

**PRODUCT  
SPECIFICATIONS**

A matched feed horn and polarizer allows the antenna to be mated to the Skyware Global Ka transceiver



## 69 cm RxTx Ka Band Antenna System

The Skyware Global 69cm Ka Band Antenna is a rugged, commercial grade product suitable for the most demanding applications.

The pressed steel reflector assures the surface accuracy needed for Ka band performance. Pre-galvanized steel with a powder coat finish guarantees excellent corrosion resistance and long life. The die-cast back structure provides for precision alignment of the reflector and support of the RF assembly without distortion. The reflector optics incorporate a long focal length for excellent cross-pol discrimination or "beam squint".

The heavy gauge steel Az/El mount provides a rigid support for the antenna and incorporates precise fine elevation and azimuth adjustment. This Az/El allows the antenna to be installed on any standard 2" (51mm) OD installation mount.

- RoHS compliant
- Precision pressed steel reflector
- Long focal length optics for low cross-pol or beam squint
- Steel components are pre-galvanized and powder coat painted for excellent corrosion resistance
- All hardware meets 500 hour minimum salt spray test requirements (ASTM B-117)
- Fine elevation and azimuth adjustments
- Ideally suited for Skyware Global Ka Transceiver

## SPECIFICATIONS

### 69cm Ka-Band RxTx Antenna System

#### RF Performance

|   |                   |                      |
|---|-------------------|----------------------|
| Operating Frequency                         | Tx                | 29.50 - 30.00 GHz    |
|   | Rx                | 19.20 - 20.20 GHz    |
| Polarization                                | Tx                | Circular, RH or LH   |
|   | Rx                | Circular, LH or RH   |
| Gain <sup>1</sup> ±0.3 dB                   | Tx                | 44.8 dBi @ 29.75 GHz |
|   | Rx                | 41.2 dBi @ 19.70 GHz |
| 3 dB Beamwidth                              | Tx                | 0.7° @ 29.75 GHz     |
|   | Rx                | 1.1° @ 19.70 GHz     |
| Sidelobe Envelope (Tx, Co-Pol dBi)          |                   |                      |
|   | 100 λ/D < θ < 20° | 29 - 25 Log θ dBi    |
|   | 20° < θ < 26.3°   | -3.5 dBi             |
|   | 26.3° < θ < 48°   | 32 - 25 Log θ dBi    |
|   | 48° < θ < 180°    | -10 dBi (Typical)    |
| Antenna Cross-Polarization (within 1dB b/w) |                   | >22 dB               |
| Antenna Noise Temperature <sup>1</sup>      |                   | @ 30° El 56°K Mx     |
| VSWR  |                   | 1.3:1 Max            |
| Feed Interface                              |                   | Custom Circular      |

<sup>1</sup> Gain and Noise Temperature at Feed Horn Flange

(All specifications typical)

#### Mechanical Performance

|                            |                     |  |
|----------------------------|---------------------|--|
| Reflector Material         |                     | Steel  |
| Antenna Optics             |                     | One-Piece Offset Feed Prime Focus  |
| Mount Type                 |                     | Elevation over Azimuth   |
| Elevation Adjustment Range |                     | 8° - 90° Continuous Fine Adjustment  |
| Azimuth Adjustment Range   |                     | 360° Continuous; ±5° Fine Adjustment                                       |
| Mast Pipe Interface        |                     | 51 mm (2.00 in) Diameter (Std.)  |
|                            |                     | 60 mm (2.38 in) Diameter (Opt.)  |
| Wind Loading               | Operational         | 80 km/h (50 mph)   |
|                            | Functional Survival | 128 km/h (80 mph)  |
|                            | Ultimate Survival   | 200 km/h (125 mph)   |
| Temperature                |                     | -50°C to 80°C  |
| Humidity                   |                     | 0 to 100% (Condensing)   |
| Corrosion protection       |                     | Standard Hardware Meets 500 Hour Salt Spray Test Requirements (ASTM B-117) |
| Solar Radiation            |                     | 360 BTU/h/ft <sup>2</sup>  |
| Shock and Vibration        |                     | As Encountered During Shipping and Handling                                |



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VSK002.2  
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