

60cm reflector antenna system specifications

Ku-band

1. Frequency Band:

- a. Rx Band: 13.75 to 14.50 GHz
- b. Tx Band: 10.95 to 12.75 GHz

2. Polarization: linear

3. 3dB BW H-Plane (at 14 GHz): 2.5°

4. 3dB BW E-Plane (at 14 GHz): 2.6°

5. Cross-Pol On Axis: -32 dB

6. Port to Port Isolation: > 30 dB

7. The antenna off-axis sidelobs limit is defined by the following mask:

- a. $G(\Theta) = 32 - 25 \log_{10}(\Theta) \text{ dBi}$; $100 (\lambda / D)^\circ < \Theta < 48^\circ$ for $D / \lambda < 50$
- b. $G(\Theta) = -10 \text{ dBi}$; $48^\circ < \Theta \leq 180^\circ$

8. Antenna Gain (Midband):

- a. Rx: 36.0 dBi
- b. Tx: 35.0 dBi



Ka-Band

1. Frequency Band:

- a. Rx: 28.0 – 31.0 GHz
- b. Tx: 18.7 – 21.2 GHz

2. Polarization:

RHCP/LHCP Circular

3. Axial Ratio:

- a. Transmit: 1.2 dB nominal
- b. Receive: 1.5 dB nominal

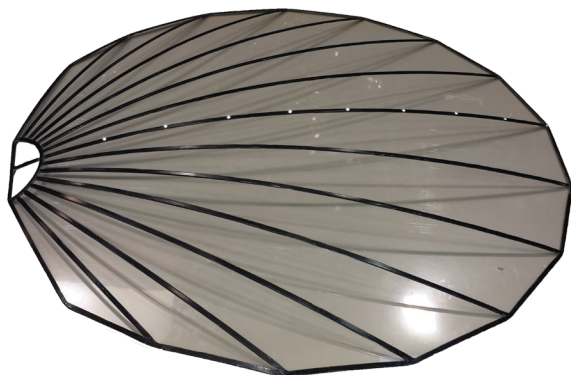
4. Power Handling: 20 Watts CW max

5. Antenna Side lobes performance:

- a. $32 - 25\log_{10} \Theta$ (dBi), for $(100\lambda/D)^\circ < \Theta \leq 48^\circ$
- b. -10 (dBi), for $48^\circ < \Theta \leq 180^\circ$

6. Antenna Gain (Midband):

- a. Rx: 42.5 dBi
- b. Tx: 39.0 dBi



Azimuth and Elevation Antenna Pattern

