EXHIBIT A

EXPERIMENTAL PROGRAM

Equipment Description

The standard SurfBeam VSAT product is designed to provide 2-way IP connectivity to a hub site, which would typically be connected to the Internet. The product was built using the DOCSIS cable modem standard as a basis and as such, shares some of the same internal hardware architecture. The system was designed from the ground up to be capable of operation at Ka-band but is initially being offered as a Ku-band product until Ka-band satellite systems are available.

The hub station will transmit an 8PSK or QPSK modulated forward channel from the hub earth station to the remote VSAT earth stations. The forward channel may be operated at a variety of data rates but for this experimental program will only be operated at a maximum data rate of 2.5 Msps. The modulation choice of the forward channel transmission will vary with the selected forward error correction (FEC) code rate. For code rates of 2/3 or 5/6, the modulator will operate using 8PSK. When using a rate 1/2 the modulator will operate using QPSK.

The remote VSAT earth stations will transmit return signals to the hub according to a specified burst schedule. The remote VSATs will employ QPSK modulation with rate 1/2 FEC and may transmit at data rates of 360, 640, or 1280 ksps. Burst duty cycle will be less than 10%.

As part of the test a 76 cm VSAT antenna will be evaluated. This antenna is of an offset fed elliptical design that minimizes the beamwidth in the direction of the GSO while also keeping the overall size of the antenna small. These VSAT antennas are not compliant in all regards with the current FCC part 25.209 antenna performance standards. One of the goals of the test program is to verify that the system will operate with antenna input power densities sufficiently less than the –14 dBW/4 kHz limit, that when combined with the off-axis antenna gain performance in the direction of the GSO no harmful interference will be generated into other VSAT networks.

To further reduce the risk of interference to adjacent satellites, each of the antennas in the test program will be professionally installed to insure that they are accurately pointed at the desired satellite. An associated goal of the test program is to design suitable pointing aids into the system and a well-documented antenna installation process that will allow a typical home user to reliably and accurately point the VSAT antenna.

Experimental Program

The proposed program of experimentation is designed to allow ViaSat to test and verify the performance of its ArcLight VSAT product.

The test program consists of, but is not necessarily limited to, the following:

- Verification of hub and remote terminal modem and RF performance
- Verification of hub and remote power spectral density masks
- Verification of terminal throughput under various load conditions
- Verification of system capacity under various load conditions
- Verification of system network management functions such as uplink power control, network access control, remote subscriber terminal configuration and maintenance, and commanded transmit inhibit of remote terminals
- Verification of subscriber installation, configuration, antenna pointing aid tools, and transmit inhibit on loss of forward link reception
- General system performance benchmarking and modeling

Contribution To The State Of The Art

The ViaSat, Inc. SurfBeam product has reached the point in its development cycle where it is ready to be tested over the air. Once successfully tested and ready to be sold as a consumer VSAT product, the SurfBeam product offers several key advantages over existing VSAT products in the same market.

- The DOCSIS cable modem heritage allows the use of low cost high volume components and helps reduce the size and cost of the subscriber terminal satellite modem.
- Similarly the complexity and cost of the hub station is reduced because of the high degree of commonality with existing cable modem systems.
- The hub station can plug seamlessly into existing cable modem systems.
- Antenna pointing aids and uplink power control are built into the product to help insure that the subscriber terminals are correctly pointed and that they operate with only the minimum necessary power. Failsafe mechanisms are built in to the subscriber terminal to insure that is ceases transmission when the equipment malfunctions or when the terminal's antenna is mispointed.