504648135 11/17/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4694856

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NAI-KUEI KUO	10/23/2017
KOSTADIN DIMITROV DJORDJEV	10/23/2017
RANJITH RANGANATHAN	10/25/2017
NAO SUGAWARA CHUEI	11/03/2017
ASHISH HINGER	10/23/2017
DAVID WILLIAM BURNS	10/23/2017

RECEIVING PARTY DATA

Name:	QUALCOMM Incorporated
Street Address:	5775 Morehouse Drive
City:	San Diego
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15782750

CORRESPONDENCE DATA

Fax Number:

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: 650-326-2400

Email: mvera@kilpatricktownsend.com

Correspondent Name: KILPATRICK TOWNSEND & STOCKTON LLP

Address Line 1: TWO EMBARCARDERO CENTER

Address Line 2: EIGHT FLOOR

Address Line 4: SAN FRANCISCO, CALIFORNIA 94111

ATTORNEY DOCKET NUMBER:	141520C1(1064534)
NAME OF SUBMITTER:	MARCOS VERA
SIGNATURE:	/Marcos Vera/
DATE SIGNED:	11/17/2017

PATENT 504648135 REEL: 044161 FRAME: 0144

Total Attachments: 9 source=141520C1_Assignment_As_Filed_Nov_11_2017#page1.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page2.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page3.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page4.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page5.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page6.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page7.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page8.tif source=141520C1_Assignment_As_Filed_Nov_11_2017#page8.tif

ASSIGNMENT

WHEREAS, WE,

- 1. Nai-Kuei KUO, a citizen of Taiwan, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Los Gatos, CA.
- 2. Kostadin Dimitrov DJORDJEV, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Los Gatos, CA.
- 3. Ranjith RANGANATHAN, a citizen of India, having a mailing address located at 1684 Marco Dr, San Jose, CA 95131 and a resident of San Jose, CA.
- 4. Nao Sugawara CHUEI, a citizen of Japan, having a mailing address located at 1964 Parrott Drive, San Mateo, CA 94402 and a resident of San Mateo, CA
- 5. Ashish HINGER, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Sunnyvale, CA.
- 6. David William BURNS, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Jose, 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 ULTRASONIC IMAGING WITH ACOUSTIC RESONANT CAVITY (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. 15/782,750 filed October 12, 2017, Qualcomm Reference No. 141520C1, which is a Continuation of U.S. Application No. 14/589,783, filed January 5, 2015,

Qualcomm Reference No. 141520 and all provisional applications relating thereto, together with and U.S. Provisional Application No. 61/926,829, filed January 13, 2014, Qualcomm Reference No. 141520P1 (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 whatsoever conflicting with these presents.	will not execute any writing or do any act
Done at LOCATION DATE	Nai-Kuéi KUO
Done at School (less), on DATE	Kostadin Dimitrov DJORDJEV
Done at, on LOCATION DATE	Ranjith RANGANATHAN
Done at, on LOCATION DATE	Nao Sugawara CHUEI
Done a Carto (1000), on 10/2 2/2017 LOCATION DATE	Ashish HINGER
Done at <u>\$ 1.000000000000000000000000000000000000</u>	David William BURNS

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- 6. David William BURNS, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of San Jose, 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 ULTRASONIC IMAGING WITH ACOUSTIC RESONANT CAVITY (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. 15/782,750 filed October 12, 2017, Qualcomm Reference No. 141520C1, which is a Continuation of U.S. Application No. 14/589,783, filed January 5, 2015,

Qualcomm Reference No. 141520 and all provisional applications relating thereto, together with and U.S. Provisional Application No. 61/926,829, filed January 13, 2014, Qualcomm Reference No. 141520P1 (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, Treatics, 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	s on	
LOCATION	, on DATE	Nai-Kuei KUO
Done at	, on DATE	
LOCATION	DATE	Kostadin Dimitrov DJORDJEV
Done at SANJOSE CA	on 10/25/287	Ranjith RANGANATHAN
LOCATION	, on	Ranjith RANGANATHAN
T		
LOCATION	, on DATE	Nao Sugawara CHUEI
The second		
LOCATION	, on DATE	Ashish HINGER
Done at	. on	
LOCATION	on	David William BURNS

ASSIGNMENT

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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. 141520C1 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		
Done atLOCA	TION	DATE	Nai-Kuei KUO
Done atLOCA	, on	DATE.	Kostadin Dimitrov DJORDJEV
EUCA	HON	Ditto	TERRORAN DIMENTON DOCUMENT.
Done at	, on		Ranjith RANGANATHAN
LOCA	TION	DATE	Ranjith RANGANATHAN
Done at Sam Ma	eteo kon 🤃	13/14	Nao Sugawara CHUEI
LOCA	TION	DATE	Nao Sugawara CHUEI
Done at	. on		
Done atLOCA	TION	DATE	Ashish HINGER
Done at	~ on		
Done atLOCA	TION	DATE	David William BURNS

PATENT REEL: 044161 FRAME: 0154

RECORDED: 11/17/2017