

28.4 -30.0 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.

Qualcomm is conducting milli-meter wave propagation characteristics testing in support of 5G development for FCC defined 5G frequency bands and needs to make practical measurements to verify and optimize the propagation models.

Qualcomm respectfully requests the Commission to grant a STA to enable Qualcomm to complete these important measurements.

2 Transmitter Information

Testing is experimental and expected to occur daily, for a period of up to 8 weeks. A single transportable test transmitter will be used within a 1 km radius from the address in table 1.

The test transmitter uses mechanically steerable, directional horn antenna to illuminate various propagation paths and a receiving antenna that measures the corresponding signal strength.

The transmitter uses a single, continuously-modulated noise-like carrier at a fixed 40 dBm EIRP occupying 100MHz which can be tuned over the range: 28.7 +/-0.2GHz. Table 2 defines the transmitter emissions.

Street address	County	Latitude	Longitude	Height and beam pointing
10 Livingston Ave, New Brunswick, NJ 08901	Middlesex	40° 29' 33.9"	74° 26' 38.3"	Height above the ground < 3 m Beamwidth 15 deg. Elevation: -5° to +10° Azimuth: 0-360°

Table 1 Transmitter Site Information

Type	Center Frequency (GHz)	Peak EIRP				Peak Antenna Gain (dBi)	Emission designator
		dBm	dBW	W EIRP	W ERP		
Single fixed horn antenna	28.7+/-0.2	40.0	10.0	10	6.16	20.0	100MWNXN

Table 2 Transmitter Information

3 License Requested

Qualcomm respectfully requests the Commission to grant an experimental license to enable us to start important 5G milli-meter wave measurements.

4 Points of Contact to stop transmission

The following points of contact is available as a stop buzzer.

Email qualcomm.transmitter.shutdown@qti.qualcomm.com; or brjones@qti.qualcomm.com

John Forrester

5775 Morehouse Drive

San Diego

CA 92121

858-845-7428 (24 hrs. hour contact)
