14000-14500 Experiment Proposal

1 Introduction

Qualcomm Incorporated (NASDAQ:QCOM - News) is the world leader in 3G and next-generation mobile technologies. For 25 years, Qualcomm 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.

Qualcomm recently filed a Petition for Rulemaking to Amend The Commission's Rules To Establish A Next-Generation Air-Ground Communications Service On A Secondary Licensed Basis In The 14.0 to 14.5 GHz Band, RM-11640. Comments and Reply Comments were filed on the Petition in September and October 2011. See RM-11640. Qualcomm has also met with the FCC staff in IB, OET, and WTB to discuss the request and the expected performance of the Next-Gen Air-Ground system.

Qualcomm is filing this request as an extension of STA 0035-EX-ST-2012 / Call sign WF9XKM to conduct limited testing within the 14.0 to 14.5 GHz frequency band. The extension is required to complete the initial testing and also support some new tests required based on collected data. Qualcomm will use the experimental authority to conduct tests that will allow it to characterize the Next Gen Air-Ground System antenna performance using a singled fixed transmitter on the ground and measuring RX power in an aircraft.

Changes from 0035-EX-ST-2012 include:
1) Extend authorization period
2) Increased available azimuth for all sites. Azimuth used for testing is coordinated with WAFC prior to transmission on approved dates.

2 Transmitter Information

Testing is expected to occur April 21 to August 31, 2012. Table 1 contains transmit power information for all sites.

A single fixed site will be deployed near the Bakersfield airport at one of the sites in table 2 with the antenna pattern profile shown in figure 1.

Two sites will be located in San Diego as detailed in Table 2. Only one site is active at any one time.

Receive only measurement equipment will be located in an in-flight aircraft during testing.

Table 1 Transmitter Information

		Conducted Power		Peak EIRP					
Type	**Frequency (MHz)**	**dBm**	**W**	**dBm**	**dBW**	**W**	**W ERP**	**Peak Antenna Gain (dBi)**	**Emission BW**
Fixed	14000-14500	24	0.3	65	35	3162	1919	41	5 MHz

Table 2 Transmitter Site Information

Site #	City	County	Lat	Long	3dB Beamwidth	Azimuth	Elevation	Antenna Type
1	American Tower site # CA-8322	Kern	35 2 4 N	118 57 31 W	+/- 1 degree	Between 300-360 degree	2 degrees above horizon	Directional
2	Bakersfield	Kern	35 22 32 N	119 1 18 W	+/- 1 degree	Between 300-360 degree	2 degrees above horizon	Directional
3	San Diego	San Diego	32 54 13 N	117 11 48 W	+/- 1 degree	Between 295-360 degrees	2 degrees above horizon	Directional
3	San Diego	San Diego	32 53 42 N	117 11 42 W	+/- 1 degree	Between 295-360 degrees	2 degrees above horizon	Directional

Figure 1 Fixed Site Antenna Pattern