

3.8M Tx/Rx VSAT Antenna

Series 1385

Technical Specifications

| Electrical | | C-Band Linear | C-Band Circular | Ku-Band Linear | X-Band Circular |
|--|--|---|--|--|--|
| Antenna Size | | 3.8 M | 3.8 M | 3.8 M | 3.8 M |
| Operating Frequency (GHz) | Receive Transmit | 3.625 - 4.20 GHz 5.845 - 6.425 GHz | 3.625 - 4.20 GHz 5.845 - 6.425 GHz | 10.95 - 12.75 GHz 13.75 - 14.50 GHz | 7.25 - 7.75 GHz 7.90 - 8.40 GHz |
| Midband Gain (+/- .5dB) | Receive Transmit | 42.00 dBi 46.20 dBi | 41.80 dBi 46.30 dBi | 51.20 dBi 53.00 dBi | 47.80 dBi 48.40 dBi |
| VSWR | Receive Transmit | 1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB) | 1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB) | 1.5:1 Max.(<-14.00 dB) 1.3:1 Max.(<-17.70 dB) | 1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB) |
| Pattern Beamwidth (in degrees at midband) | -3 dB -15 dB | Rx 1.40 deg Tx 0.90 deg Rx 3.20 deg Tx 2.00 deg | Rx 1.40 deg Tx 0.90 deg Rx 3.20 deg Tx 2.00 deg | Rx 0.50 deg Tx 0.40 deg Rx 1.00 deg Tx 0.90 deg | Rx 0.80 deg Tx 0.70 deg Rx 1.60 deg Tx 1.50 deg |
| Sidelobe Envelope, Co-Pol (dBi) | | | | | |
| 100λ / D < θ ≤ 20° | | 29 - 25 Logθ dBi | 29 - 25 Logθ dBi | 29 - 25 Logθ dBi | 29 - 25 Logθ dBi |
| 20° < θ ≤ 26.3° | | -3.5 dBi | -3.5 dBi | -3.5 dBi | -3.5 dBi |
| 26.3° < θ ≤ 48° | | 32 - 25 Logθ dBi | 32 - 25 Logθ dBi | 32 - 25 Logθ dBi | 32 - 25 Logθ dBi |
| θ > 48° | | -10 dBi (averaged) | -10 dBi (averaged) | -10 dBi (averaged) | -10 dBi (averaged) |
| Note: In receive portion of C-band only, sidelobe envelope specified from 100λ/D rather than 1° | | | | | |
| Antenna Noise Temperature | | | | | |
| 5° Elevation | | 55 K | 62 K | 70 K | 60 K |
| 10° Elevation | | 45 K | 52 K | 60 K | 51 K |
| 20° Elevation | | 38 K | 45 K | 55 K | 47 K |
| 40° Elevation | | 36 K | 43 K | 45 K | 47 K |
| Power Handling | | 1 kW | 1 kW | 100 W | 2 kW |
| Cross Polarization Isolation | | | | | |
| On Axis | | > 30 dB | Rx > 15.00 dB Tx > 17.70 dB | Rx > 30.00 dB Tx > 35.00 dB | Rx > 23.20 dB Tx > 18.80 dB |
| Within 1.0 dB Beamwidth | | > 27 dB | Rx > 15.00 dB Tx > 17.70 dB | Rx > 25.00 dB Tx > 26.00 dB | Rx > 23.20 dB Tx > 18.80 dB |
| Note: Standard C-band Circular polarization in Tx-Band provides an axial ratio of 1.3 (XPD equivalence of 17.7 dB). Optional F-1 station feedavailable with axial ratio of 1.09 (XPD equivalence > 27.3 dB) in Tx band. Call factory when specifying this option. X Band filters available upon request. | | | | | |
| Output Waveguide Interface Flange | Receive Transmit | CPR 229 F CPR 137 or Type N | CPR 229 F CPR 137 or Type N | WR 75 WR 75 | WR 112 WR 112 |
| Mechanical | | | | | |
| Reflector Material | Glass Fiber Reinforced Polyester SMC | | | | |
| Antenna Optics | Easy-to-assemble, 4 Pc., Offset Fed Prime Focus Design with 0.6 F/D optics. | | | | |
| Mast Pipe Size | 10" SCH 40 Pipe (10.75" OD) 27.3 cm. | | | | |
| Elevation Adjustment Range | 12° to 90° or 0° to 15° for Polar Latitudes | | | | |
| Azimuth Adjustment Range | 360° Continuous with +/- 35° Fine Adjustment | | | | |
| Shipping Specifications | Approx. Net Weight Approx. Packaged Weight | Weight (nominal) 1125 lbs. (511 Kg.) Weight (nominal) 1882 lbs., (855 Kg.) | | | |
| Environmental Performance | | | | | |
| Wind Loading | Operational Survival | 50 mph (80 km/h) 125 mph (201 km/h) | | | |
| Temperature Range (operational) | -40° to 140° F (-40° to 60° C) | | | | |
| Rain (operational) | ½" (13mm) per hour | | | | |
| Ice (operational) | ----- | | | | |
| Atmospheric Conditions | Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas | | | | |
| Relative Humidity | 0 to 100% Condensing | | | | |
| Solar Radiation | 360 BTU/h/ft2 | | | | |

GENERAL DYNAMICS
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