

## Northrop Grumman Systems Corporation (NGSC) Application for STA

This request for Special Temporary Authority (STA) is for a Mobile Electronic Test System that will be used to stimulate a receiver system on a Flying Test Bed (FTB). This is a ground system that tracks the aircraft and transmits the signals in the request at the aircraft to be received and interpreted by the system under test.

The frequencies requested were selected in consultation with the Eastern Area Frequency Coordinator and based on his review of the local spectrum usage. We believe that these frequencies therefore should be acceptable in the Melbourne, Florida area.

There follows additional technical information describing the transmitter equipment and related antennas.

### **Transmitter Equipment**

A Rhode & Schwarz SMW200A Signal Generator will be used to generate the pulse modulated waveforms. This low level signal will be injected at 0 dBm into one of four radio frequency power amplifiers, depending on the frequency:

77 – 499 MHz: Instruments for Industry (IFI) SVCE-1000 solid-state amplifier;

500 – 1,999 MHz: IFI S205-500 solid-state amplifier;

2,000 MHz – 7,999 MHz: IFI PT82-2K traveling wave tube amplifier; and

8,000 – 14,890 MHz: IFI PT186-2K traveling wave tube amplifier.

### **Transmitter Antenna**

77 – 499 MHz: Schwarzbeck stacked log-periodic, model STLP-9128D;

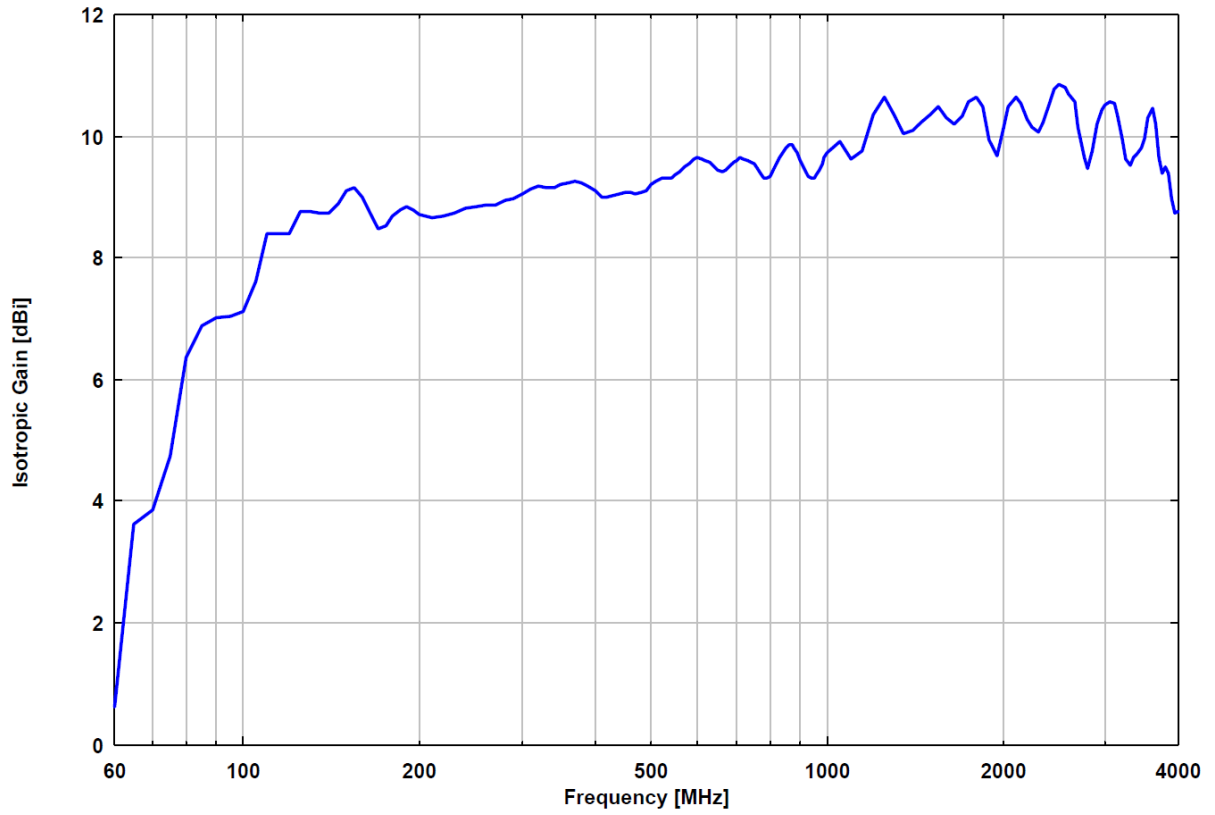
500 – 1,999 MHz: custom, log-periodic fed 3-meter parabolic reflector;

2,000 – 7,999 MHz: Steatite/Q-Par horn-fed, 1.2 meter parabolic reflector (model: QMS-00264); and

