

From: Maybelle Tupua

To: Leann Nguyen

Date: June 29, 2021

Subject: Request for Info - File # 0349-EX-CR-2021

Message:

FCC Team,

This information will also be added as an attachment, showing graphing for the gain patterns.

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).