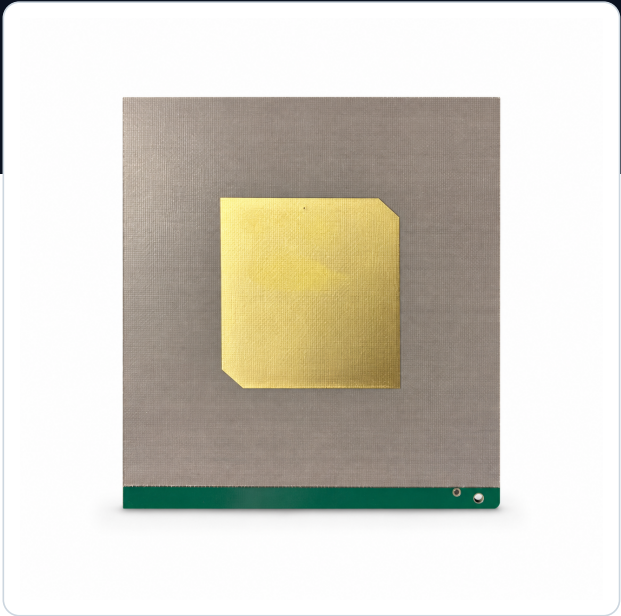


2.245 GHz RHCP Patch Antenna

Single-element circularly polarized antenna for S-band telemetry, CubeSat, SDR, and integration studies.



Front radiating surface; 85 x 85 mm low-loss PTFE PCB.

NOMINAL FREQUENCY	BROADSIDE GAIN	-10 DB IMPEDANCE BW	3 DB RHCP BW
2.245 GHz	6.92 dBi	59.9 MHz	15.4 MHz
	simulated	simulated	simulated

PRODUCT OVERVIEW

A single-element RHCP patch designed around 2.245 GHz for compact S-band systems. The 85 mm square PCB provides a straightforward 50-ohm SMA interface and broadside circular polarization for laboratory links, telemetry experiments, and integration work.

Engineering value: a ready-to-evaluate S-band radiator with documented impedance, axial-ratio, and gain simulation data.

TYPICAL APPLICATIONS

- S-band telemetry and experimental RF links
- CubeSat and small-platform prototyping
- SDR development and laboratory characterization
- Custom frequency and packaging adaptations

AVAILABILITY

Available as engineering prototype hardware for laboratory evaluation. Frequency, connector, outline, and integration adaptations can be quoted for custom RF programs.

Sales contact: alessandro.ghezzo@outlook.com

MECHANICAL & INTERFACE

Polarization	RHCP
Feed impedance	50 ohm
Connector	Vertical SMA female
Construction	2-layer low-loss PTFE PCB
Dimensions	85 x 85 x 1.54 mm
Operating temperature*	-20 to +70 deg C
Storage temperature*	-40 to +85 deg C

***Provisional environmental guidance.** These temperature limits have not been environmentally qualified. Contact Austral Microwaves for mission-specific screening, materials review, or enclosure integration.



Performance data

Performance values on this page are electromagnetic simulation results. Production matching can be checked by VNA on request; radiation data has not been certified by an accredited range.

ELECTRICAL PERFORMANCE

Nominal operating frequency	2.245 GHz
Simulated S11 near target	-17.35 dB
Simulated -10 dB impedance BW	59.9 MHz
Minimum axial ratio	1.10 dB simulated
Frequency of minimum axial ratio	2.250 GHz simulated
3 dB axial-ratio bandwidth	15.4 MHz simulated
Broadside gain	6.92 dBi simulated
Polarization	RHCP

Data basis

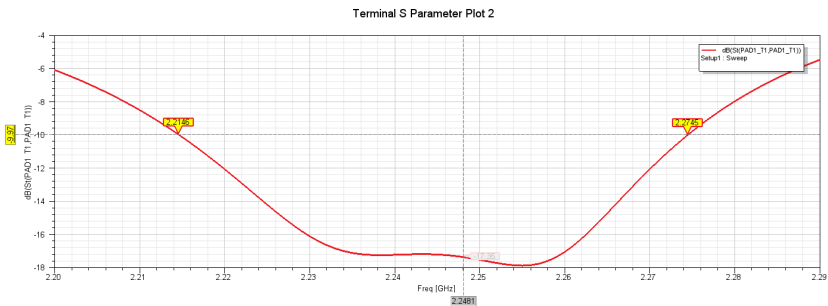
The displayed impedance, axial-ratio, and gain values are derived from electromagnetic simulation.

The plotted -10 dB crossing points are approximately 2.2146 and 2.2745 GHz, corresponding to 59.9 MHz bandwidth.

The plotted 3 dB axial-ratio crossings are approximately 2.2431 and 2.2585 GHz, corresponding to 15.4 MHz bandwidth.

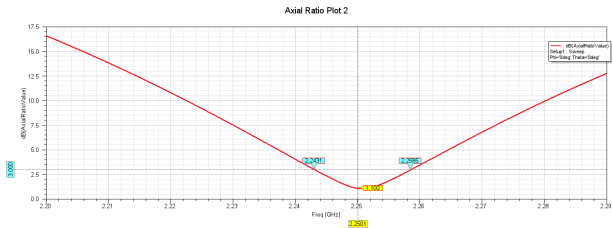
Qualification: intended for experimentation and prototyping; not qualified for flight.

Simulated S11



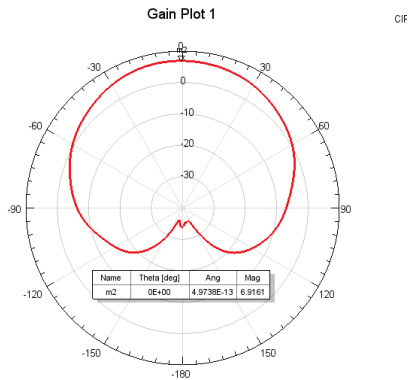
Simulated -10 dB impedance bandwidth: 59.9 MHz.

Simulated axial ratio



Minimum 1.10 dB near 2.250 GHz; 15.4 MHz 3 dB bandwidth.

Simulated gain pattern



Broadside-oriented RHCP pattern with 6.92 dBi simulated gain.