

Exhibit C

Fixed Antenna Specifications

1 Parabolic Antenna Beamwidth

This application for an experimental license includes the use of a 13.56m (44.31 feet) X/S antenna transmitting a continuous wave with no modulation at frequencies between 2025 and 2120 MHz. Antenna beamwidth is a function of wavelength, or more practically, the transmit frequency. Below is the formula used to determine the peak gain as a function of efficiency (η), diameter (D) and wavelength (λ).

$$G_{peak} = 10\log \left[\eta \left(\frac{D\Pi}{\lambda} \right)^2 \right] \quad (1)$$

The peak gain of a parabolic antenna can also be calculated as a function of efficiency (η) and the half power beamwidth (θ_{3dB}).

$$G_{peak} = 10\log \left[\eta \left(\frac{70\Pi}{\Theta_{3dB}} \right)^2 \right] \quad (2)$$

Equating 1 and 2:

$$10\log \left[\eta \left(\frac{D\Pi}{\lambda} \right)^2 \right] = 10\log \left[\eta \left(\frac{70\Pi}{\Theta_{3dB}} \right)^2 \right]$$
$$\eta \left(\frac{D\Pi}{\lambda} \right)^2 = \eta \left(\frac{70\Pi}{\Theta_{3dB}} \right)^2 \quad (3)$$

$$\left(\frac{D\Pi}{\lambda} \right)^2 = \left(\frac{70\Pi}{\Theta_{3dB}} \right)^2$$

$$\theta_{3dB} = \left(\frac{70c}{Df} \right)$$

$$\theta_{3dB} = \left(\frac{20985472060}{Df} \right) \quad (4)$$

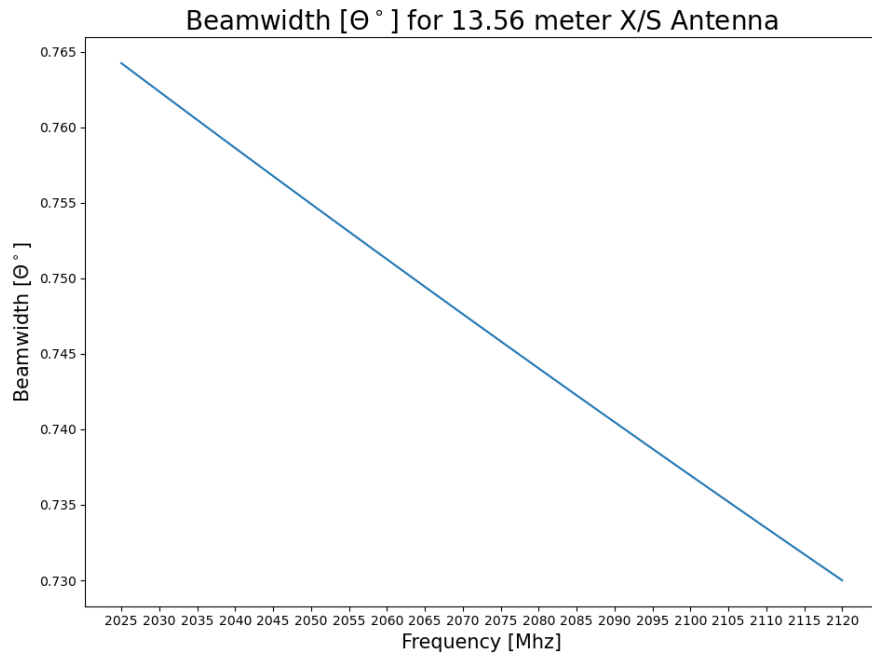


Figure 1: Beamwidth as a function of frequency [MHz]

At 2,120 MHz, the newly requested frequency, the beamwidth for the 13.56 meter conical antenna is 0.73° .

2 Orientation of Beam

The transmit antenna is oriented towards the zenith in this experiment. Thus, no elevation profile is provided.

