA

Name:	QUALCOMM INNOVATION CENTER, INC.	
Street Address: 5775 MOREHOUSE DRIVE		
City:	SAN DIEGO	
State/Country:	CALIFORNIA	
Postal Code:	92121-1714	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14861682	

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Phone: 720.536.4900

Email: rene@nodiplaw.com

NEUGEBOREN O'DOWD PC **Correspondent Name:** 1227 SPRUCE STREET Address Line 1:

Address Line 2: SUITE 200

Address Line 4: **BOULDER, COLORADO 80302**

ATTORNEY DOCKET NUMBER:	150135
NAME OF SUBMITTER:	SEAN R. O'DOWD
SIGNATURE:	/Sean R. O'Dowd/
DATE SIGNED:	06/30/2016

Total Attachments: 12

source=150135_Signed_Assignment_As Filed_June 30 2016#page1.tif source=150135 Signed Assignment As Filed June 30 2016#page2.tif

> **PATENT** REEL: 043613 FRAME: 0249

EPAS ID: PAT3943338

WHEREAS, WE,

- 1. **Harikishan Desineni**, a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 2. **Alexy Mathew Joseph,** a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **SatishKumar Mani**, a citizen of the United States of America, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **Ravi Alamanda**, a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,

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 **EFFICIENT LOAD SHARING AND ACCELERATING OF AUDIO POST-PROCESSING** (collectively the "**INVENTIONS**") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, Qualcomm Innovation Center, Inc. (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). 14/861,682 filed September 22, 2015, Qualcomm Reference No. 150135, together with U.S. Provisional Application No(s). 62/066,544, filed October 21, 2014, Qualcomm Reference No. 150135P1, 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	SIAN OFELO, CAJUSA,	n 06/27/2016	D. Handeyla
	LOCATION	DATE	Harikishan Desineni
Done at		n	
	LOCATION	DATE	Alexy Mathew Joseph
Done at	, 01	n	
	LOCATION	DATE	SatishKumar Mani
Done at	, O	n	
	LOCATION	DATE	Ravi Alamanda

WHEREAS, WE,

- 1. **Harikishan Desineni**, a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 2. **Alexy Mathew Joseph,** a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **SatishKumar Mani**, a citizen of the United States of America, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **Ravi Alamanda**, a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,

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 **EFFICIENT LOAD SHARING AND ACCELERATING OF AUDIO POST-PROCESSING** (collectively the "**INVENTIONS**") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, Qualcomm Innovation Center, Inc. (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). 14/861,682 filed September 22, 2015, Qualcomm Reference No. 150135, together with U.S. Provisional Application No(s). 62/066,544, filed October 21, 2014, Qualcomm Reference No. 150135P1, 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	* C	<u> </u>	
	LOCATION	DATE	Harikishan Desineni
Dans at	ana ee la baar	n <u>04√34/204</u>	WASSE
none at "	SANGTEAR .C LOCATION	DATE	Alexy Mathew Joseph
One at _	LOCATION C	DATE	SatishKumar Mani
Done at	, (vo	
	LOCATION	DATE	Ravi Alamanda

WHEREAS, WE,

- 1. **Harikishan Desineni,** a citizen of India (IN), having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 2. **Alexy Mathew Joseph,** a citizen of India (IN), having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **SathishKumar Mani**, a citizen of the United States of America (US), having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 3. **Ravi Alamanda**, a citizen of India (IN), having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,

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 EFFICIENT LOAD SHARING AND ACCELERATING OF AUDIO POST-PROCESSING (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, Qualcomm Innovation Center, Inc. (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). 14/861,682 filed September 22, 2015, Qualcomm Reference No. 150135, together with U.S. Provisional Application No(s). 62/066,544, filed October 21, 2014, Qualcomm Reference No. 150135P1, 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	Harikishan Desineni	

PATENT
QUALCOMM Ref. No. 150135
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	, on		
	LOCATION	DATE	Alexy Mathew Joseph
Done at $ ext{ ext{ ext{ ext{ ext{ ext{ ext{ ext$	LOCATION	<u>J.l., 31-2</u> 017 BATE	Sathish Kumar Mani
Done at _	, on	DATE	Ravi Alamanda

WHEREAS, WE,

- 1. **Harikishan Desineni**, a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
- 2. **Alexy Mathew Joseph,** a citizen of India, having a mailing address located at Qualcomm Incorporated, 5775 Morehouse Drive, San Diego, CA, 92121 and a resident of San Diego, CA,
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WHEREAS, Qualcomm Innovation Center, Inc. (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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PATENT QUALCOMM Ref. No. 150135 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		, 000	
	LOCATION	DATE	Harikishan Desineni
Done at		, on	
	LOCATION	DATE	Alexy Mathew Joseph
Done at		.com	
racion, me	LOCATION	DATE	SatishKumar Mani
	9. S. S.	at kamterist.	46/2
Done at \(\)	kn D199	, on <u>06/27/2016</u>	
	LOCATION	DATE	Ravi Alamanda

PATENT REEL: 043613 FRAME: 0261

RECORDED: 08/21/2017