

S-Band Patch Antenna

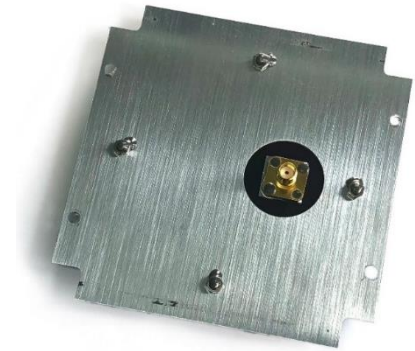
DATASHEET

ISIS-QMS-TPL-0045, version 0.0

CubeSat S-band patch antenna

Applications

The ISIS S-band patch antenna is a compact, low mass solution suitable for the 2200-2290 MHz S-band frequency range. This antenna is suitable for integration on any CubeSat platform and directly compatible with the ISIS S-band transmitter and transceiver products as well as ISIS standard CubeSat structures.



General description

The ISIS S-band patch antenna is part of a new generation of antennas designed for S-band communications on nanosatellites and CubeSats. It is an off the shelf compact antenna designed to complement ISIS S-band radios for telemetry and payload data transmission.

Compatibility

- Compatible with ISIS CubeSat structures, designed to fit on a 1U face or on a "Tuna can".
- Compatible with ISIS S-band radio products

Flight heritage and quality assurance

- Qualification tested for quasi static acceleration to 15g in three axes.
- Flight units thermally acceptance tested for workmanship.
- IPC-A-610 Class 3 PCB and assembly.

Product features

- Covers the 2200-2290 MHz EESS/SRS/SOS S-band allocation
- Light weight solution <50g
- Can be supplied with CubeSat compatible mounting panel
- Compatible with mounting onto CubeSat "Tuna can"
- Maximum gain up to 6.5 dBic
- 100° Half Power Beam Width
- Single straight SMA connector (right-angle connector available as option)
- Right Hand Circular Polarization

Ordering information

Please contact sales@isispace.nl for ordering information

Specification

Table 1 SSPA Specification

Parameter	Typical Value	Units
Environmental Characteristics		
Operational temperature	-20 ... +50	°C
RF Characteristics		
Frequency Range	2200-2290	MHz
Gain in boresight (centre frequency)	6.5	dBic
Half Power Beam Width	100	° (degrees)
Return Loss (across frequency range)	> 13	dB
Bandwidth:	> 100	MHz
Axial Ratio	< 3 (for +/-100 degrees)	dB
Polarization	RHCP	-
Power handling	2	W
Physical Characteristics		
Mass	< 50	g
Diameter	80	mm
Height (without connector)	5.0	mm
Connector height (straight)	8.8	mm
Interfaces		
Mechanical interfaces	4 x M2.5	-
RF connector	50Ω SMA female Orientation: straight (default), right angle (optional)	-

RF Description

Radiation Pattern

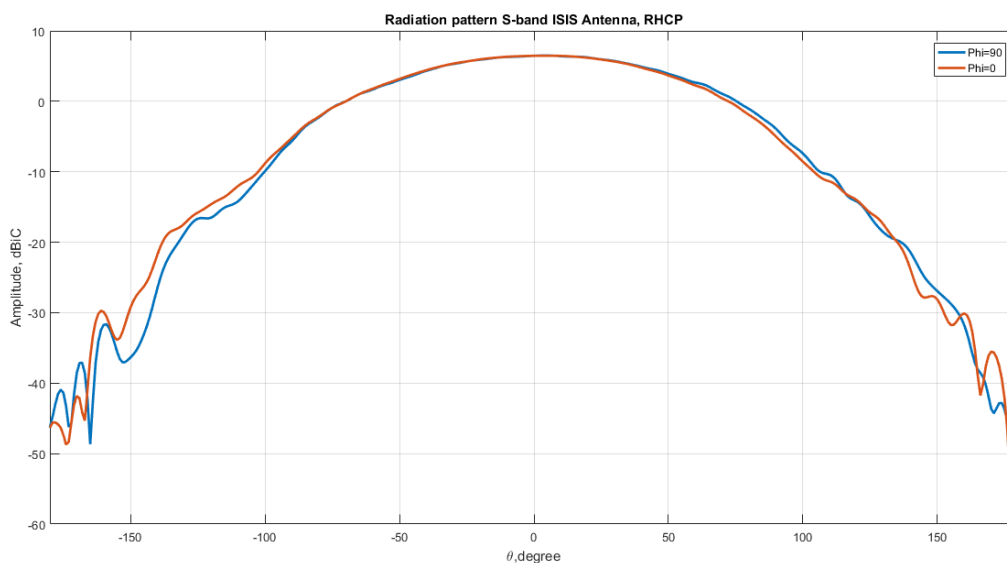
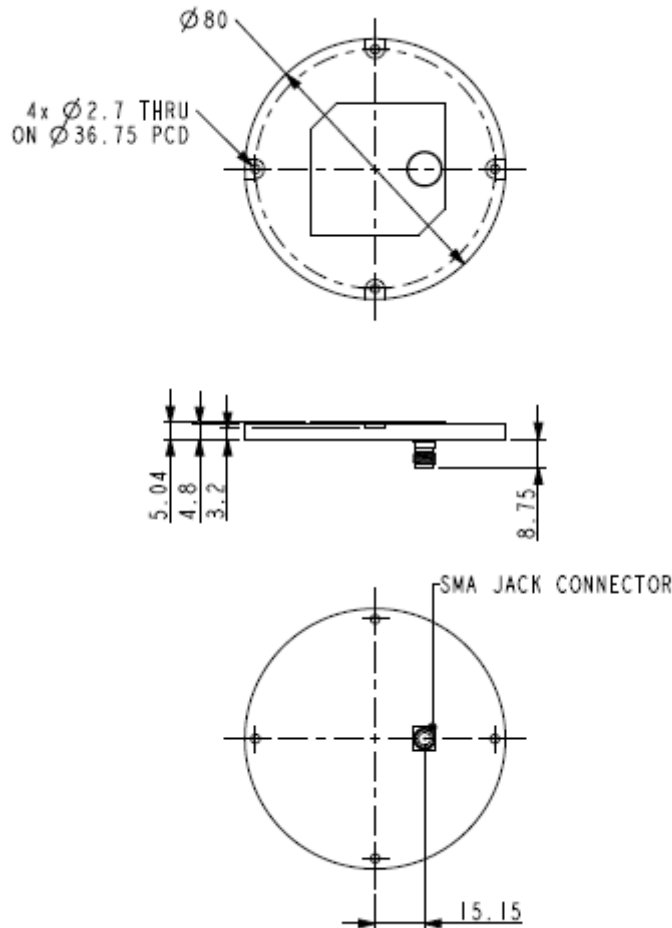


Figure 1 Typical co-polar radiation pattern at 2245 MHz

Mechanical Description

Mechanical Outline



Detailed interface information and CAD models of the entire **AAA** may be delivered on request.

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