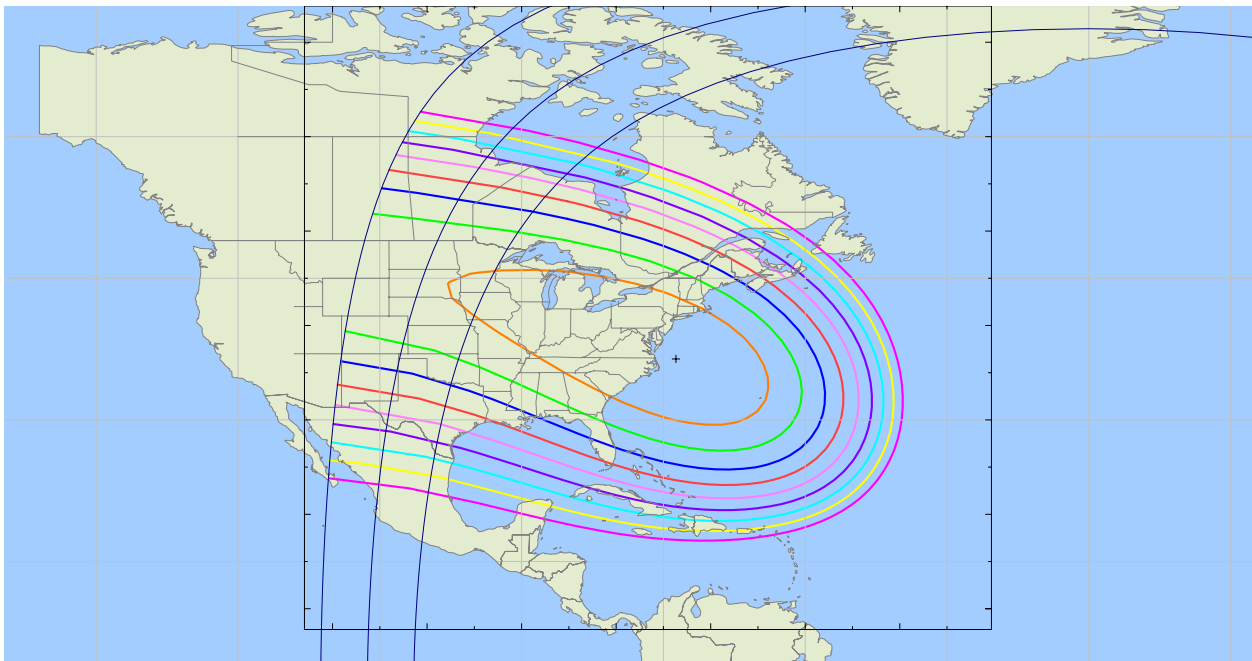


I. GENERAL INFO

1. Purpose - Is this for R&D or Military/Government Sponsor Test/Demo. See Narrative.
2. If it's for Military/Government Sponsor Test/Demo, provide the Government POC (Name, Office, Phone Number and Email Address) and the objective/s of the Test/Demo. See Narrative.
3. Requires starting date and duration. See Narrative.

II. SATELLITE DOWNLINK

- 1) GSO longitude of Satellite. **Satellite is XTAR-LANT at 30°W.**
- 2) Main beam gain of the satellite downlink transmitting antenna in the requested band/s, the point on the earth where the peak of the beam be pointed, and the downlink gain contours relative to that point on the earth. **The main beam gain of the satellite downlink antenna is 35.03 dBi at 7.70 GHz. The point on the earth where the peak of the beam is pointed and the downlink gain contours relative to that point are provided on the downlink map below.**

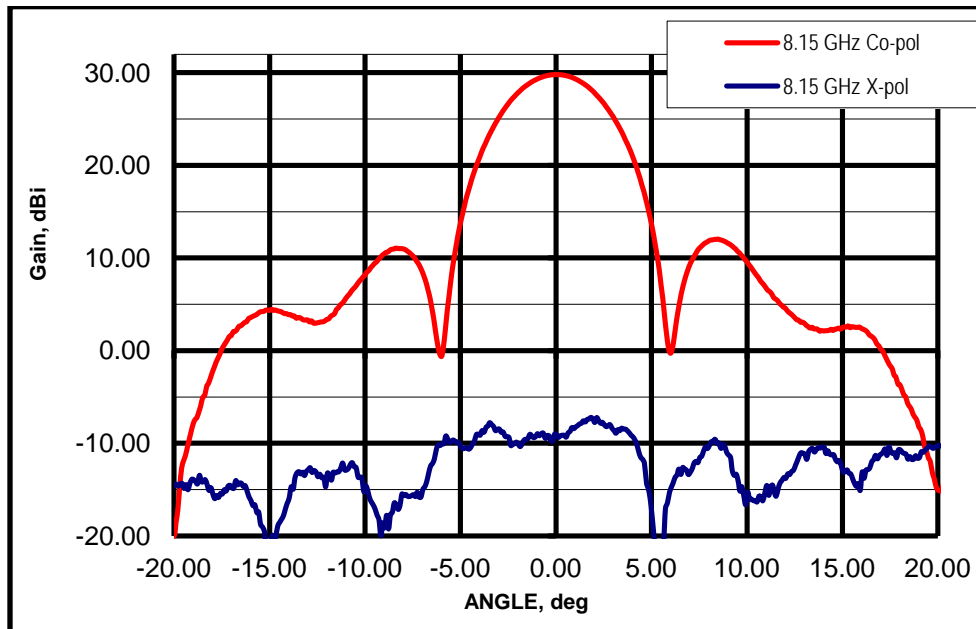


- 3) Maximum input spectral power density (SPD) of any downlink carrier. **There are two downlink carriers, one at 4096 kbps and one at 2048 kbps. The 4096 kbps carrier has a downlink spectral power density of -62.7 dBW/Hz at the input to the satellite antenna, and the 2048 kbps carrier has a downlink spectral density of -62.6 dBW/Hz.**
- 4) Center frequency and emission designator of any downlink carrier. **The center frequency (uplink/downlink) of the 4096 kbps carrier is 8335.975/7685.975 MHz and it's emission designator is 3M13G1D. The center frequency (uplink/downlink) of the 2048 kbps carrier is 8339.760/7689.760 MHz and it's emission designator is 2M47G1D.**

