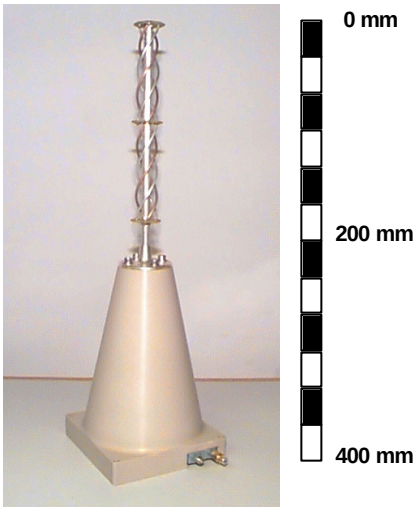
S-Band Quadrifilar Helix Antenna

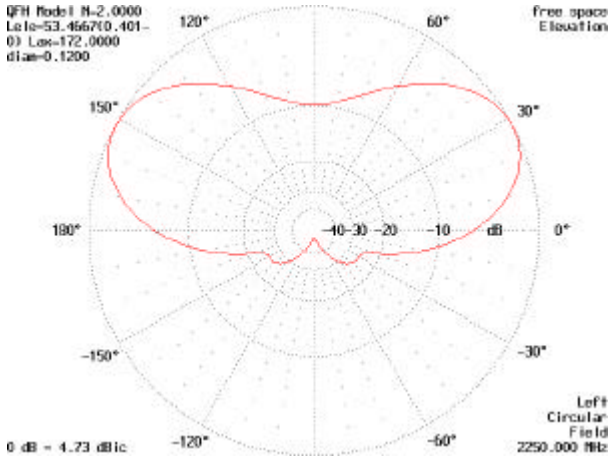
SSTL produces an S-Band Quadrifilar Helix Antenna suitable for wide range of missions in LEO. The antenna is available as a stand alone unit for easy interfacing to complementary RF equipment.
It is suitable for use where it is desirable to maintain a constant power flux density at the Earth's surface from the antenna system over the satellite footprint, in accordance with CCITT recommendations.

The radiation pattern obtained from this antenna is a conical beam, with maximum gain to the radio horizon of the earth footprint. The antenna has excellent circular polarisation characteristics over the entire Earth footprint and may be produced in either Left or Right hand polarisation.
The antenna is easily interfaced into a 50Ω system via a single 3.5mm SMA type connector and is mounted on a standard 100 x 100 mm fixing hole base which may be modified for the specific application.
The connectorised power splitter shown here may be implemented in SMD version for alternative feed arrangements.



SSTL S-Band Quadrifilar Helix Antenna

- **Low cost** parts and construction inherent to design
- **Low volume, mass** for easy integration with any platform
- **Custom designs** may be made available, including L-band antennas
- **Testing and PA** plans available. Adaptable Environmental Testing, Acceptance Testing and PA plans



Other SSTL Products

- **Complete low cost small satellite solutions**, based on SSTL range of nano, micro, enhanced micro and mini satellites, including know-how transfer and rapid and affordable access to space
- **Sub-systems** (Communications, CD&H, Power, ADCS, ODCS) and various **payloads**

affordable access to space

Applications

- Spacecraft in LEO

Specifications

- 2010-2100 MHz uplink and 2220-2290 MHz downlink bands
- 70M Hz Bandwidth
- Circular Polarisation AR<3 dB
- >120 º beamwidth with Nadir null for PFD optimisation
- >20 db Cross-polar isolation

Environmental

- Random Vibration: 15 g rms.
- Operating Temp.: -50 ºC to +80 ºC

Physical Characteristics

- Dimensions: 100 x 100 x 400 mm
- Mass: approx. 500 g

Interface

- Single 3.5 mm SMA connector
- 100 x 100 mm base with M4 mounting holes

Contact

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