

# Type 180: 1.8m BSS Band Antenna SFL RxTx Class I



- One-piece precision SMC Reflector
- Precision Az/EI Mount
- Fine Azimuth and Elevation Adjustment Features
- All Materials Comply with EU Directive No. 2002/95/EC (RoHS)
- 720 Hour Salt Spray Hardware
- Standard Waveguide Flange Interface



The **Skyware Global 1.8m BSS Band Antenna SFL RxTx Class I** is a rugged, commercial quality product suitable for the most demanding applications.

- The reflector is constructed from glass fiber reinforced polyester [SMC] for strength and accuracy. A proprietary process developed by Skyware Global insures high RF reflectivity as needed for Ku Band operation.
- The precision Az/EI mount is made of galvanized steel for excellent corrosion resistance. This mount includes special features to increase pointing accuracy with low backlash and lockdown error.
- This Az/EI allows the antenna to be installed on standard (114mm) 4.50" OD installation mounts.
- All hardware is plated to 720 hour salt spray standards under ASTM B-117.
- Cross-Polarization Isolation of 30dB on axis
- Excellent Tx Port-to-Port Isolation of 80dB or better
- Meets or exceeds regulator agency requirements



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## • PRODUCT SPECIFICATIONS

### RF Performance

Operating Frequency  
TX ..... 17.30-18.10 GHz  
RX ..... 10.95-12.75 GHz

Polarization  
TX ..... Linear V-Pol or H-Pol  
RX ..... Linear H-Pol or V-Pol

Gain ( $\pm 0.3$  dB)  
TX ..... 48.2 dBi @ 17.7 GHz  
RX ..... 45.3 dBi @ 12.0 GHz

3 dB Beamwidth  
TX .....  $0.7^\circ$  @ 17.7 GHz  
RX .....  $1.0^\circ$  @ 12.0 GHz

Sidelobe Envelope (Tx, Co-Pol dBi)  
 $100 \lambda/D < \theta < 20^\circ$  .....  $29-25 \log \theta$  dBi  
 $20^\circ < \theta < 26.3^\circ$  .....  $-3.5$  dBi  
 $26.3^\circ < \theta < 48^\circ$  .....  $32-25 \log \theta$  dBi  
 $48^\circ < \theta < 180^\circ$  .....  $-10$  dBi (Typical)

Antenna Cross-Polarization  
TX .....  $>30$ dB  
RX .....  $>30$ dB

Antenna Noise Temperature  
.....  $45K^\circ$  @  $30^\circ$  Elevation @ 12.0 GHz

VSWR  
TX ..... 1.3:1 Max  
RX ..... 1.5:1 Max

Isolation  
TX ..... 80 dB  
RX ..... 45 dB

Feed Interface  
TX ..... WR62 Flat Flange  
RX ..... WR75 Flat Flange

## 1.8m BSS Band Antenna SFL RxTx Class 1

### Mechanical Performance

Reflector Material. . . . . Glass Fiber Reinforced Polyester (SMC) with Aluminium Screen

Antenna Optics . . . . . One-Piece Offset Feed Prime Focus

Mount Type . . . . . Elevation Over Azimuth

Elevation Adjustment Range . . . . .  $8^\circ-90^\circ$  Continuous  
Fine Adjustment

Coarse Azimuth Adjustment Range . . .  $360^\circ$  Continuous;

Fine Azimuth Adjustment Range. . . . .  $\pm 10^\circ$

Mast Size . . . . . 4.50" (114mm) Diameter

Antenna Weight. . . . . Approx 50.50Kg  
(Not Including Mast)

### Environmental Performance

Operational Wind Speed. . . . . 72km/h (45 mph)

Functional Survival Wind Speed. . . . . 128km/h (80 mph)

Ultimate Survival Wind Speed. . . . . 200km/h (125 mph)

Atmosphere. . . . . Standard Hardware 720 Hrs  
SST Requirements (ASTM B-117)

Marinized Version. . . . . Also Possible

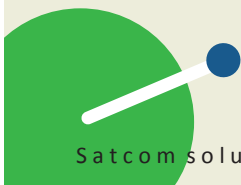
Operational Temperature . . . . .  $-40^\circ\text{C}$  to  $+55^\circ\text{C}$

Survival Temperature Range . . . . .  $-50^\circ\text{C}$  to  $+80^\circ\text{C}$

Humidity. . . . . 0 to 100% (Condensing)

Solar Radiation . . . . . 360 BTU/h/ ft<sup>2</sup>

Rain Operational. . . . . 0.5" Per Hour



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