PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WANSHI CHEN	03/16/2018
PETER GAAL	04/13/2018

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15920043

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	030284.14920/173571
NAME OF SUBMITTER:	KINNON MCDONALD
SIGNATURE:	/KINNON MCDONALD/
DATE SIGNED:	04/30/2018

Total Attachments: 2

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PATENT 504891987 REEL: 045670 FRAME: 0716

ASSIGNMENT

WHEREAS, WE,

- 1. Wanshi CHEN, a citizen of the People's Republic of China, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121-1714 and a resident of San Diego, California,
- 2. **Peter GAAL**, a citizen of the **United States of America**, having a mailing address located at 5775 **Morehouse Drive**, **San Diego**, **CA 92121-1714** and a resident of **San Diego**, **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 **TECHNIQUES FOR DUAL-MODE OPERATIONS IN NEW RADIO** (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, including but not limited to, U.S. Application No(s). 15/920,043 filed March 13, 2018, Qualcomm Reference No. 173571, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/476,472 filed March 24, 2017, Qualcomm Reference No. 173571P1 (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 nonprovisional applications, national phase applications, 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,

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

Wanshi CHEN

Done at San Ding, on Oh/19/2015 DATE

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RECORDED: 04/30/2018