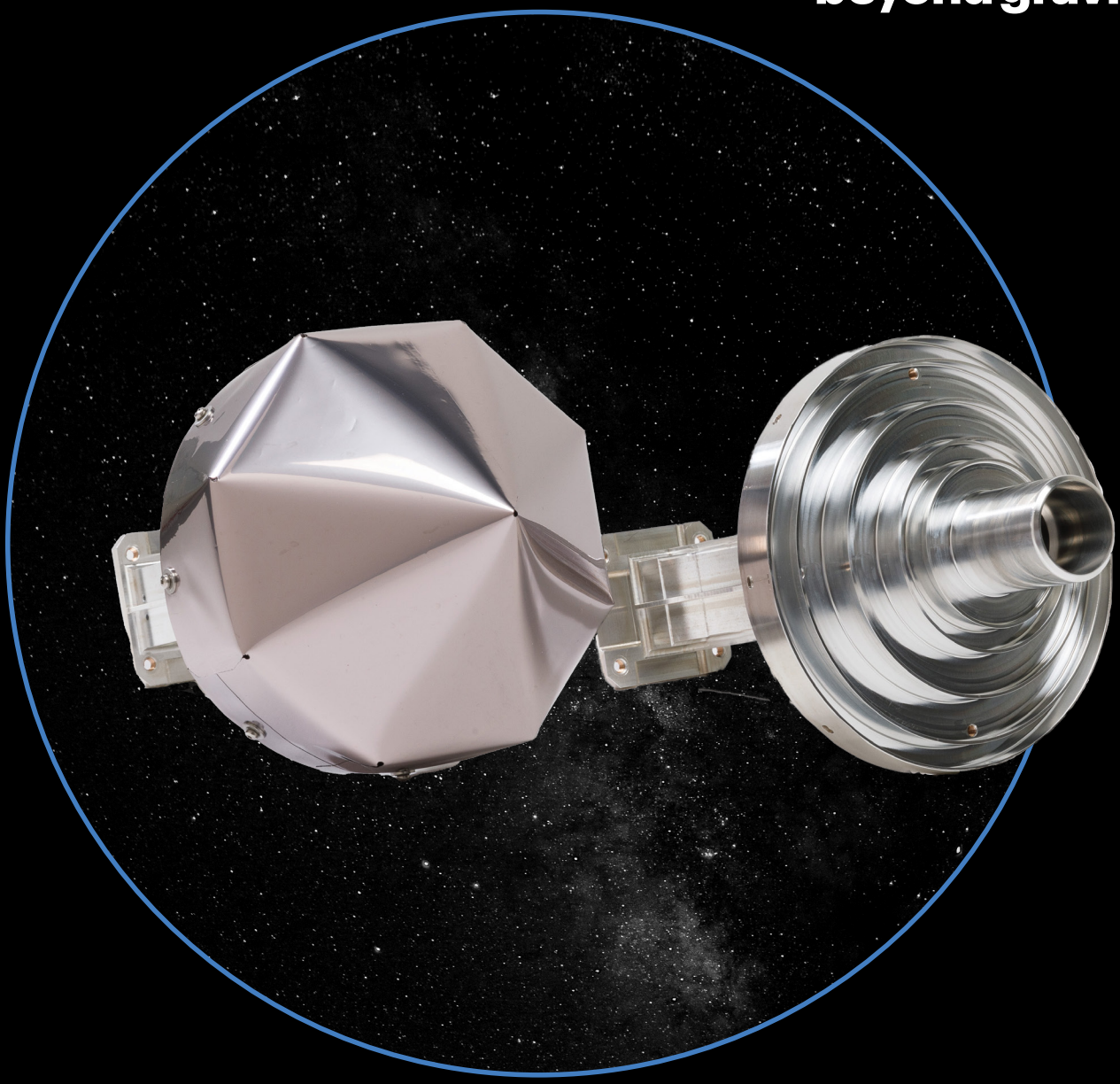
beyond gravity



X-band TTC Antennas

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

We offer two main variants of X-band TTC Antennas:
- **Helix Antennas**
- **Waveguide Pipe Antennas**

Heritage

The X-band TTC antennas have heritage in our data downlink antenna family that has become well renowned today. We have delivered more than sixty X-band Helix downlink antennas up to now.

This antenna type serves earth observation and scientific satellites in their crucial telemetry and command communication. The antennas have excellent performance combined with low volume and mass.

