

TT&C Antenna

Ka-Band TT&C Antenna



The Ka-Band TT&C Antenna offers a compact and reliable solution for telemetry, tracking, and command operations in the Ka-band. Available in three models (Rx,Tx and Rx/Tx full duplex), it is designed for demanding space missions with scalable frequency to suit various operational needs. The choke ring design reduces multipath interference, ensuring accurate signal transmission and reception. Supporting single- or dual-circular polarization (RHCP/LHCP), it operates across the 19.7–20.2 GHz (Tx) and 29.5–30 GHz (Rx) bands

with excellent axial ratio stability and low reflection coefficient. Lightweight, durable, and engineered for extreme environments, this antenna ensures optimal performance.

Rx or Tx

Hemispherical Coverage

HPBW > 90°

Size < 1U



High Performance on TT&C Ka Bands



Ultra High Beamwidth



Fully Qualified:

RF, Mechanical, and Thermal Acceptance Tests Included (Return Loss, Z-Axis Random Vibration, Thermal Cycling).



ITAR-free:

Suitable for international programs without export restrictions.



Full Metal Design:

Resistant against Harsh Environments.

Benefits

anywaves.com

ANYWAVES



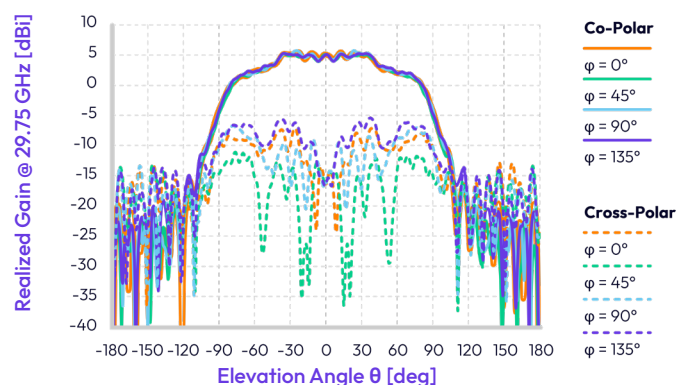
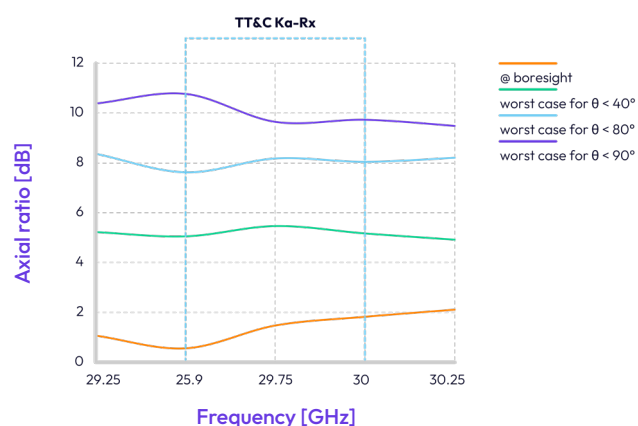
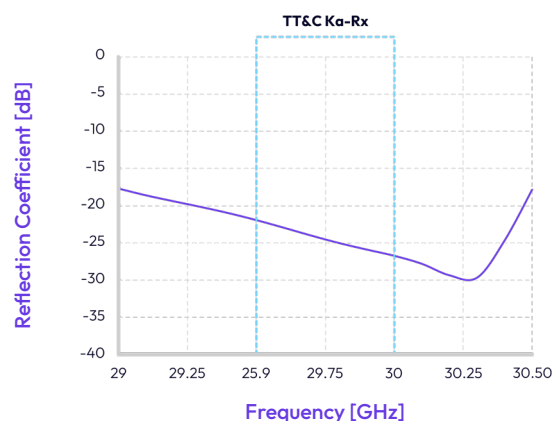
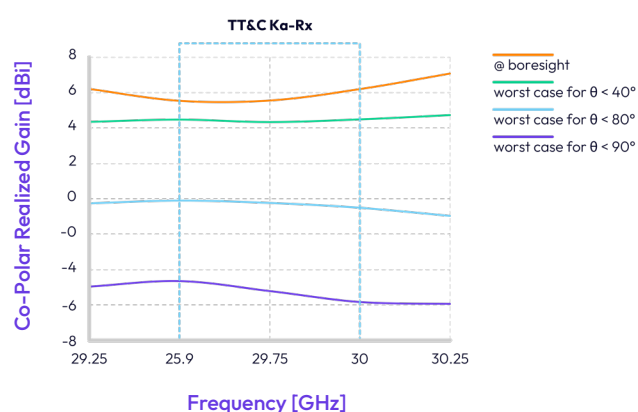
Rx

Hemispherical Coverage

HPBW > 90°

Size < 1U

Typical Measured Performance



Typical Measured Performance

Frequency Band	From 29.5 to 30 GHz
Polarization	Right or Left Hand Circular Polarization
Reflection Coefficient	< -18 dB
Realized Gain	> 5 dBi @Boresight > 4 dBi @ $\pm 40^\circ$ > -0.5 dBi @ $\pm 80^\circ$
Axial Ratio	< 5.5 dB from 0° to $\pm 40^\circ$ < 8.5 dB from 0° to $\pm 80^\circ$ < 11 dB from 0° to $\pm 90^\circ$

