

X-BAND **PATCH ARRAY** **ANTENNA**

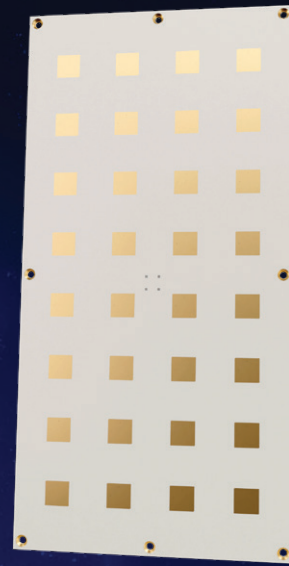
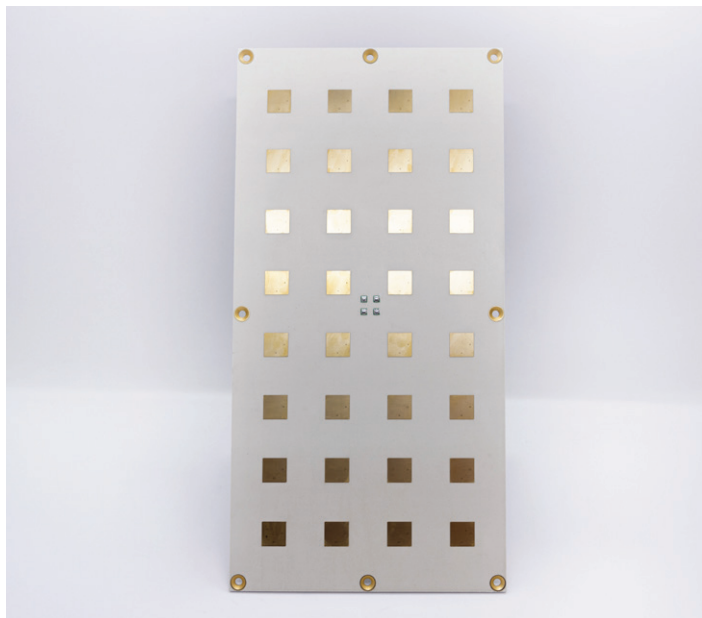
High Gain. **High-Purity RHCP.**

X-Band Patch Array Antenna is engineered for SatCom, TT&C and other high performance links that require stable measured performance across the operating band, high circular polarization purity, and compact planar integration.

KEY HIGHLIGHTS

X-Band Patch Array Antenna covers 8025 - 8400 MHz and is fed through a single SMA female connector, providing a straightforward RF interface for demanding X-band links.

Measured results across the operating band highlight full-band stability, combining consistently high gain, high circular polarization purity, and well-balanced radiation characteristics.



Verified under space-relevant environmental conditions and supported by flight heritage, X-Band Patch Array Antenna is built to perform reliably in demanding mission environments.



MISSION BENEFITS

High-Performance RF Behaviour

The antenna is engineered for full-band stability, combining consistently high gain with stable circular polarization performance to support dependable X-band link operation.

Designed for Mission-Critical Links

The antenna's RF characteristics support satellite communications, TT&C systems, and any payload applications where X-band operation enables higher data rates together with strong circular polarization purity throughout the whole band.

Compact Integration with Space-Ready Confidence

The antenna's planar array architecture enables efficient integration into advanced platforms, while verification under space-relevant environmental conditions supports confidence in its continued performance in demanding mission environments.

TECHNICAL FEATURES

Frequencies	8025 - 8400 MHz
Gain	20.5 - 20.9 dBic
Beamwidth	Approx. 18.6° and 9.3° in the Principal Planes
Sidelobe Level	< -12 dB
Axial Ratio	< 1.5 dB
VSWR	< 1.4:1
Polarization	Right-Hand Circular Polarized (RHCP)
Cross Polarization	> 25 dB
Feed / Configuration	Single SMA Connector, 50-ohm, 8 x 4 Patch Antenna Array
Mechanical / Mounting	220 x 110 x 2.17mm, Excluding Connector, 8 x M2.5 Countersunk Screws



HERITAGE / QUALIFICATION

› Sine Burst Qualification

Axial 12G 20Hz 1s

Lateral 16.875G 20 Hz 1s

› Vacuum Compatibility

Verified compatibility with space-environment conditions

› RF and Mechanical Verification

Supported by measured RF verification and satellite-level integrated mechanical testing

› Proven in Orbit

Flight heritage demonstrated on 1 satellite

STANDARDS & COMPLIANCE

› Environmental Verification

Compliant with NASA GEVS (GSFC-STD-7000)

› Platform agile integration

› Performance claims supported by measured antenna results in anechoic chamber

