

cnesadvance

# X-Band Payload Telemetry Antenna

Tx Medium gain

HPBW ~ 40°

Size < 1



#### Space Heritage

- In orbit since 2019
- CNESAdvance Label: material & processes
- used have French Space Agency heritage.

### Benefits

- High data rate for payload data downlink
- Radome protection against harsh environment: temperatures & ESD
- Acceptance Tests (RF, Mechanical, Thermal) included:
  - Return loss
  - Z-axis random vibration
  - Thermal cycling
- ITAR Free

ANYWAVES, the only pure European space antenna equipment manufacturer, provides high-performance and high-quality antennas for satellite constellations.

Perfectly suited to LEO platforms, ANYWAVES X-Band antenna provides a medium gain with excellent axial ratio. It guarantees a high data rate for your payload telemetry links.



**ANYWAVES** 2, Esplanade Compans Caffarelli - Bât. Toulouse 2000 Hall D 31000 Toulouse, France +33 (0)5 31 54 41 56 anywaves.eu

**y** in



# X-Band Payload Telemetry Antenna

cnesadvance

Tx Medium gain

HPBW ~ 40°

Size < 1U

## **Typical Measured Performance**





### Typical performance

Elevation Angle  $\theta$  [deg]

0

-30

Frequency band	From 8.025 GHz to 8.4 GHz
Bandwidth	> 375 MHz
Polarization	Left or Right Hand Circular Polarization
Reflection coefficient	< -15 dB (all frequency band)
Half Power Beam Width	~ 40° (± 20°)
Efficiency	> 88% (worst case)
Gain @ 8.2 GHz	11.5 dBi
Axial Ratio @ 8.2 GHz	< 3 dB from $0^{\circ}$ to ± $10^{\circ}$



#### **Physical characteristics**

Envelope size without connector	L 72.6 x W 72.6 x H 11 mm³ Protruding height: 11 mm
Mass with connector	59 ± 3 g
RF Power	More than 3W
Operational Temperature	-120°C / + 120°C
Protective Radome	VESPEL coated with SG121FD white paint (on Flight Models only) resistant to thermal and radiation environment and preventing from electrostatic discharges.
Connector	SMA female (50 $\Omega$ )
Mechanical interface	4 x M2.5 (unthreaded hole)
Acceptance Tests	Performed on Flight Models only