



# S-BAND PATCH ANTENNA

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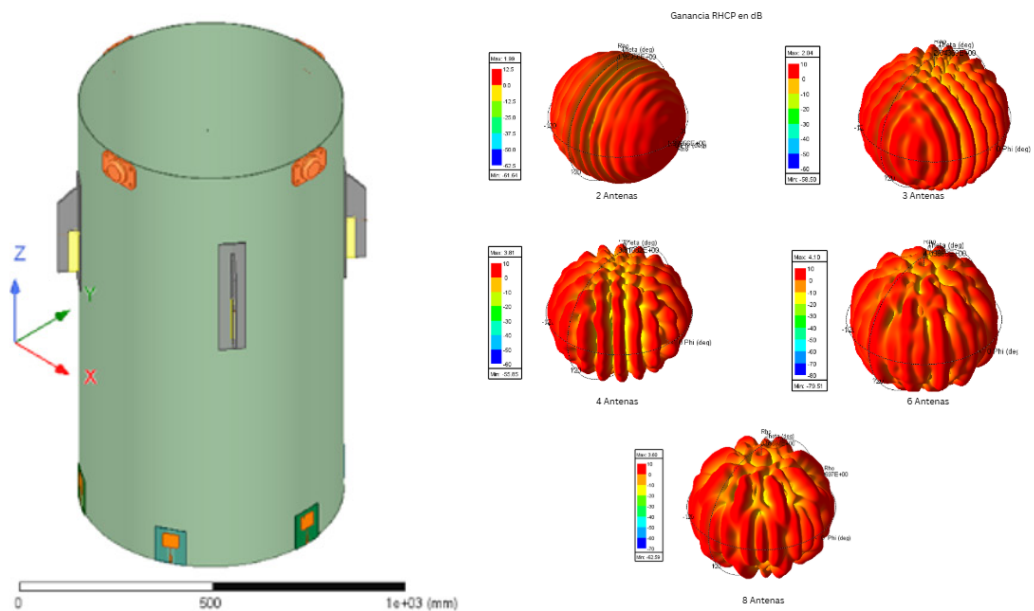
Advanced communication solutions  
for launchers and satellites

High-precision antennas optimized for space applications, ensuring reliable communications for launch vehicles and satellites in extreme environments. Our comprehensive development process—from advanced electromagnetic design to rigorous testing in anechoic chambers—delivers mission-critical performance that meets the highest international standards in the space sector.

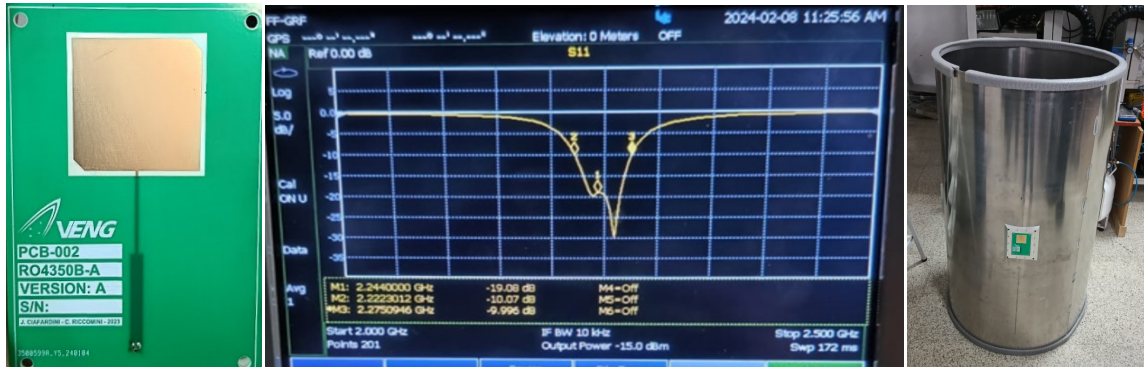


## Overview

The S-band patch antenna is a critical component in space telemetry systems. Specifically designed for use in launch vehicles and satellites, this antenna provides reliable communication in the S-band (2200-2290 MHz), meeting strict space and weight requirements for space applications.



