FCC Team,

The Boeing Company acknowledges there are other users in the below frequency bands and some users may be FSS. **While this license is not for FSS** and is only for non-modulated, directional (horn antennas), low power frequency antenna pattern testing, we are prepared to use an accredited body for coordination and consent to ensure no harmful frequency interference is caused by antenna pattern testing. The base station antenna location (ASR 1278726), using the horn antenna will point towards 270, 360, and 315 degrees which is away from the Geo Arc for FSS Stations.

The Power Amplifier used for antenna pattern testing at our outdoor antenna range has a max of 30dB/1Watt.

Using that and the calculated cable loss, below are our power to the antenna horn calculations for each frequency band in question.

3700-4200MHz: input 26.2dBm/0.417Watts
5925-6425MHz: input 24.1dBm/0.257Watts
11.7-12.2GHz: input 22dBm/0.158Watts
14-14.5GHz: input 21.3dBm/0.135Watts
16.2-20GHz: input 20dBm/0.1Watts
20GHz and higher: input 20dBm/0.1Watts

Below is an insert from the antenna manufacturer, L3Harris, for the AS-48461 Series Dual Polarized Quad Ridged Horn Antenna.

Antenna gain range for frequencies 2-18GHz is 5-18dBi.
Antenna gain range for frequencies 26.5-40GHz are between 23.25dBi – 25.1dBi (see second image below).
Antenna gain range for frequencies 33-50GHz are between 23.2dBi – 25.1dBi (see last image).

Model AS-48461 Dual-Polarized Quad-Ridged Horn Antenna is an extremely broadband antenna, capable of radiating orthogonally polarized moderately directive patterns over a bandwidth greater than 9:1. In addition to excellent interport amplitude and phase match, the horn exhibits exceptional isolation between the two coaxial terminals.

Although the AS-48461 horn antenna has been widely applied as an individual test source and as array elements in electronic environment simulators, it is also ideally adaptive for wideband surveillance and direction-finding systems. Optional configurations that are available include circular polarization, polarization switching, and higher power capability (see available configurations below).

PARAMETER	SPECIFICATION
Electrical	
Frequency range	2-18 GHz
VSWR	2.5:1 max
Gain	5 dBi - 18 dBi
Impedence	50 Ohms reference
Polarization	Simultaneous horizontal and vertical
Beamwidth 3dB (BW)	60° - 10°, nom
Beam Squint (3 dB bisector)	BW≤40°: (BW/10)°, max BW>40°: 4°, max
Cross polarization	-20 dB, max
Isolation between ports	20 dB, min, 2 - 4 GHz 25 dB, min, 4 - 18 GHz
Phase tracking between ports	±17° max
Amplitude tracking between ports	±1.5 dB, max
Max power handling (each connector)	10 watts CW (-01, -03, -04, -05, -06) 100 watts CW (-02), 200 watts CW (-07)
Mechanical	
Connector	SMA female
Weight	4.4 lbs
Finish	Flat black
Available Configurations	
AS-48461-01 (basic), AS-48461-02 (high power), AS-48461-03 (with hybrid), AS-48461-04 (with switch), AS-48461-05 (with hybrid and switch), AS-4841-06 (with dust cover), AS-48461-07 (200 W power)	

KEY FEATURES

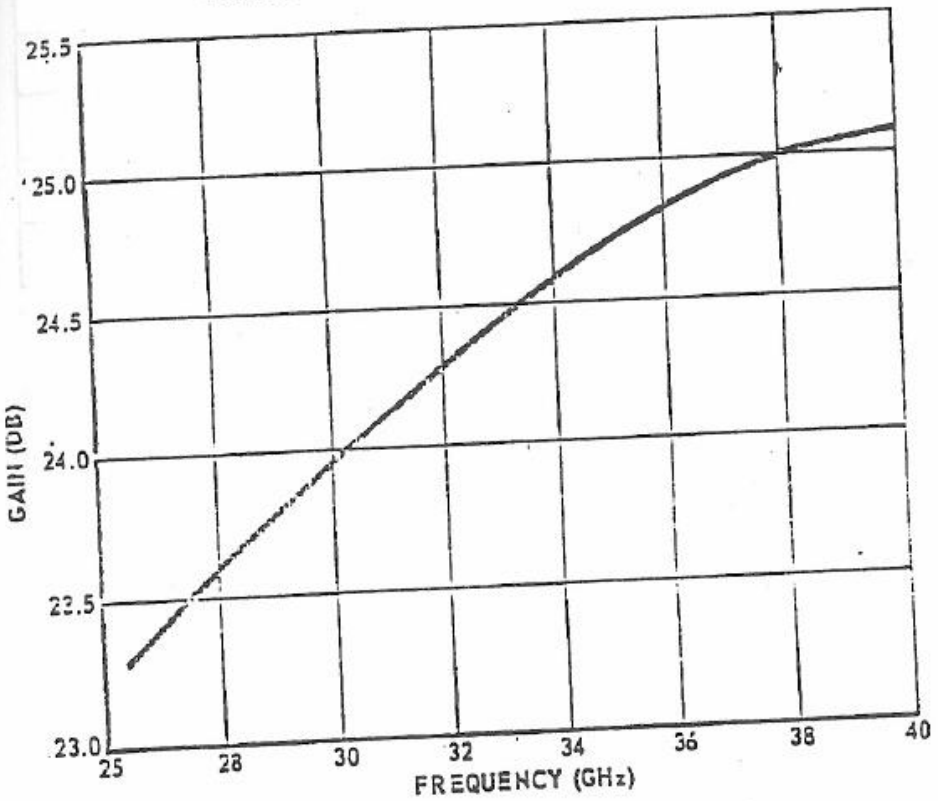
- Simultaneous horizontal and vertical polarization
- Amplitude and phase tracking
- Interport isolation
- Surveillance and direction-finding applications

For further details and specifications, contact the factory at antenna.info@L3Harris.com

AS-48461 Series Dual-Polarized Quad-Ridged Horn Antenna

L3HARRIS™
FAST FORWARD

FIGURE 2-9
GAIN VERSUS FREQUENCY
SCIENTIFIC-ATLANTA STANDARD GAIN HORN
MODEL SGH-26.5
FREQUENCY RANGE: 26.5-40.0 GHz



SCIENTIFIC-ATLANTA, INC.