Key features

- Dual frequency band antennas (RX/TC and TX/TM)
- Hemispherical or narrow beam coverage
- LHCP or RHCP variants are available
- Modular designs to keep qualifi cation status
- Compact design, 90 to 140 mm diameter and 150 to 260 mm total height (helix variants)
- Compact design, 130 mm diameter and 215 mm total height (waveguide pipe variant)
- Low mass design, 325 to 415 g (helix variants)
- Low mass design, 300 g (waveguide pipe variant)
- Compact design, 100 mm diameter and 220 mm total height (medium gain waveguide pipe variant)
- Low mass design, 410 g (medium gain waveguide pipe variant)
- Wide operational temperature range ± 150°C

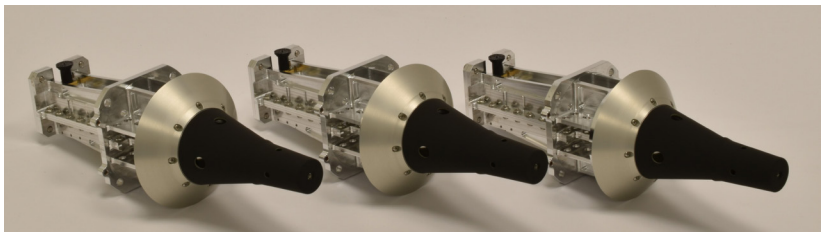
X-band helix Antennas

Technical data:

- EOC 90° (hemispherical coverage)
- Frequency band (broadband TM/TX/DDL)
  7190 MHz to 7250 MHz (RX/TC)
  and 8025 MHz to 8400 MHz (TM/TX/DDL)
- Frequency band (narrowband TM/TX)
  7190 MHz to 7250 MHz (RX/TC) and
  8400 MHz to 8500 MHz (TX/TM)

Coaxial I/F variant (SMA):

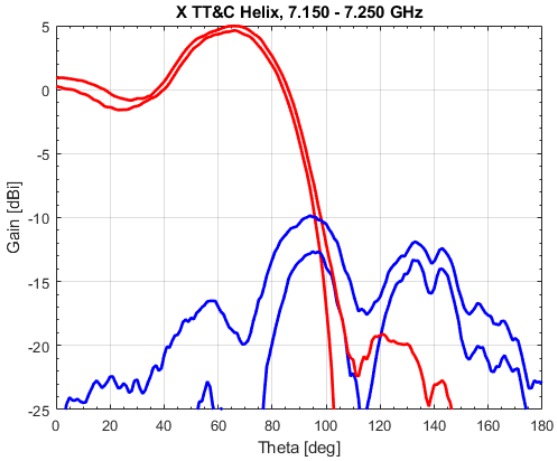
- Diameter 140 mm
- Total height <150 mm
- Mass <325 g

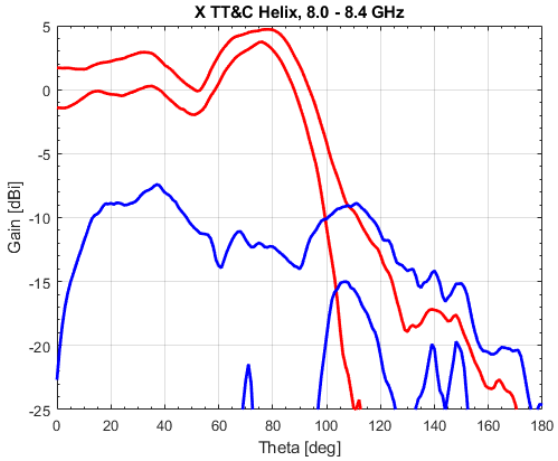


Waveguide I/F variant (WR112):

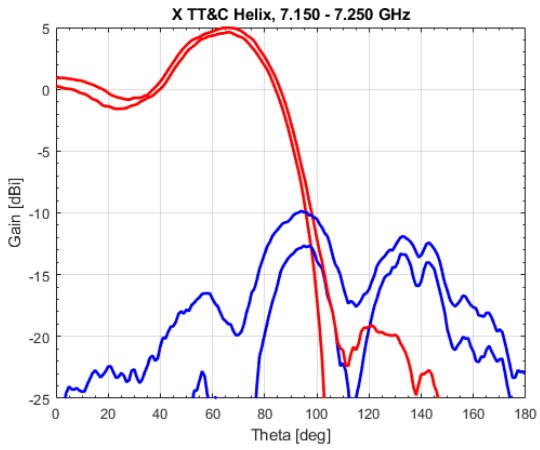
- Diameter 90 mm
- Total height <260 mm
- Mass <415 g

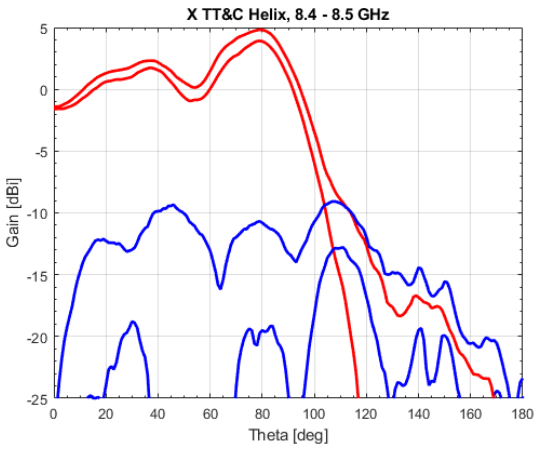
Typical measured antenna radiation patterns (min and max) are shown below:





