Exhibit A - Experiment Description

About ViaSat

ViaSat is in the business to connect the world. As a global broadband services and technology company, we are connecting international communities to the internet by offering residential internet service; enabling passengers and operations crews to stream high-bandwidth media, applications, and content when traveling globally on commercial, business or government aircraft and maritime vessels; and empowering international warfighters on the front lines of battle with real-time, secure internet-based intelligence, surveillance, and reconnaissance for high-requirement missions. We deliver and protect information – when and where it is needed most – with our trusted communications ground systems, infrastructure, and services.

Purpose

In addition to providing broadband internet service, ViaSat also designs and manufactures a variety of antennas. These antenna products cover not only the commercial frequencies but those known as "mil-Ka". ViaSat has a long history partnering with the U.S. DoD to provide satellite communication products. The purpose of this request for an experimental license is to test the performance of antennas by generating antenna patterns and ensure they meet the design specification. An analysis of the non-ionizing radiation level can be seen in Exhibit B. The requested FAA sketch is presented in Exhibit C and antenna transmit patterns for the SA 22-4a are in Exhibit D.

Description of Experiment

The proposed testing facility consists of a reference RF signal source antenna ("Reference Signal Antenna") that will be located at 1236 Wayne Poultry Road, Pendergrass GA (34°10'15" N, 83°40'6" W) and mounted atop a 40 ft. tower. The antenna under test will be located approximately 400 m from the Reference Signal Antenna mounted atop a 40 ft. building. The Reference Signal Antenna will be directional and will be pointed 308° in azimuth at an elevation angle of 0°. The beamwidth of the Reference Signal Antenna varies by frequency and will be approximately per the following formula:

17,224.5 / F, where F is the frequency of operation in MHz[1]

[1] This is a condensed form of (70 * λ) / D, where λ is the wavelength and is the diameter of the antenna, 4 ft in this case.

The Reference Signal Antenna will consist of a 4-foot (1.22 m) diameter reflector dish manufactured by Scientific Atlanta, model number 22-4A, connected to the Scientific Atlanta Pattern Range equipment model number 2095 and / or Agilent Range equipment model number 8530, which will generate a non-modulated continuous wave ("CW") test signal at a frequency between using 30000 MHz and 31000 MHz with emission designator 100HN0N. The Reference Signal Antenna transmits at very low radio frequency levels as the intent is to detect the signal for antenna pattern testing and not information transmission. Transmissions will have a maximum ERP of 5 W, well below the 1 mW/cm2 limit for persons in the General Population/Uncontrolled environment specified in Office of Engineering and Technology ("OET") Bulletin No. 65.

In each test, the Reference Signal Antenna will transmit the CW test signal to the test antenna. Although the antennas being tested will have both transmit and receive capabilities, performance of transmit capabilities can adequately be tested by observing the receive performance in the transmit band because of the reciprocal nature of the performance in each of the transmit and receive bands. Therefore, ViaSat requests experimental license authority for only the Reference Signal Antenna.

Interference to Other Services

Operation of the Reference Signal Antenna as proposed by this application is not likely to cause interference to any other licensed services or systems. As described above, the CW test signal will be emitted at extremely low power levels. Additionally, due to the narrow beam-width and the horizontal orientation of the CW test signal, the potential for interference is remote.

RF Radiation Compliance

The operation of these user terminals will be in full compliance with the Commission's radio frequency (RF) exposure guidelines, pursuant to Table 1 of Section 1.1307(b)(1) which states routine environment evaluation is not required for Experimental Radio Services if the power is less than 100 Watts ERP. The maximum power from the terminal will be 0.31 W ERP. Additionally, the terminal will be secured from access by the general public and will be operated by experienced test personnel.