

Orbital Sciences Corporation
21830 Atlantic Blvd.
Dulles, VA 20166

Federal Communications Commission
Experimental Radio Services
P.O. Box 358320
Pittsburgh, PA 15251-5320

Re: Experimental license for Orbital Sciences Corporation

Dear Sir or Madam:

This letter requests an experimental license for Orbital Sciences Corporation (Orbital) explicitly for the purposes of integration and testing of commercial communications satellites. In March of this year, Orbital will begin communications testing of two C-Band satellites to be launched later in the year and in 2005. The missions of both are to provide video distribution communications for television system operators.

Approval of this experimental license will allow timely verification of the spacecraft's command, control, and telemetry sub-system, as well as the audio/video communications payload. It must be stressed that Orbital strives to **eliminate** any stray emissions from its facility while testing of its satellites. Orbital performs all testing inside Orbital structures (metal buildings), shielded rooms, and/or anechoic chambers. Therefore, Orbital does not anticipate any additional coordination to be required. This license is needed in the event any stray radiation is transmitted into the local area. The parameters of the RF transmissions for this experimental license are provided in the attachment.

Please call me (703-404-6549) if you have any questions concerning this STA. Thank you in advance for your prompt attention to this matter.

Sincerely,

David J. DeTroye
Orbital Sciences Corporation
RF Communications Group

Attachment:

Experimental License for Orbital Sciences Corporation

Purpose of Operation: Satellites integration and test

Dates of Operation: Effective between March 1, 2004 and December 30, 2006

Station Locations: Dulles, VA. NL 39-00-56; WL 77-25-42

Radio Frequency Parameters for satellite 1 (Dulles, VA):

Frequency Span, Null-Null Bandwidth (GHz)	Modulation Type	Maximum Effective Radiated Power (ERP)
3.700 - 4.200	Continuous wave (CW)	+10 dBW
3.70175	Frequency Shift Keying with Ranging Tones	+10 dBW
4.198 - 4.199875	Frequency Shift Keying with Ranging Tones	+10 dBW
5.945– 6.425	Continuous wave (CW)	+1 dBW

Three types of antennas are used in the production of our satellites. They are as follows:

1. High Gain Shaped reflector – This is the main communications antenna for 3.7 – 4.2 GHz CW transmission. The antenna is pointed horizontally directly into a field of anechoic material located on the roof of the test facility. Additional anechoic material is placed around the antenna and on the floor to absorb any stray radiation from the spillover of the feed horn, which is pointed down at the reflector.
2. Omni antenna – This is an omni antenna which is surrounded by anechoic material and located in a metal building
3. Wide Coverage Antenna – This is a directional antenna which pointed horizontally into a field of anechoic material located on the roof of the test facility.

Shield Rooms and anechoic material are used to absorb nearly all radiated energy. Stray radiation may exist and thus the application for the experimental license. Orbital Sciences is aware that other stations may be licensed on these frequencies, and if any interference occurs, transmissions associated with this application will be immediately terminated.

