

# ❖ S-Band Patch Antenna

The S-Band Patch Antenna supports telemetry and telecommand data for Earth observation and space science missions. The patch antenna produces a hemispherical pattern, with good gain along boresight. Gain drops to about 0 dBiC at approximately  $\pm 60^\circ$  off boresight.

The antenna is matched to a 50-ohm system interfacing via a single coaxial SMA female connector.

## Applications

- ❖ Payload and telemetry downlink
- ❖ Telecommand uplink
- ❖ Earth observation missions
- ❖ Space science missions

## Features

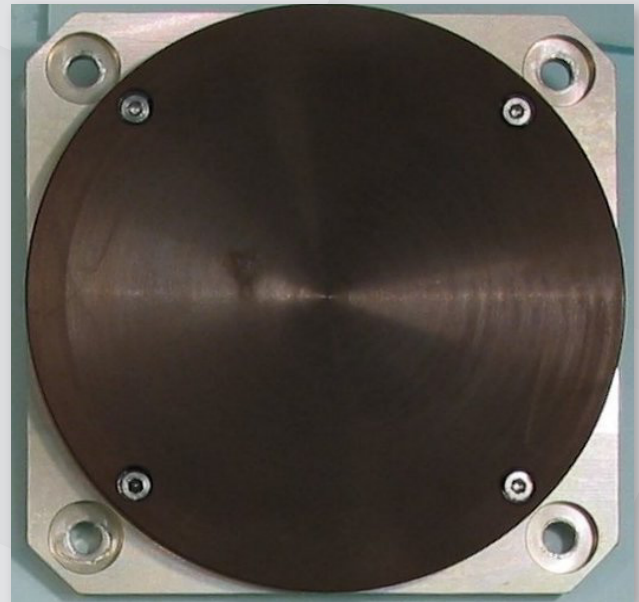
- ❖ Flight heritage
- ❖ Manufactured to ECSS standards
- ❖ Data rates up to 4 Mbps
- ❖ Hemispherical gain pattern
- ❖ Right- or left-hand circular polarization available

## Key Specifications

- ❖ Up to 10 W RF power
- ❖ Low profile 82 x 82 x 20 mm
- ❖ Low mass <80 g

## Interfaces

- ❖ 50 ohm antenna interface (SMA female)



## Heritage

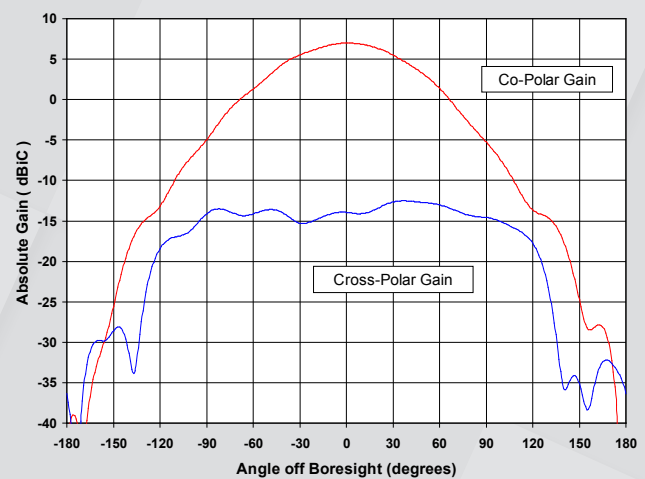
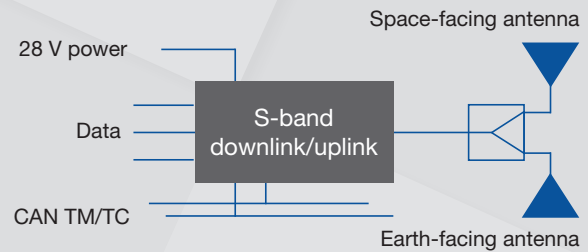
- ❖ More than 90 units flown
- ❖ TerraSAR (2007)
- ❖ TanDEM-X (2009)
- ❖ TechDemoSat-1 (2014)
- ❖ KazEOSat-2 (2014)
- ❖ DMC3 constellation (2014)
- ❖ NovaSAR-S (2015)
- ❖ FormoSAT-7 constellation (2016)
- ❖ Third-party missions

# S-Band Patch Antenna

## Specifications

|                       |   |
|-----------------------|---|
| Frequency Range       | Frequency tunable in the range 2.0 to 2.5 GHz |
| RF Power Handling     | Up to 10 W                                    |
| Polarization          | Right- or left-hand circular polarization     |
| VSWR                  | <1.3:1  |
| Half-Power Beam Width | ~ 35°   |
| Axial Ratio           | < 3 dB within 3 dB beamwidth                  |
| Mass                  | <80 g   |
| Dimensions            | 82 x 82 x 20 mm (incl. connector)             |
| Connector             | Coaxial SMA female                            |
| Mounting Interface    | 4 x M4 through hole                           |
| Temperature           | -20°C to +50°C (operating)                    |
| Random Vibration      | 15 g <sub>rms</sub> in all axes               |
| Radiation Tolerance   | >5 kRad (Si)                                  |

## Typical Use



Typical Measured Gain Pattern in free-space

Product specification subject to change without notification

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