

China Starwin 11M Earth Station Antenna Datasheet



Standard 11.3m antenna

Performance Strength

- * C, Ku, multi band, extended band Available, meeting FCC and ITU-RS-580 requirements
- * High quality aluminum reflector panels and galvanized steel backup structure
- * Self-aligning aluminum antenna reflector-no field alignment
- * Galvanized steel elevation over azimuth pedestal
- * Fixed foundation and Non penetrating foundation optional for wider choice
- * Survives 125 mph winds in any position and High wind configuration optional

Description

China Starwin 11m antenna delivers exceptional high performance for transmit/receive application in C, Ku, ka, X band in Tx/Rx 2 ports ,4 ports or Rx 2 ports with high gain, low noise and low microwave interference.

China Starwin 11m antenna offers a fine reflector design with a stretch formed double contoured panels, strong back struts and hub for easy of field alignment. The standard designed azimuth over elevation pedestal provides a cost-effective solution for ground or roof installation with high stiffness and stability, full orbital arc coverage and fine drive performance, and ensures the pointing and tracking accuracy.

The electrical performance is compliant with FCC and ITU-RS-580 sidelobe specifications and Intelsat, Eutelsat, INMARSAT, ASIASAT, APT and CHINASAT, etc requirement.

China Starwin Science&Technology Co., Ltd.

Tel:+8629-88664381,E-mail:sales@starwincom.com,<http://www.starwincom.com>

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Key Features

- * Meets or exceeds CCIR 580 and INTELSAT Requirements
- * High G/T, excellent pattern characteristic
- * Precision compression molded offset antenna
- * CP/LP switchable feed
- * Hot dip zinc steel pedestal, hub & back struts
- * Galvanized stainless steel fasteners
- * Foundation hardware kit provided
- * Package suitable for air, ocean land transportation

Antenna Accessory

- * Limit Switches
- * Foundation hardware Kit
- * Grounding Kits Cable - Mounting kits
- * Cable mounting kits
- * ODU Support Kits
- * Factory Feed System Testing and Documentation
- * Ocean /Air/land Transport Packing

Options

- * L, S, C, X, Ku and DBS-band feed configurations
- * 800MHz bandwidth is available
- * Two or four ports -Tx/Rx port in linear or circular polarized feeds
- * Motorization kits
- * Feed blower or deicing with automatic controls
- * Lightning Rod Kits
- * Non-penetrating mount
- * Kingpost pedestal, Rotation platform optional
- * Antenna control & tracking system for step track, program track, inclined orbit track
- * Integrated LNB or LNA systems
- * HPAs, converters and M&C systems
- * Turnkey installation & testing

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Electrical, Mechanical, Environmental Specification

Electrical Specification For 11m Earth Station Antenna

| Type | SW110C | | SW110K | |
|-------------------------------------|-----------------------|------------|---------------------|------------|
| Operating Frequency, GHz | C-Band | | Ku-Band | |
| | Receive | Transmit | Receive | Transmit |
| | 3.4~4.2 | 5.85~6.425 | 10.95~12.75 | 13.75~14.5 |
| Gain, Mid-band, dBi | 50.84 | 55.0 | 60.3 | 62.0 |
| Polarization | Linear/Circular | | Linear | |
| XPD (on Axis), dB | 35 | 35 | 35 | 35 |
| XPD across 1dB Beam Width, dB | 33 | 33 | 33 | 33 |
| Axial Ratio (Circular-Polarized) | 2-Port | 1.30 | 1.09 | |
| | Feed | 1.06 | 1.06 | |
| VSWR | 1.25 | 1.25 | 1.25 | 1.25 |
| Antenna Noise Temperature | 2/4 Port | | 2/4 Port Feed | |
| 10° Elevation | 39K/49K | | 64K/89K | |
| 30° Elevation | 28K/37K | | 54K/75K | |
| 50° Elevation | 26K/33K | | 48K/63K | |
| -3 dB Beam Width, Mid-band | 0.43° | 0.28° | 0.15° | 0.13° |
| Typical G/T (EL=25°, 2-port) | 33.8dB/K (30° LNA) | | 39dB/K (70° LNA) | |
| Tx. Power Capability, KW | | 5 | | 2 |
| Feed Interface | CPR-229F | CPR-137G | WR-75 | WR-75 |
| Feed Insertion Loss, dB | 0.2/0.25 | 0.2/0.25 | 0.25/0.35 | 0.25/0.4 |
| Isolation, Tx to Rx, dB | 85 | | 85 | |
| Tx/Tx, Rx /Rx, Linear, dB | 30 | | 30 | |
| Tx/Tx, Rx /Rx, Circular, dB | 20 | | 20 | |
| Side lobe | CCIR 580 | | | |

