

Experiment Description

Why is a STA necessary?

ViaSat requests Special Temporary Authority (STA) to perform acceptance testing on a transportable satellite communications system [manufactured to the specifications of a ViaSat customer]. As part of the test, the system will transmit signals in the 7.9 – 8.4 GHz range in order to demonstrate that the system is capable of transmitting in accordance with specifications. The transmissions are expected to occur intermittently over a 90 day period. ViaSat requests an STA due to the temporary nature of the operations and the short duration of the testing.

Further, ViaSat respectfully requests expedited processing of this request. Due to an unexpected demand by the customer, ViaSat must conduct this testing as soon as possible.

Purpose of the Operation:

Approval of this STA will allow ViaSat to perform timely acceptance testing of an RF Terminal (RFT), which will be a component in a satellite communications system [manufactured to the specifications of a ViaSat customer]. The tests include transmission of two 500 W carriers through the feed and antenna reflector to measure any passive intermodulation products.

The test program has two phases. During the first phase, transmissions will occur through the feed horn only without using the reflector. The second phase will include the 16 m reflector. All tests will take place at ViaSat's Antenna Systems facility in Duluth, Georgia. The antenna will be operated at ground level. The RFT consists of a tracking antenna, antenna feed assembly and high power amplifier.

During normal operation, the RFT will communicate with satellites in the geostationary arc. However, for purposes of testing the transmission capabilities of the RFT, the RFT will be pointed at a 90 degree elevation and will transmit straight up.

The test transmissions from the RFT as proposed by this application are not likely to cause interference to any other licensed services or systems because the antenna will be pointed well away from the geostationary satellite arc and the horizon, thereby minimizing the potential for interference into satellite and terrestrial systems. Further, the potential for interference is remote due to additional RF shielding provided by the surrounding terrain, trees, and heavy foliage.

The operation of the RT will be in full compliance with the Commission's radio frequency (RF) exposure guidelines – see RF hazard analysis exhibit. The RFT will be secured from access by the general public and will be operated by experienced test personnel.