

Raytheon Request for FCC Experimental License (EXP)

Next Gen SATCOM

File Number:

Date:

Location:

McKinney, TX

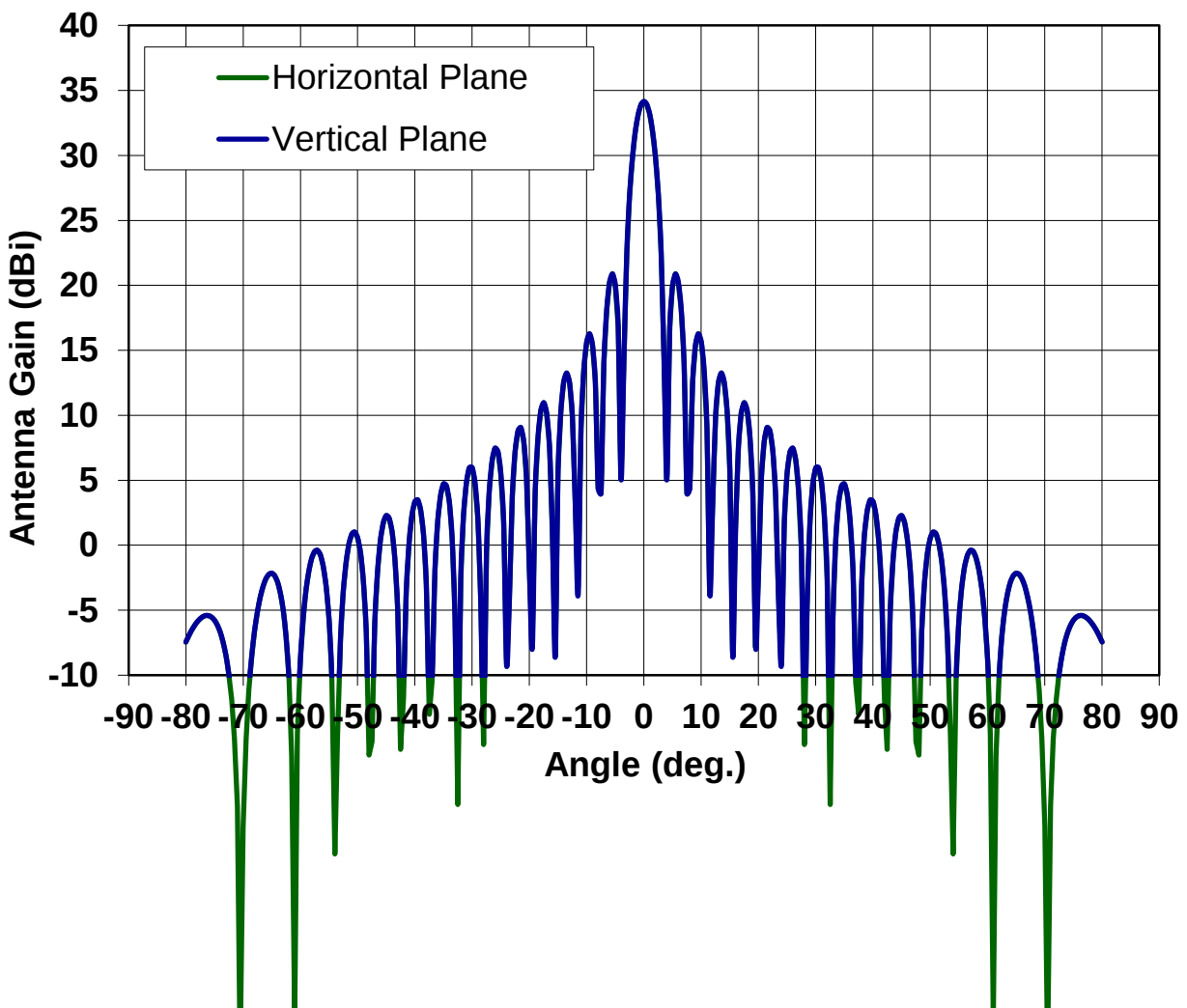
Lat/Long 1: 33.213564N 96.655916W (Fixed)

Purpose of Operation:

Raytheon is pursuing a low cost, multiple beam AESA alternative that exploits low cost COTS components and panel-based AESA architecture. Accomplishing the live test proves both the Rx and Tx operability at LEO.

Technical Synopsis for Fixed Locations:

- Spectrum needed: 2 GNz, 1.76 – 2.16 GHz
- Power levels requested: 654 W output power, 62 dBW at broadside
- Location of use: McKinney, TX
- Directional Antenna Used: Yes: See Antenna Pattern at Broadside below.



- Antenna Gain: 32.1 @ 2 GHz
- Antenna Beam Width in Degrees (at the half-power point): 3.4° x 3.4° at broadside
- Antenna Horizontal Plane: 0 to 360 degrees: Can set in place at any angle relative to North.
- Antenna Vertical Plane: 25 and 90 degrees: 90 degrees assyned parallel with ground plane.

• **Stop buzzer contacts:**

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Explanation:

License is needed to allow for the experimental testing of a new Active Electronicly Scanned Array (AESA) antenna at S- Band and at LEO. This testing will support the proof of concept to the Gov't.

Necessary Bandwidth Calculation Table

Modulation	BPSK, QPSK, DSSS, PM and FSK/AM
Occupied Bandwidth	30 MHZ