Mechanical Specification

| | | |
|------------------------|----------------------------------|--------------------|
| Antenna Diameter | 11.3m | |
| Antenna Type | Cass grain | |
| Surface Accuracy (RMS) | ≤0.4mm | |
| Antenna Pointing Range | Azimuth | ±85° |
| | Elevation | 0°~90°(Continuous) |
| | Polarization | ±90°(Continuous) |
| Drive Mode | Manual or Motorized | |
| Motor Drive System | Azimuth or Elevation Travel Rate | 0.02°/S ~ 0.04°/S |
| | Polarization Travel Rate | 1°/S |

Environmental Specification

| | |
|------------------|---------------------------|
| Operational Wind | 79km/h gusting to 126km/h |
| Survival Wind | 198km/h |

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| | |
|--------------------|---------------------------------|
| Temperature | -40°C ~ +60°C |
| Relative Humidity | 100% |
| Solar Radiation | 1135Kcal/h/m ² |
| Seismic (Survival) | 0.3g(H), 0.15g(V) |
| Ice Loading | 13mm Operational; 30mm Survival |

Technical specifications of 11 meters DBS - band antenna

| Parameter | Specification data | Notes |
|------------------------------|---|---|
| Electrical | | |
| Tx Frequency Band (GHz) | 17.3-18.4 | |
| Rx Frequency Band (GHz) | 10.7-12.75 | |
| Tx Gain (dBi) | >63.2 | At mid-band |
| Rx Gain (dBi) | >60,5 | At mid-band |
| Feed Assembly | Linear 4 ports feed | |
| Off axis Emissions | ITU RS.524-5 | |
| G/T (dB/K) | >39.5 | At 25° elevation with 65K LNB/ 11,725GHz |
| Cross-pol Isolation | > 35 dB Tx & Rx | |
| Sidelobes | Meets the standard of Intelsat, FCC 25.209, ITU RS.580-5 | |
| Port to Port Isolation (min) | Tx to Rx 85dB Rx toTx70dB | |
| Antenna Noise Temp | 10° elevation 69K 20° elevation 60K 40° elevation 56K | |
| Pattern Beam width (deg) | Tx 0,13 Rx 0,15 | -3dB at mid-band |
| VSWR | Better than 1.3:1 | |
| Power handling per Tx port | 1 KWatts min | |

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|-------------------------------------|---|----------------|
| Feed Interface | Tx WR-62 | |
| | Rx WR-75 | |
| Mechanical | | |
| Antenna Type | Cassegrain with corrugated horn | |
| Antenna Travel | Elevation 0° ~ 90° | Continuous |
| | Azimuth 180° | Max 3 segments |
| | Polarization ±90° | |
| Mount Type | Elevation over azimuth | |
| Antenna travel Rate (Min values) | Az 0,06° /sec El 0,03° /sec Pol 1,5°/sec | |
| Supplementary Material | <ul style="list-style-type: none"> • Feed rain blower • Aircraft warning lights • Lighting kit • Hub closeout kit • Ladder & platform • Dehydrator • Tx couplers | Automatic |
| Environmental | | |
| Operational Temperature | -15°C ~ +50°C | |
| Survival Temperature | -30°C ~ +60°C | |
| Relative Humidity | 0 ~ 100% | |
| Rain | 10cm/h | |
| Snow | 5mm/h | |
| Operational Wind Loading | 72 km/h, gusting 97 km/h | |
| Survival Wind Loading | 200km/h | |
| Solar Radiation | 1000kCal/h/m ² | |
| Seismic Accelerations | 0,3 G horizontal | |