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28 and 39 GHz Experiment Proposal

1 Introduction

Qualcomm Technologies Incorporated (NASDAQ:QCOM - News) is the world leader in 3G and next-generation mobile technologies. For 25 years, Qualcomm’s ideas and inventions have driven the evolution of wireless communications, connecting people more closely to information, entertainment and each other. Today, Qualcomm technologies are powering the convergence of mobile communications and consumer electronics, making wireless devices and services more personal, affordable and accessible to people everywhere. For more information, please visit www.qualcomm.com.

This experimental license request is to facilitate the exploration of the 28 and 38 GHz millimeter wave bands. The experiments will include point to point and non-line of site operation. Part 101.103 frequency coordination will be completed to constrain operations within the worst case parameters defined in Section 2.

Initial experiments were completed under STA 0801-EX-ST-2013.

2 Transmitter Information

Testing is expected to occur periodically for six months from license issue date. Tables 1 & 3 contain transmit power information for the test sites. Table 2 & 4 lists the site locations and azimuth. Directional horn antennas will be used for the fixed sites.

Table 1 Transmitter Information 27.5-30, 38.6-39.5 GHz

Frequency (GHz)	Peak EIRP			Peak ERP (W)	Peak Antenna Gain (dBi)	3dB Beamwidth	Maximum Emission BW	Emissions Designator
	dBm	dBW	W					
27.5 - 30	55	25	316	192	30	8 degrees	850 MHz	850M00G7D
38.6 - 39.5	55	25	316	192	30	8 degrees	850 MHz	850M00G7D

Table 2 Transmitter Site Information 27.5-30, 38.6-39.5 GHz

Site #	Address	County	Lat	Long	Peak Antenna gain Azimuth (Deg)	Elevation	Antenna Type
1	Bridgewater 500 Somerset Blvd	Somerset	40° 35' 7.0794"	-74° 37' 27.48"	314 (Northwest)	Varies Up to 27m	Horn
2	Bridgewater 400 Somerset Blvd	Somerset	40° 35' 16.4394"	-74° 37' 41.16"	134 (Southeast)	Varies Up to 35m	Horn

Table 3 Transmitter Information 28-28 GHz

Frequency (GHz)	Peak EIRP			Peak ERP (W)	Peak Antenna Gain (dBi)	3dB Beamwidth	Maximum Emission BW	Emissions Designator
	dBm	dBW	W					
28-28	47	17	50.1	20	27	60 deg	200 MHz	200MG7D

Table 4 Transmitter Site Information 28-28 GHz

Site #	Address	County	Lat	Long	Peak Antenna gain Azimuth (Deg)	Elevation	Antenna Type
3	New Brunswick Within 0.5 km: centered NL 40-29- 42 WL 74-26-38	Middlesex	40° 29' 42"	74°26' 38"	TBD based on frequency coordination	<6m	Horn