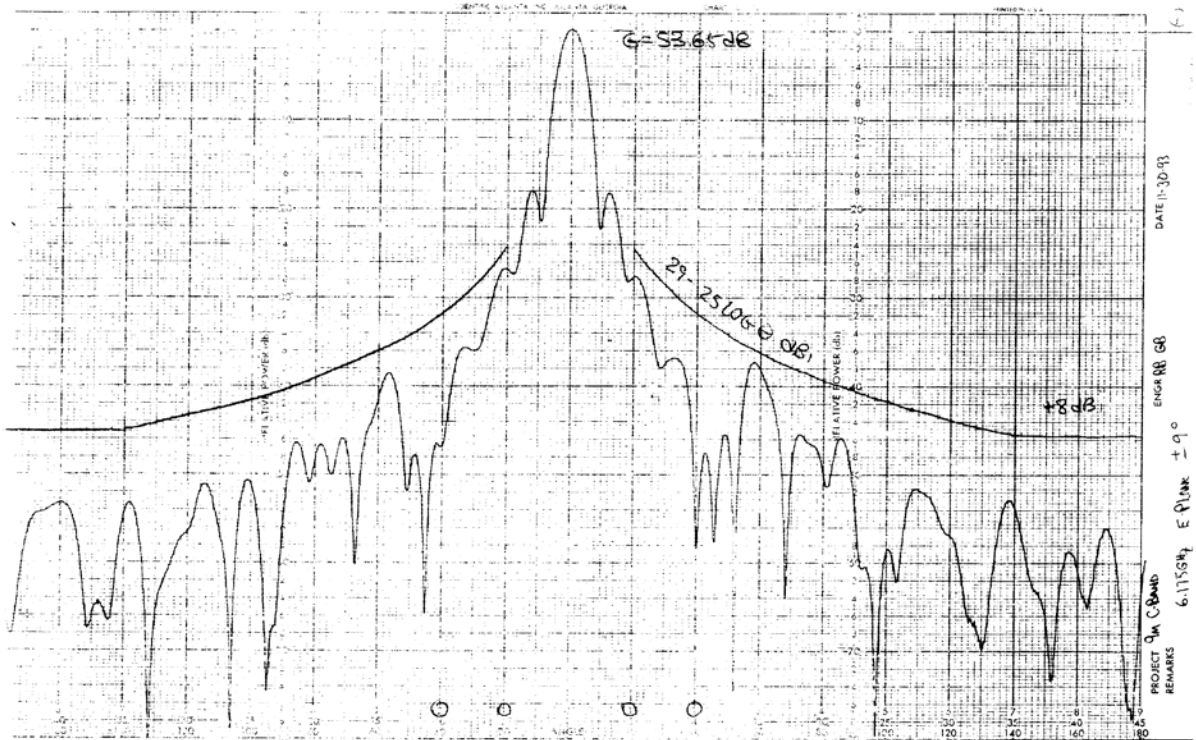
5) If it is multiple carriers, provides all emissions designators and downlink EIRPs for each. If it is a single carrier, then how many of those single carriers can be operated into the same downlink beam simultaneously during the testing. Both carriers specified will be simultaneously downlinked onto the beam described in question 2 above. The downlink EIRP of the 4096 kbps carrier in the direction of the receive antenna is 36.6 dBW. The downlink EIRP of the 2048 kbps carrier in the direction of the receive antenna is 36.3 dBW.

III. EARTH STATION UPLINK

- 1) Coordinate of earth station. The earth station is located in Fredericksburg, VA at approximately 38.3°N, 77.47°W. For reference the terminal in Canada is located at approximately 43.25°N, 79.88°W.
- 2) Name and/or nomenclature of the terminal, if known/assigned. The terminal in Fredericksburg, VA is a General Dynamics 20-20M terminal. The terminal in Canada is a 9m.
- 3) Main beam gain of the transmitting earth station antennas to be used for the test and the measured off-axis antenna pattern. Antenna peak gain of the Fredericksburg, VA earth station at 8.15 GHz is 29.81 dBi. The measured off-axis antenna pattern is provided below.



An off-axis pattern for the 9m antenna in Canada at C-Band is provided below. The antenna has been retrofitted to operate at X-Band.



4) Maximum input spectral power density (SPD) of any uplink carrier. The input spectral power density of the 4096 kbps uplink carrier transmitted from Fredericksburg, VA is -55.1 dBW/Hz. The input spectral power density of the 2048 kbps uplink carrier transmitted from Canada is -78.9 dBW/Hz.

5) Center frequency and emission designator of any uplink carrier. The center frequency (uplink/downlink) of the 4096 kbps carrier is 8335.975/7685.975 MHz and it's emission designator is 3M13G1D. The center frequency (uplink/downlink) of the 2048 kbps carrier is 8339.760/7689.760 MHz and it's emission designator is 2M47G1D.

6) If it is multiple carriers, provides all center frequencies and associated emissions designators and uplink EIRPs for each. If it is a single carrier, then how many of those single carriers can be operated into the same uplink beam simultaneously during the testing? Only a single carrier will be transmitted from the test earth station in Fredericksburg, VA.

