

WIDE BAND, DUAL PORT, DUAL POLARIZATION S-BAND ANTENNA



The Quasar-WSANT is a next-generation S-band antenna designed for telecommand, telemetry, and payload data downlink in SmallSat and CubeSat missions.

Built on proven augmented patch antenna technology and manufactured with materials boasting extensive flight heritage, the Quasar-WSANT delivers a reliable and compact solution for satellite communication subsystems. As part of our co-developed family of communication products, it provides maximum flexibility for mission designers selecting TMTC and payload transmitter configurations.

By eliminating integration challenges and reducing the risk of costly delays, the Quasar-WSANT enables a streamlined, single-version antenna solution that ensures mission-ready performance in even the most demanding small satellite applications.

Engineered for versatility, the Quasar-WSANT offers:

- Full ITU-R S-band coverage (2025–2290 MHz) for both uplink and downlink
- Selectable Left- or Right-Hand Circular Polarization on either port
- Up to 5 W transmit power handling

Its wideband design allows multiple configuration options:

- Use polarization separation for dedicated Tx and Rx paths
- Integrate with a diplexer for combined operation on a single port
- Replace two separate antennas with one compact unit, reducing complexity and mass



Performance

Developed from flight-proven heritage and enhanced with our latest innovations, the Quasar-WSANT delivers reliable, high-efficiency performance. The antenna provides excellent gain and axial ratio across a wide beamwidth, ensuring consistent link quality over the entire ITU-R S-Band spectrum on either port.



Flexibility

With full ITU-R S-Band coverage available on both ports, the Quasar-WSANT allows seamless selection between Left- and Right-Hand Circular Polarization. Side-mounted SMP connectors simplify integration by avoiding intrusion into the spacecraft's internal volume, enabling straightforward installation even in tight satellite layouts.



Reliability

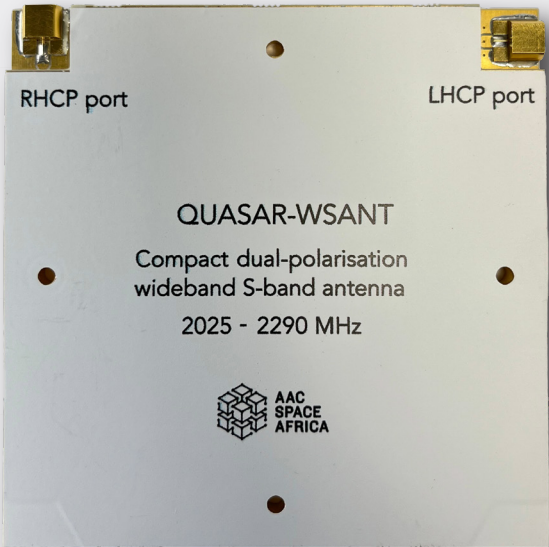
The Quasar-WSANT is built on a robust, compact design using a single grounded dielectric slab and side-mounted SMP RF ports. This proven architecture reduces complexity and enhances mechanical durability, ensuring dependable operation throughout mission lifetime..

TECHNICAL SPECIFICATIONS

General	
Temperature	-20°C to +60°C (operational) -40°C to +85°C (storage)
Mass	68.5 g
RF Interfaces	50 Ω , 2x SMP-Female
Radiation Tolerance	TBC
Design Life	5-6 years

Dimensions	
Length	83 mm
Width	83 mm
Width	7 mm

Antenna RF characteristics	
Frequency band	2025 - 2290 MHz
RF power	5 W max. at any port
Half power beam width	60°
Polarizations/ports	port R = RHCP port L = LHCP
Return Loss 2025 – 2290 MHz	> 13 dB
Gain 2025 – 2290 MHz	> 5 dBic
Axial Ratio 2025 – 2290 MHz	< 3 dB
Port isolation 2110 – 2290 MHz	> 10dB



To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact:
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