# Main features



**Compact and lightweight design optimized for space applications**

**Excellent stability under extreme environmental conditions**

**Compatibility with standard telemetry systems**

**Manufactured with high-quality materials for space applications**

**RO4350B substrate from Rogers Corporation  
for maximum reliability**

## Frequency band

2200 to 2290 MHz (lower S band)

## Bandwidth

50MHz

## Radiation pattern type

Omnidirectional

## Polarization

RHCP (Right Hand Circular, Polarization) (Option LHCP)

(\* ) Custom polarization can be implemented upon request

## Antenna Gain

$G > 5\text{dBi}$

## VSWR

$< 1.5$

## XPD

$> 20\text{ dB}$

## Minimum radiated power

The antenna handles at least 10W

## Substrate

RO4350B from Rogers Corporation

Specifications are subject to change without prior notice. For detailed technical information, please contact our technical team at [scostamagna@veng.com.ar](mailto:scostamagna@veng.com.ar).

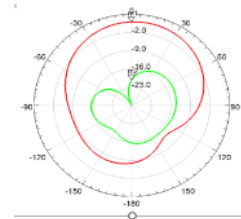
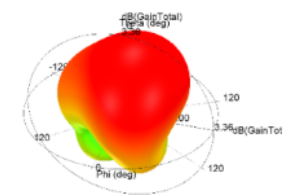
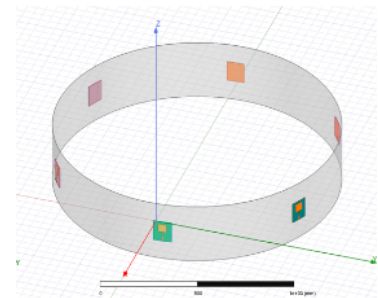


# Development Process

## Design and Simulation

We use advanced electromagnetic simulation tools such as HFSS for the design and optimization of our antennas. This process allows us to:

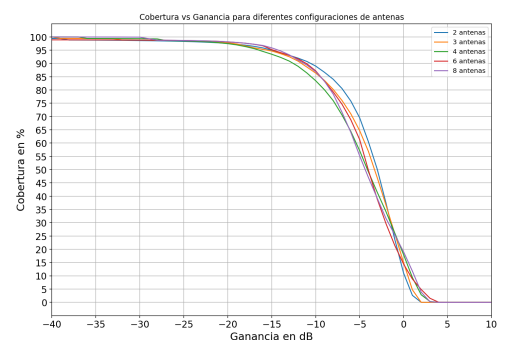
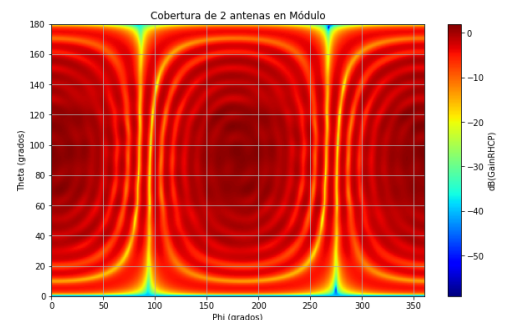
- ▶ Optimize the design to meet specific mission requirements.
- ▶ Accurately predict antenna behavior under real conditions.
- ▶ Minimize development time and reduce costs.
- ▶ Analyze and solve potential problems before manufacturing.



## Coverage Analysis

We perform detailed coverage analyses to ensure optimal performance on space vehicles:

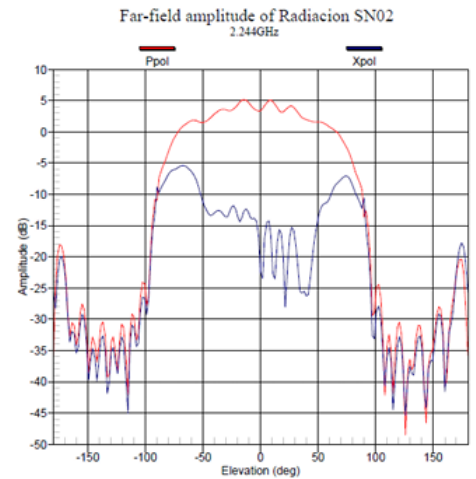
- ▶ Antenna modeling in the context of the complete vehicle.
- ▶ Simulation of radiation patterns under real conditions.
- ▶ Position optimization for maximum coverage.
- ▶ Interference analysis and mitigation.



## Manufacturing and Testing

Our high-precision manufacturing process ensures that each antenna meets the required specifications:

- Use of space-grade materials.
- Controlled and verified manufacturing processes.
- Rigorous testing in anechoic chambers to validate simulations.
- Complete characterization of S-parameters and radiation patterns.





## Commercial Inquiries

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