Call sign WH2XIN Modification (3550-3650 MHz)

1 Introduction

Qualcomm's technologies powered the smartphone revolution and connected billions of people. We pioneered 3G and 4G – and now we are leading the way to 5G and a new era of intelligent, connected devices. Our products are revolutionizing industries, including automotive, computing, IoT, healthcare and data center, and are allowing millions of devices to connect with each other in ways never before imagined. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, all of our engineering, research and development functions, and all of our products and services businesses, including, our QCT semiconductor business. For more information, visit Qualcomm's website, OnQ blog, Twitter and Facebook pages.

This license modification is requested changes to call sign to enable to following

1) Reduce the lower frequency to 3550 MHz
2) Increase the transmission bandwidth to 100 MHz

2 Experiment Modification Description

Qualcomm has utilized the frequency range of 3550-3650 to develop 4G LTE technologies under call sign WH2XIN. Qualcomm is now requesting permission to modify the existing license to enable 5G development testing.

The testing will use up to 10 fixed site base stations and up to 50 small cell sites located inside the geographic region described in Section 2. Mobile devices will be operated with in the coverage provided by the fixed sites.

The number and locations of sites used for testing vary with time and are dependent on test program goals and coordination efforts with the US Navy through the Navy and Marine Corps Spectrum Offices (NMCSO).

The intent is to operate the LTE and 5G networks 24 hours per day 7 days per week.

3 Interference Coordination

Immediate requests for Qualcomm to stop transmission should be emailed to 3.5GHz.trial.shutdown@qualcomm.com. Alternatively, a shutdown requested can be submitted through John Forrester who can be contacted at 858-845-7428 or jforrest@qti.qualcomm.com

4 Transmitter Information

Downlink RF channels with a transmission bandwidth of 20 to 100 MHz will be operated within the requested frequency range at any one time.

The maximum EIRP for the is listed in Table 1. The fixed sites and small cells also support MIMO and the defined power is with respect to each antenna sector.

Table 2 defines the deployment radiuses where all fixed, small cell sites, and mobile units will be located within during the testing.

Table 1 Transmitter Information

Type	Transmit Frequency (MHz)	Conducted TX Power (dBm)	Maximum Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	ERP (dBm)	ERP (W)	Maximum Transmission Bandwidth (MHz)	Emissions Designator
Small cell	~~3560-3650~~ 3550-3650	37	3	40	10	37.8	6	20 **New**: 100 MHz	20M00W7W 100M00W7W
Fixed	~~3560-3650~~ 3550-3650	42	18	60	1002	57.8	608	20 **New**: 100 MHz	20M00W7W 100M00W7W

Table 2 Deployment Area

		Operational Center Point		Fixed Site Location Radius	
Location Description	Location #	Lat	Long	Miles	km
Sorrento Valley	1	32 53 42 N	117 11 42 W	5	8