Broadband Antenna





Narrowband Antenna

X-band waveguide pipe TTC antennas

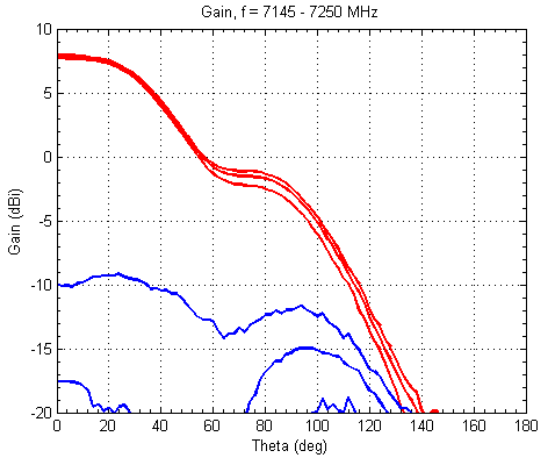
Technical data:

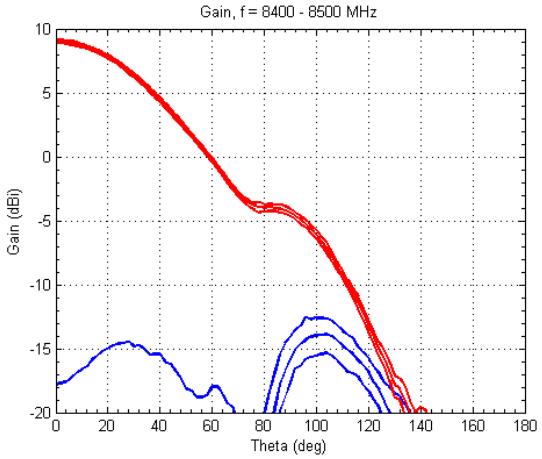
- EOC 90° (hemispherical coverage)
- Frequency band 7145 MHz to 7250 MHz (RX/TC) and 8400 MHz to 8500 MHz (TX/TM)

Waveguide I/F variant (WR112):

- Diameter 130 mm
- Total height <215 mm
- Mass <300 g

Typical measured antenna radiation patterns (min and max) are shown below:





X-band medium gain waveguide pipe TTC antennas

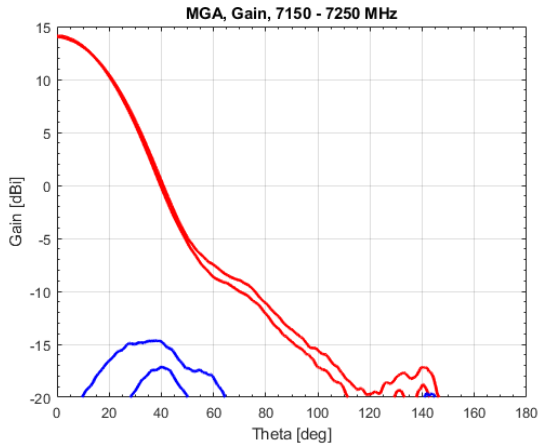
Technical data:

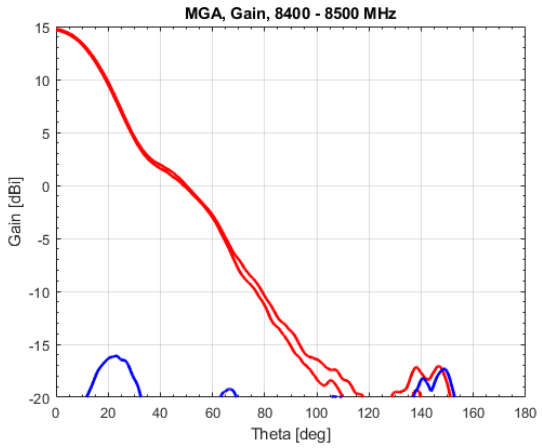
- EOC 20°
- Frequency band 7145 MHz to 7250 MHz (RX/TC) and 8400 MHz to 8500 MHz (TX/TM)

Coaxial I/F variant (SMA):

- Diameter 100 mm
- Total height <220 mm
- Mass <410 g

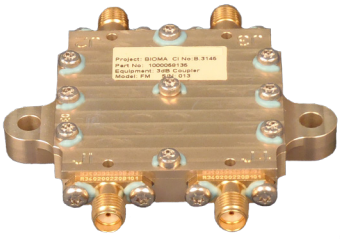
Typical measured antenna radiation patterns (min and max) are shown below:





Auxiliary items

- Test caps/hats are available to X-band TTC antennas. The test caps/hats are either absorptive with a set coupling value (e.g. 10, 15, 20 dB etc.) or with 0 dB coupling, depending power handling needs.
- A 3 dB S-Band hybrid with X-band filter function is available (to be used in a co-located X-Band down link and S-Band TTC system). It has > 25 dB suppression at X-band data downlink frequencies.



Services

- Installed performance analysis offered

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