



# SSA03 – COMPACT HIGH GAIN S-BAND PATCH ANTENNA

## PRODUCT NAME

SSA03- COMPACT HIGH GAIN S-BAND PATCH ANTENNA

## SUMMARY

The EXA SSA03 is a very compact, high gain S-band antenna that can accommodate a bandwidth of up to 30 MHz for missions that need greater speed and/or bandwidth separation capabilities and great flexibility on the final frequencies selection. Integrated user selectable choice between LHCP and RHCP and center frequency choice between 2220 and 2260 MHz allows your mission to not wait for the final bands and frequencies approval and greater flexibility: By the time you get your approval papers from your telecommunications authority, you will be ready to fly, just request a frequency within SSA03's ample center frequency range and you save at least 6 months of red tape time.

## FEATURES

- Flight heritage since 2021
- Wide choice of center frequencies: 2220 to 2260 MHz
- Only 2.55mm thickness
- Custom configurable choice of LHCP/RHCP and connectors and/or cables
- Wide FOV of 120 degrees
- Designed for LEO missions and requirements
- Manufactured according to NASA and ESA space standards and materials
- Functional, performance, thermal bake out and vibration tests provided with documentation.

- Compatible and compliant with standard deployers and CubeSat Standard

## PERFORMANCE

- Band Range:
  - 2220 to 2260MHz center frequencies available
- 6 dB Gain typical
- 30 MHz total bandwidth
- FOV 120 degrees aperture:
  - Vertical beam: 60 degrees
  - Horizontal beam: 60 degrees
- Impedance: 50 Ohms, also 60 ~ 70 Ohms user selectable
- Polarization: RHCP or LHCP
- F/B ratio: > 19 dB
- RH/LH isolation: 31 dB typical
- VSWR:
  - < 1.21 for center band frequencies
  - < 1.80 for frequency range

## PRODUCT PROPERTIES

- Mass: 9.75 g max
- Dimensions: [43 ~ 45]mm x [43 ~ 45]mm depending on the CF x 2.70 mm
- Operating Temperature: -80 to +140°C
- Radiation Tolerance: 4 years minimum in LEO

## MATERIALS

- Only TML and CVCM < 1% materials used, NASA and ESA approved
- Antenna Material: ARLON 25N space grade
- Connector: SMA, MCX, MMCX or Uf.I
- PTFE (Teflon) space grade cables, coax, custom choice

## TESTING

All antennas are provided with tests reports regarding:

- Thermal Bake out (10E-5 mbar @ 50C for 72 hours)
- Full vibration test for Falcon 9, Electron, Soyuz, Dnepr and Long March 2D
- QT and AT is performed on the unit to be shipped

Test	QT	AT
Functional	✓	✓
Vibration		✓
Thermal Cycling		✓
Thermal Vacuum		✓
Antenna network VSWR Test	✓	✓

## CONFIGURATION and PRICES

- SSA03 Compact High Gain S-Band Patch Antenna: 1250€

## AVAILABILITY:

- Immediately

