

Ku-band TTC Antennas

Our Ku-Band TTC antennas are developed to give the customer reliable control and monitoring for all types of satellites.

We have delivered more than hundred pipe antennas for different frequency bands (C- to Ka-band). The pipe antenna type has served numerous satellites in their crucial telemetry and command communication. The antennas have excellent performance combined with low mass.



We offer two main variants of Ku-band TTC antennas:

- Pipe antennas with 0.75 GHz bandwidth within TM/TX 10.70 GHz to 12.75 GHz band or within TC/RX 13.25 GHz to 14.80 GHz band
- Pipe antennas with full 2 GHz bandwidth within TM/TX 10.70 GHz to 12.75 GHz band or within TC/RX 12.75 GHz to 14.80 GHz band

The 0.75 GHz bandwidth antennas for single or dual polarization use have full flight heritage.

We are now introducing a breakthrough design, a full 2 GHz bandwidth single polarization antenna for each of TM/TX or TC/RX bands. It can be adapted to dual polarization.

Key features

- Flight heritage
- Fully qualified designs
- Compact and low mass designs
- LHCP and/or RHCP, single or dual polarization variants are available
- 0.75 GHz to 2 GHz bandwidths available
- Modular designs to keep qualification status
- Test hats/caps are available

Heritage

- More than 35 Ku-band antennas delivered
- In addition 80+ C- to Ka-band antennas delivered
- Serving European, North American and Asian missions

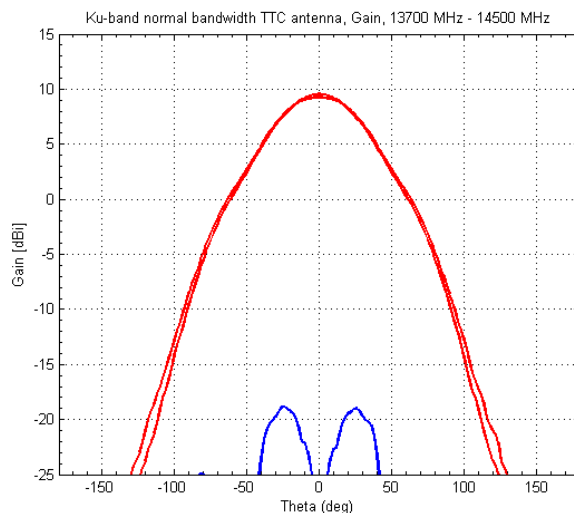
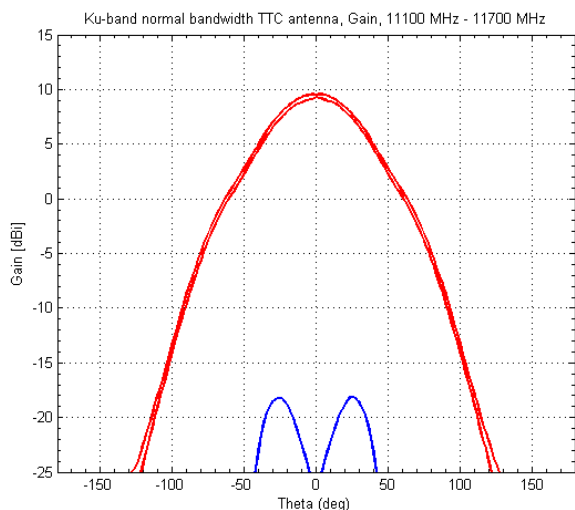
Ku-band 0.75 GHz bandwidth TTC antennas



Technical data TM/TX or TC/RX antenna

- EOC > 75°
- Diameter < 125 mm
- Height < 125 mm (TM/TX) < 110 mm (TC/RX)
- Mass < 250 g (TM/TX) < 210 g (TC/RX)
- Polarization - single or dual RHCP and/or LHCP
- Frequency band TM/TX 10.70 GHz to 12.75 GHz or TC/RX 13.25 GHz to 14.80 GHz
- Bandwidth - 0.75 GHz within above bands
- RF I/F - waveguide or coaxial possible
- Random vibration 46.7 g RMS
- Wide operational temperature range $\pm 150^{\circ}\text{C}$

Typical measured antenna radiation patterns (min and max over frequency) for a 0.75 GHz bandwidth antenna (TM/TX or TC/RX) is shown below.



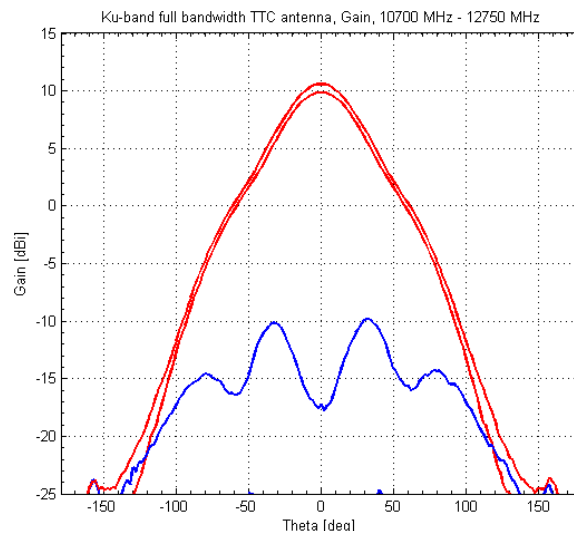
Ku-band full 2.0 GHz bandwidth TTC Antennas

Technical data single polarized TM/TX or TC/RX antenna:

- EOC > 75°
- Diameter < 90 mm (TM/TX) < 75 mm (TC/RX)
- Height < 75 mm (TM/TX) < 65 mm (TC/RX)
- Mass < 120 g
- Polarization - single RHCP or LHCP
- Frequency band TM/TX 10.70 GHz to 12.75 GHz or TC/RX 12.75 GHz to 14.80 GHz
- Bandwidth - full 2 GHz band
- RF I/F - waveguide or coaxial possible
- Random vibration 46.7 g RMS
- Wide operational temperature range $\pm 150^{\circ}\text{C}$



Typical measured antenna radiation pattern (min and max gain over frequency) for a full 2.0 GHz bandwidth antenna (TM/TX) is shown below.



Auxiliary items

Test caps/hats are available to all Ku-band TTC antennas. The test caps/hats are absorptive with a set coupling value (e.g. 10, 15, 20 dB etc.) or non-absorptive with a 0 dB coupling.

