506854140 09/03/2021

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HUNG DINH LY	05/20/2021
WEI YANG	05/15/2021
KRISHNA KIRAN MUKKAVILLI	06/16/2021
GOKUL SRIDHARAN	06/16/2021
HWAN JOON KWON	07/21/2021

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:	17302771	
Application Number:	63045560	

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: 5714320800

Email: docket@harrityllp.com

Correspondent Name: HARRITY & HARRITY, LLP Address Line 1: 11350 RANDOM HILLS RD

Address Line 2: SUITE 600

Address Line 4: FAIRFAX, VIRGINIA 22030

ATTORNEY DOCKET NUMBER:	0097-1831/205934
NAME OF SUBMITTER:	SARA STESNEY
SIGNATURE:	/Sara Stesney/
DATE SIGNED:	09/03/2021

PATENT 506854140 REEL: 057385 FRAME: 0060

Total Attachments: 7 source=205934 Assignment as Filed#page1.tif source=205934 Assignment as Filed#page2.tif source=205934 Assignment as Filed#page3.tif source=205934 Assignment as Filed#page4.tif source=205934 Assignment as Filed#page5.tif source=205934 Assignment as Filed#page6.tif source=205934 Assignment as Filed#page7.tif

ASSIGNMENT

WHEREAS, WE,

- 1. Hung Dinh LY, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121, US,
- 2. Wei YANG, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121, US,
- 3. Krishna Kiran MUKKAVILLI, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121, US,
- 4. Gokul SRIDHARAN, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121, US,
- 5. Hwan Joon KWON, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121, US.

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 **REPETITION OF A MESSAGE 3 COMMUNICATION OF A FOUR-STEP RANDOM ACCESS CHANNEL PROCEDURE** (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). 17/302,771 filed May 12, 2021, Qualcomm Reference Number 205934, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 63/045,560, filed June 29, 2020, Qualcomm Reference Number 205934P1, (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;

Done at	San Diego, UA	n <u>05 20/204</u>	MAG
	City, State, Country	Date	Hung Dinh LY
Done at	, 0	n	
	City, State, Country	Date	Wei YANG
Done at		n	
	City, State, Country	Date	Krishna Kiran
			MUKKAVILLI
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	City, State, Country	Date	Gokul SRIDHARAN
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	City, State, Country	Date	Hung Dinh LY
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	City, State, Country		Wei YANG
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Done at	, on	·:	Manahari
	City, State, Country	Date	Krishna Kiran
	en e		MUKKAVILLI
Done at	, on	•	
	City, State, Country	Date	Gokul SRIDHARAN
Done at	, on		
2000	City, State, Country	Date	Hwan Joon KWON

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	City, State, Country		Date	Hung Dinh LY
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	City, State, Country		Date	Wei YANG
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	City, State, Country		Date	Krishna Kiran MUKKAVILLI
Done at		, on		
	City, State, Country		Date	Gokul SRIDHARAN
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	City, State, Country		Date	Hung Dinh LY
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	City, State, Country		Date	Krishna Kiran
				MUKKAVILLI
Done at	re war, Fr	, on <u>O</u>	6/16/2021	Musik
	City, State, Country		Date	Gokul SRIDHARAN
Done at		_, on		
	City, State, Country		Date	Hwan Ioon KWON

PATENT Qualiform Reference Number 205934 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_		_,00		
	City, State, Country		Date	Hung Dinh LY
Done at_		_, on		
	City, State, Country		Date	Wei YANG
Done at		, on		
	City, State, Country		Date	Krishna Kiran MUKKAVILLI
				WONKAYILL
Done at_		_, on		
	City, State, Country		Date	Gokul SRIDHARAN
Done at_	Sur Days, cA	, on <u>7/2</u>		セステー
	City, State, Country		Date	Hwan Joon KWON

PATENT REEL: 057385 FRAME: 0068

RECORDED: 09/03/2021