

**PUBLIC INTEREST STATEMENT**

By the instant application ("Application"), Leidos, Inc. ("Leidos") requests that the Commission grant a 2 year conventional experimental license ("License) to permit Leidos to operate the facilities specified in the instant application.

**1. Purpose of Operation**

Leidos wishes to test functionality and evaluate the performance of the ViaSat VR-18 SATCOM terminal that is installed on Leidos' de Havilland dash-8 aircraft. The proposed operation will be used to test the VMT- 18 ViaSat mobile aircraft mounted SATCOM antenna for system reliability and performance within the following KU band frequency range: (14,000 – 14,500 MHZ uplink (transmit). The License is requested for the transmit frequencies that will fall within the KU band range, but are dynamically assigned by ViaSat.

This License (which will serve as a continuation of the operations previously authorized under STA – call sign WL9XHC) will support Leidos' integration, testing and fielding the VMT-18 into multiple aircraft that are directly supporting DOD intelligence operations worldwide. These systems are capable of transmitting at a maximum of 20 Watts ERP from a directionally steerable parabolic antenna on the aircraft. Leidos' primary use for this experiment will be for i.p. data transport over satellite. The intended purpose of this experiment is to prove operability and performance, pursuant to government contract requirements.

Waiver of the Station ID rules set forth at Section 5.115 is respectfully requested.

The applicable government contract information is as follows;

Customer/Agenc	SOCOM
y: Contract No.:	WI 5P7T-10-D-D420/0007
Contract POC:	Dave Tattoli CIV USARMY PEO IEWS M3 MAISR & Foxhound COR PdM MARSS/ PM SAI Comm:443-861 -1937; BB:443-910-7191 david.m.tattoli.civ@mail.mil

## **Airborne Transmissions**

Mobile airborne transmissions conducted within a flight pattern centered on the test area center point at 38°40'04"N 121°24'02"W, with the furthest waypoints lying on a radius of 200km about the center point. The maximum flight ceiling planned is 5486.4m (18,000 feet) above ground level (AGL) (range will be from 14,000- 18,000 ft. AGL). Ground elevation above sea level at the center point coordinates is 23.4 m at this location. The nearest airport to the center point coordinates is McClellan Air Force Base in Sacramento Ca within 1 km from the center point coordinates.

### **2. Other technical information**

#### A. Emission:

- a. 1OMOG1W (return link)

#### B. Direction of Emission:

##### a. Ground based:

1. Multiple satellites are possible for utilization so direction cannot be predetermined.

##### b. Airborne:

##### i. Variable, but generally a Southerly Direction.

1. Depending on elevation and direction of travel.

#### C. Feed Power and off-axis emission:

- a. Feed Powers will be limited to comply with criteria per 25.222

#### D. Aeronautical Antennas:

- a. TX gain 45.6 dB

### **3. Prevention of interference**

Leidos is well aware of its obligations under Part 5 of the Commission's rules to avoid interference. During testing, PSD shall not exceed limits specified in 25.222.

The (relatively) small antennas required for aeronautical applications have wide beam-widths. This poses interference concerns to adjacent satellites. ViaSat utilizes spread spectrum techniques to lower the power spectral density to acceptable interference levels. The spread spectrum modulation combined with tracking antennas and transmission suppression techniques for off pointed conditions are imperative to interference mitigation.

Testing shall be coordinated with the satellite operator. A control point operator will establish telephone communications with the satellite operator prior to any illumination of the satellite. The control point operator will maintain positive control of all transmissions and will cease transmission immediately upon request of the satellite operator or on request of the adjacent satellite operators.

Stop buzzer contact: Jay Mollet: Mobile 540-560-2745