ViaSat, Inc.
File No. 0059-EX-ST-2006

**ATTACHMENT**

**TECHNICAL DESCRIPTION OF**
**REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

Purpose

ViaSat, Inc. ("ViaSat") plans to perform acceptance testing of customer equipment that will ultimately be used by the government of Israel. ViaSat's customer is a U.S. company that has entered into a contract with the Israeli government relating to a project funded by U.S. Government Foreign Military Funding. The test will include communications with non-geostationary orbit satellites licensed by Israel for equipment validation purposes. The test will be conducted over a three-week period sometime between April 1, 2006 and September 30, 2006.

Description of Testing Program

The proposed testing program consists three 7.3 meter diameter axi-symmetric prime-focus antennas built and manufactured by ViaSat (Part Number 1037617) located at a ViaSat testing facility at 1725 Breckinridge Plaza, Duluth, Georgia. The antennas will be installed on a ground based concrete antenna testing pad. The transmitting equipment on each antenna will consist of a Vertex RSI S-Band Antenna-Mount high power solid-state amplifier. The transmitter is capable of producing a saturated output power level of 50 watts across the 2.0 to 2.15 GHz satellite uplink band.

The test will consist of a continuous wave ("CW") test signal (that contains no data) in the 2025-2130 MHz band to three Israeli non-geostationary remote sensing satellites: EROS-A1, Ofeq-5 and TECSAR satellites. These satellites operate in a non-geostationary orbit and thus, there will be no fixed azimuth or elevation angles. A transmit mask will be applied to the antennas to prevent the system from transmitting in angles below 30 degrees. The beamwidth of each antenna is 1.3 degrees. The maximum ERP for the test will be 30.8 dBW, or 1196 Watts.

The earth stations used in the test will also validate the bit error rate of the downlink signal from each satellite. The downlink frequencies transmitted by the satellites are as follows:

| Satellite | Center Carrier Downlink Frequencies |
|---|---|
| EROS-A1 | 8140 or 8250 MHz<br>2295 MHz |
| Ofeq-5 | 8050,8150, 8250, 8350, 8450 MHz<br>2200-2300 MHz |
| TECSAR | 8050, 8150, 8250, 8350, 8450 MHz<br>2200-2300 MHz |

Interference to Other Services

Operation of the antennas as proposed by this application is not likely to cause interference to any other licensed services or systems. The potential for interference is remote because the power of the test beam, which will be a maximum of 30.8 dBW (1196 Watts), is lower than typical satellite transmissions, and will use just enough power to contact a polar satellite much closer to the earth than a geostationary orbit satellite. Further, each CW test signal transmissions will approximately last 12 minutes. ViaSat expects to transmit approximately 15 signals during a three-week period in which each of the NGSO satellites will be visible at the test site. Thus, the short duration and infrequent nature of the transmissions will significantly reduce the potential for interference.

Terrestrial services will be adequately protected by the implementation of a transmit mask, which will limit transmissions to elevations above 30 degrees. Additional RF shielding is provided by the surrounding terrain, trees and heavy foliage, which would further reduce the potential for interference.

RF Radiation Compliance

The operation of these user terminals will be in full compliance with the Commission's radio frequency (RF) exposure guidelines, which requires routine environment evaluation for Experimental Radio Services where the power is greater than 100 Watts ERP. As detailed in the attached Radiation Hazard Analysis, the Commission's power density limits for general public exposure are met at the main reflector surface, aperture plane, near-field at a radius of 1,000 feet, and the far field (beam peak), and is only exceeded in the feed aperture region.

These user terminals will be secured from access by the general public and will be operated by experienced test personnel. Personnel hazards in the feed aperture region (the cone-shaped region between the feed and main reflector) may be avoided by disabling the transmitter whenever anyone attempts to access this area.