



3.7-3.8 GHz Special Temporary Authorization ("STA") Application

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 STA application request is in support of a small temporary 5G R&D test network utilizing a 100 MHz 5G NR transmission within the frequency range of 3.7-3.8 GHz. in two remote locations.

2 Experiment Description

This experimental license is critical for Qualcomm to develop applications for 5G technology wireless communications systems.

The network is designed to generate the smallest amount of RF interference to incumbents in the requested frequency range while also providing the RF coverage area required for engineering development. A search of FCC database has shown there are no C-band receivers within 20 miles of the area.

Two locations are requested in the application. Each location will have a small 5G network that utilizes 1-3 base station transmitters to provide the RF coverage area to a maximum of 50 mobile devices. The base stations and mobile devices both use omnidirectional antennas with a maximum transmit power of respectively 35dBm and 25dBm EIRP. The intent is to operate the networks 24 hours per day, 7 days per week through the duration of the STA.

The test networks utilize a single TDD 100 MHz channel bandwidth transmitted in the range of 3700-3800 MHz. Both fixed and mobile transmitters use OFDM modulation with a FCC emission designator of 100MW7W. Table 1 describes the technical parameters of the



transmitters. The base station is considered an omnidirectional source since there are no orientation constraints.

Transmitter Information in the frequency range of 3.7-3.8 GHz

County	Longitude Latitude	Transmitter Type	Antenna Type	EIRP / 100 MHz [dBm]	EIRP / 100 MHz [W]	ERP / 100 MHz [W]
Dickey	46 8 24 N 98 54 16 W	Fixed	Omni	35	3.16	1.92
		Mobile	Omni	25	0.3	0.19
	46 7 19 N 98 51 3 W	Fixed	Omni	35	3.16	1.92
		Mobile	Omni	25	0.3	0.19
Hale	34 0 10 N 101 36 40 W	Fixed	Omni	35	3.16	1.92
		Mobile	Omni	25	0.3	0.19
	33 55 54 N 101 35 13 W	Fixed	Omni	35	3.16	1.92
		Mobile	Omni	25	0.3	0.19

3 Points of contact to stop transmission

The following points of contact are available as a stop buzzer:

Email: transmitter.shutdown@qti.qualcomm.com (include the band and location).

Alternative contact:

John Forrester

Phone: 858-845-7428 (24 hours)

Email: jforrest@qti.qualcomm.com