Physical Characteristics

Envelope Size	L 108 x W 108 x H 44 mm ³
Test-Hat Compatibility	Yes
Mass	< 75 g
Connector	SMA 2.9 Female 50 (No floating potentials within the antenna structure. Coax core electrically connected with antenna full-metal structure.)
Mechanical Interface	4 x M3 (unthreaded hole)
Qualification Temperature	- 120°C / + 120°C
Acceptance Tests	Flight Models - Radio Frequency - Mechanical - Thermal Engineering Models - Radio Frequency Only

TT&C Antenna Ka-Band TT&C Antenna



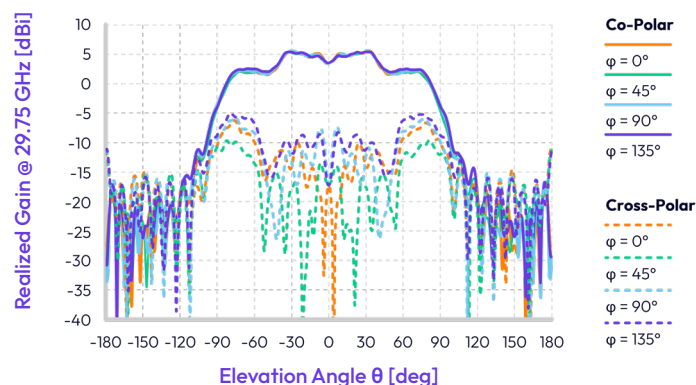
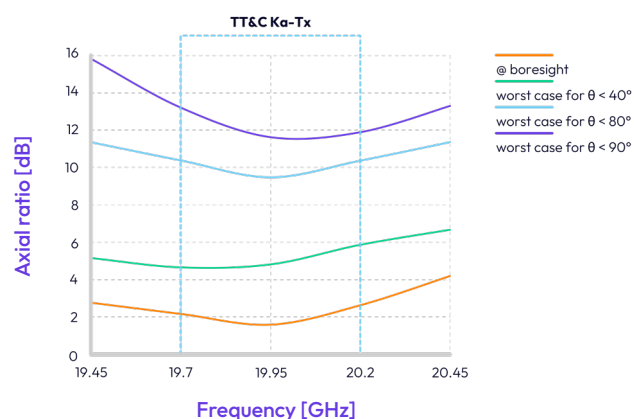
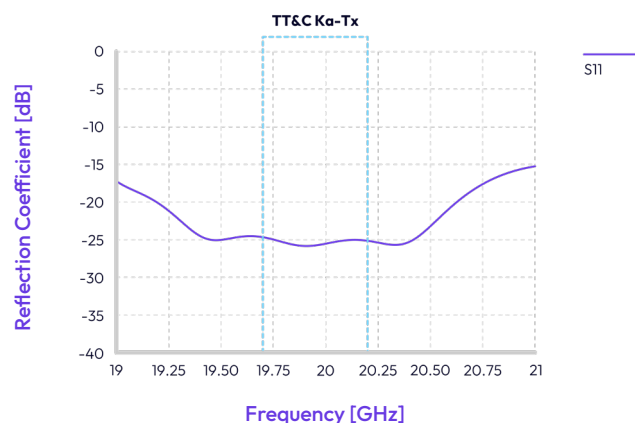
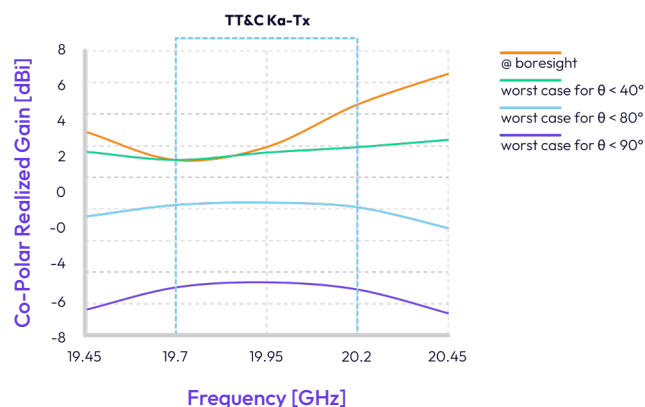
Tx

Hemispherical Coverage

HPBW > 90°

Size < 1U

Typical Measured Performance



Typical Measured Performance

Frequency Band	From 19.7 to 20.2 GHz
Polarization	Right or Left Hand Circular Polarization
Reflection Coefficient	< -18 dB
Realized Gain	> 3 dBi @boresight > 3 dBi @ $\pm 40^\circ$ > 0 dBi @ $\pm 80^\circ$
Axial Ratio	< 6 dB from 0° to $\pm 40^\circ$ < 10.5 dB from 0° to $\pm 80^\circ$ < 13.5 dB from 0° to $\pm 90^\circ$

Physical Characteristics

Envelope Size	L 108 x W 108 x H 44 mm ³
Test-Hat Compatibility	Yes
Mass	< 140 g
Connector	SMA 2.9 Female 50 (No floating potentials within the antenna structure. Coax core electrically connected with antenna full-metal structure.)
Mechanical Interface	4 x M3 (unthreaded hole)
Qualification Temperature	- 120°C / + 120°C
Acceptance Tests	Flight Models - Radio Frequency - Mechanical - Thermal Engineering Models - Radio Frequency Only