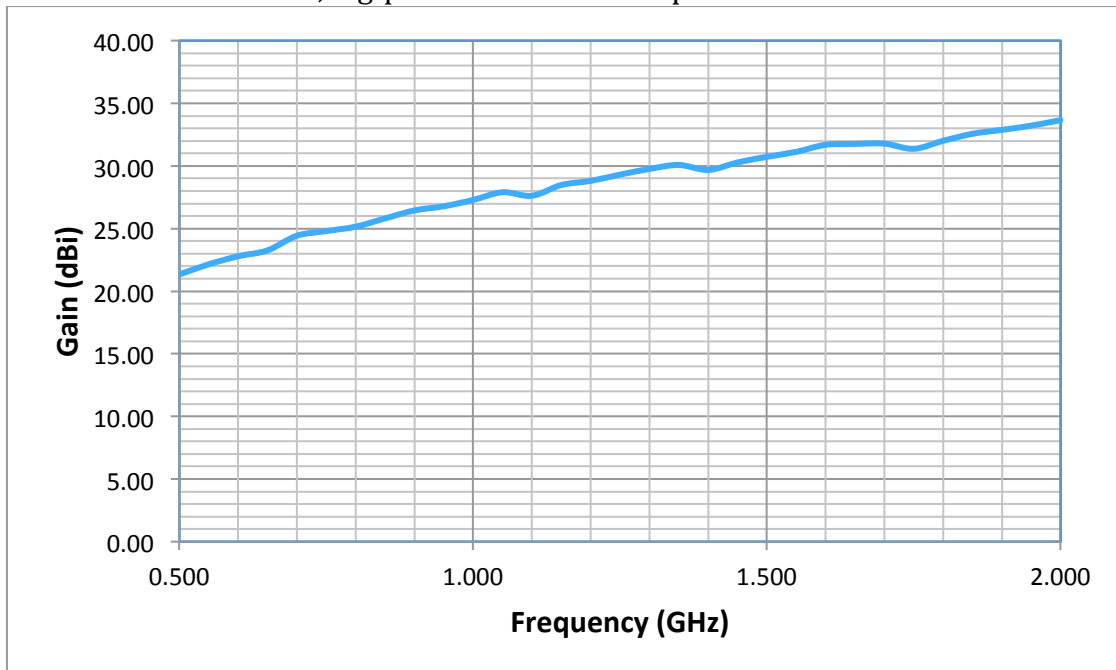
8,000 – 14,890 MHz: Steatite/Q-Par horn-fed , 1.2-meter parabolic reflector (model: QMS-00393).

### Antenna Gain

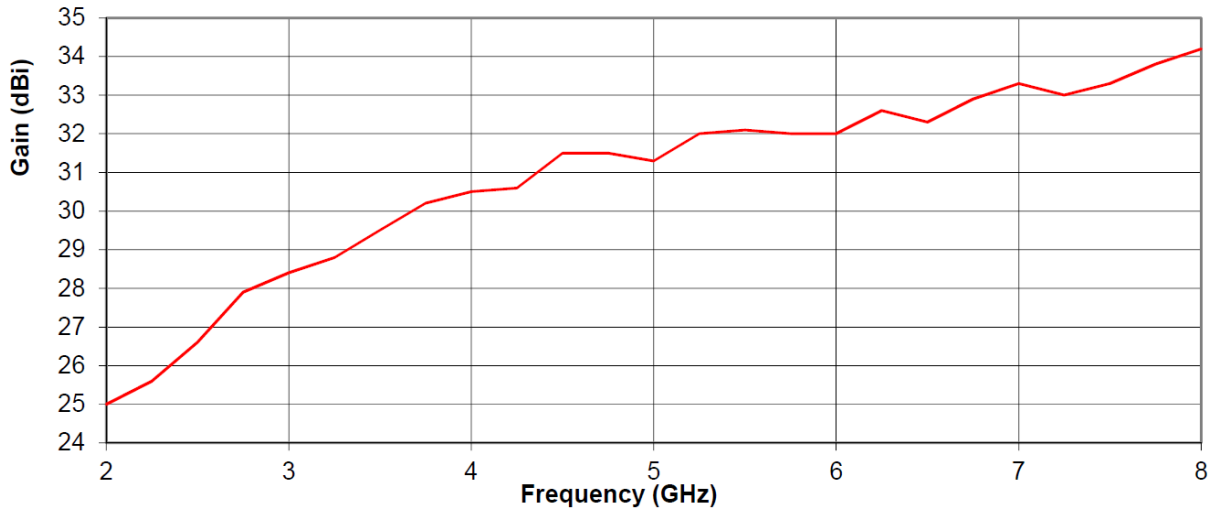
Schwarzbeck stacked log-periodic, model STLP-9128D



Custom, log-periodic fed 3-meter parabolic reflector



Steatite/Q-Par horn-fed, 1.2 meter parabolic reflector (model: QMS-00264)



Steatite/Q-Par horn-fed, 1.2-meter parabolic reflector (model: QMS-00393)

