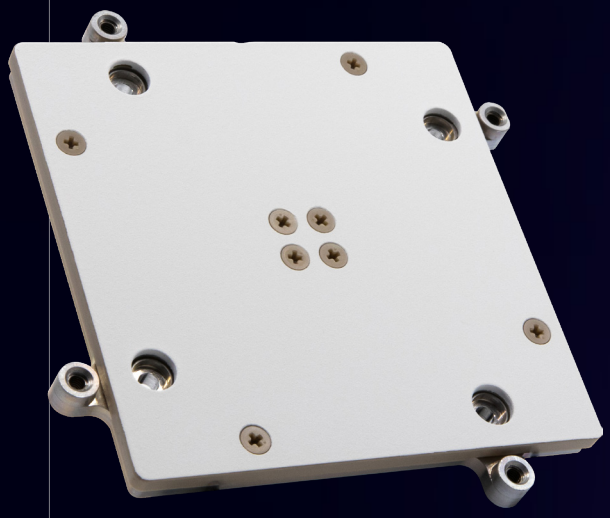
ANYWAVES

SPACE ANTENNA MAKERS

QUALITY SYSTEM CERTIFICATION DNV ISO 9001 AS/EN/JISQ 9100



DATA DOWNLINK ANTENNAS

# High-Gain X-Band Antenna

Anywaves' High-Gain X-Band Antenna is an ultra-low-profile antenna designed for payload telemetry from the satellite to the ground station.

This antenna features a broadside directive beam, with high-quality circular polarization, to enable higher data rates for the payload telemetry downlink. Due to its very compact design, it is perfectly suitable for nanosatellites and LEO platforms.

**NB : compatible with ANYWAVES Test Cap for High-Gain X-Bands Antennas.**

Tx | G > 15 dBi | Ultra Low Profile | RHCP or LHCP | Size < 1U

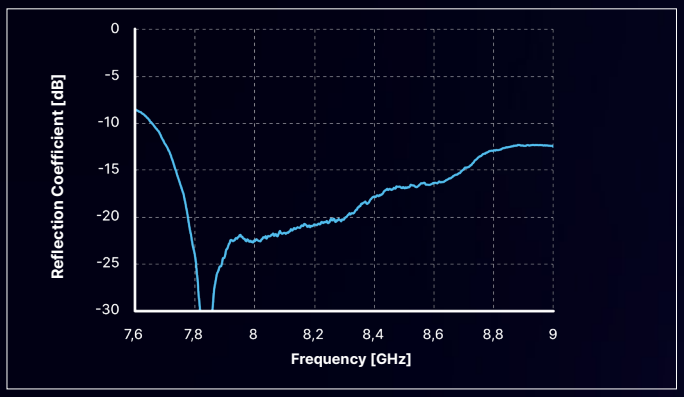
## Benefits

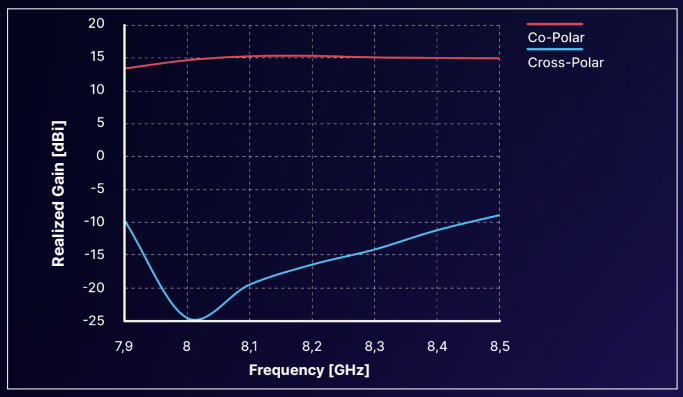
- High data-rate payload telemetry
- High cross-polarization discrimination
- Acceptance Tests (RF, Mechanical, Thermal) included:
  - Return loss
  - Z-axis random vibration
  - Thermal cycling
- Radome protection against harsh environment: temperature & ESD
- ITAR Free

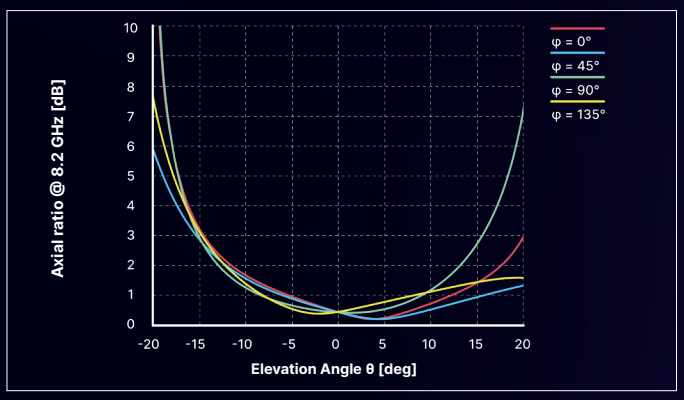
HIGH-GAIN X-BAND ANTENNA

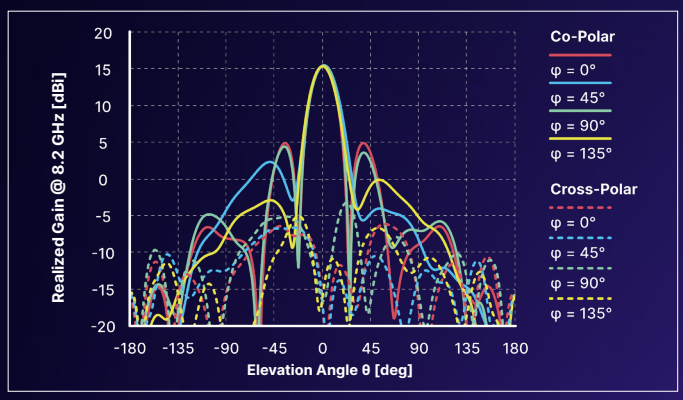
# Typical Measured Performance

Tx | G > 15 dBi | Ultra Low Profile | RHCP or LHCP | Size < 1U




## Typical Performance

| | |
|---|---|
| **Frequency Band** | **From 7.9 GHz to 8.5 GHz** |
| **Bandwidth** | 600 MHz |
| **Polarization** | Left or Right Hand Circular Polarization |
| **Reflection Coefficient** | < -15 dB |
| **Half Power Beam Width** | ~ 20° (± 10°) |
| **Radiation Efficiency** | > 70% |
| **Realized Gain @ 8.2 GHz** | 15.5 dBi |
| **Axial Ratio @ 8.2 GHz** | < 1 dB from 0° to ± 5° (all planes)<br>< 2 dB from 0° to ± 10° (all planes) |

## Physical Characteristics

| | |
|---|---|
| **Envelope Size Without Connector** | L 100 x W 100 x H 6.5 $mm^3$<br>Height with connector: 16 mm |
| **Mass With Connector** | 70 g ± 7 g |
| **Connector** | Coaxial SMA female (50Ω) |
| **Mechanical Interface** | 4 x M3 (unthreaded hole) |
| **Qualification Temperature** | -120°C / +120°C |
| **Protective Radome** | PEEK coated with SG121FD white paint (on Flight Models only) resistant to thermal and preventing electrostatic discharges. |
| **Acceptance Tests on Flight Models** | - Radio Frequency<br>- Mechanical<br>- Thermal |
| **Acceptance Tests on Engineering Models** | Radio Frequency Only |

Disclaimer: facts and figures herein are for information only and do not represent any warranty of any kind.