3 Antenna Patterns

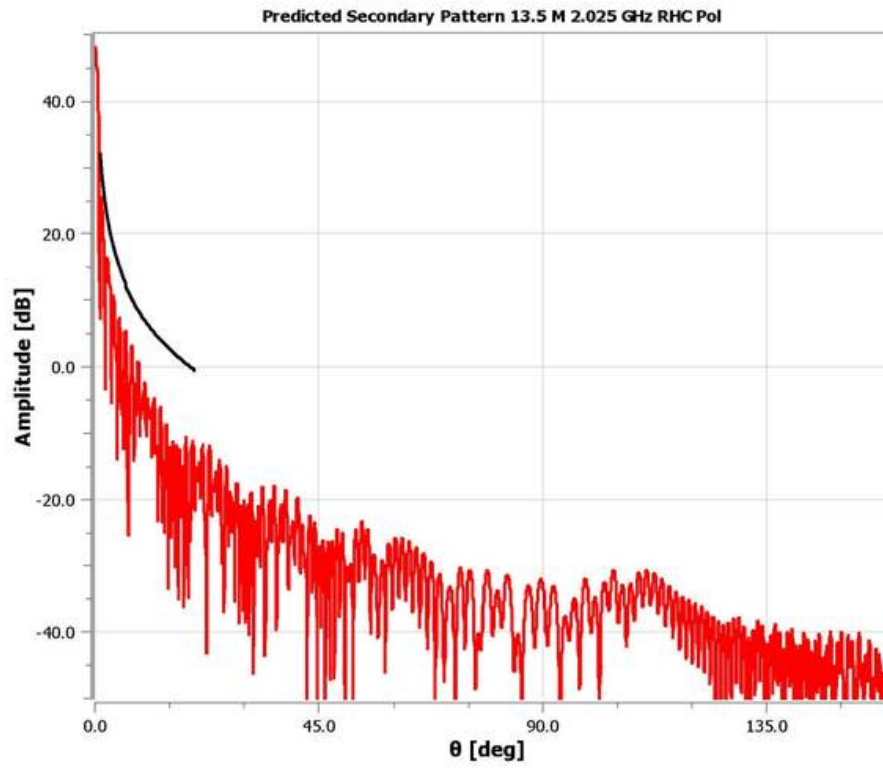


Figure 2: Gain Pattern for the 13.56 meter antenna transmitting at 2,025 MHz

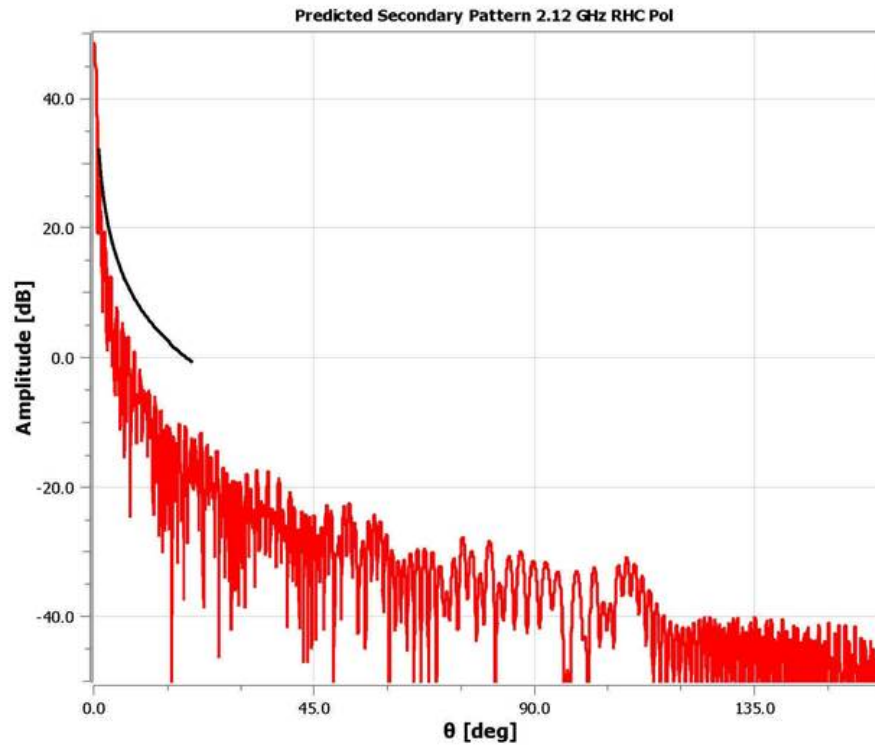


Figure 3: Gain Pattern for the 13.56 meter antenna transmitting at 2,120 MHz