Inertial Labs
a VIAVI Solutions company

ANTI-JAMMING

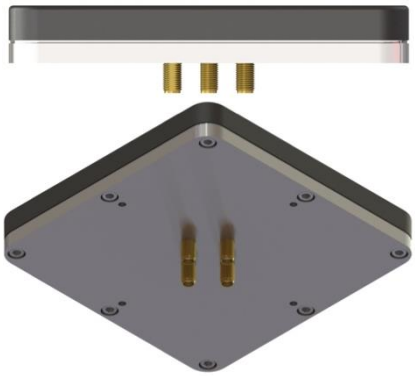
CRPA ANTENNA SOLUTION FOR ASSURED POSITIONING NAVIGATION AND TIMING (A-PNT)

M-AJ-QUATRO

- GPS L1, L2, L5
- GLONASS
- GALILEO
- BEIDOU
- QZSS

ITAR FREE

The **M-AJ-QUATRO** Anti-Jamming Advanced Antenna System, designed and engineered for Assured Positioning, Navigation, and Timing across diverse and GNSS jammed, spoofed and denied environments. This system incorporates Controlled Radiation Pattern Antenna (CRPA) technology alongside state-of-the-art signal processing capabilities, delivering enhanced performance and accuracy for critical applications. The M-AJ-QUATRO Anti-Jam Antenna System is operational in all L1, L2 and L5 GNSS bands.



BENEFITS

Superior Performance: low latency; high interferences suppression; GPS L1, L2, L5, GLO, GAL, BDS, QZSS protection; adaptive digital nulling; jammer direction finding

Enhanced Accuracy: The CRPA technology minimizes signal distortions, resulting in superior GNSS positioning accuracy

Robust Performance: Designed to maintain reliable performance in challenging and dynamic environments

Security Assurance: Built-in security features protect against signal tampering and unauthorized access

KEY FEATURES

Optimized Signal Reception and Transmission

Radiation Pattern Control: The CRPA technology ensures that the antenna's radiation pattern is precisely controlled, optimizing both signal reception and transmission. This allows the system to focus on desired signals while minimizing interference from unwanted sources.

Compatibility

M-AJ-QUATRO is very easy to integrate solution and compatible with all produced by Inertial Labs single and dual GNSS antenna-based GPS-aided Inertial Navigation Systems and commercially available GNSS receivers

Enhanced Signal Integrity

Resistance to interference: the CRPA technology significantly improves the system's resistance to interference and jamming. By dynamically adjusting the radiation pattern, it can nullify or reduce the impact of interfering signals, maintaining high signal quality.

Mitigation of Multipath Effects

Multipath effects, where signals reflect off surfaces and create multiple signal paths, can degrade signal quality. CRPA technology mitigates these effects, ensuring that the strongest, most direct signal is used for positioning, thus enhancing overall signal integrity and accuracy.

Secure Signal Processing

Incorporation of FPGA-Based Secure Signal Processing. Encryption and Anti-Spoofing: Utilizes FPGA technology to implement advanced encryption and anti-spoofing features, ensuring the integrity and security of GNSS signals.

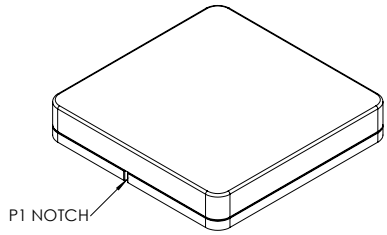
Compliance with Stringent Security Standards. Defense and Sensitive Commercial Applications: Meets stringent security standards, making it suitable for defense and sensitive commercial applications requiring high levels of signal integrity and protection against unauthorized access and spoofing.

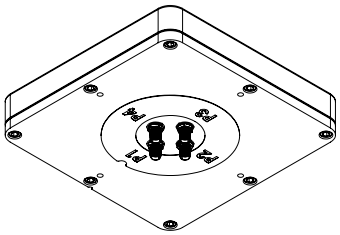
M-AJ-QUATRO Specifications

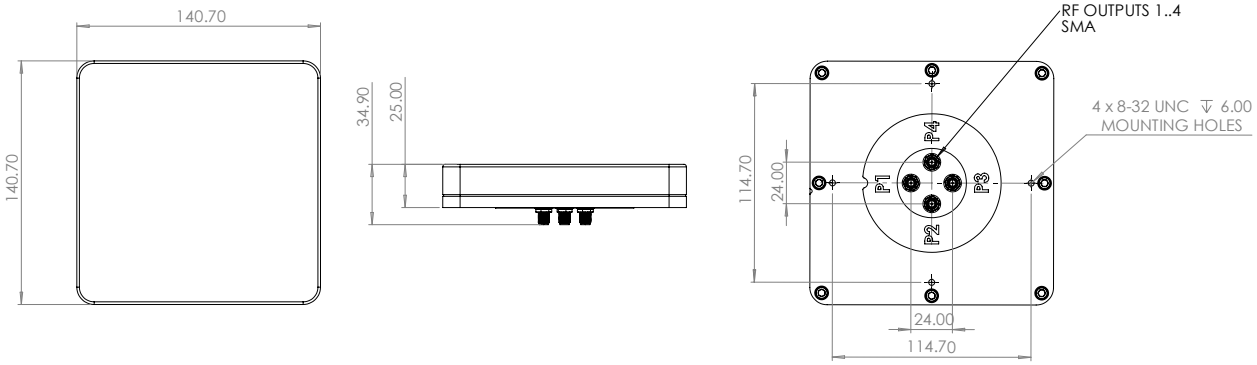
Size **Weight and Power**	**Antenna Module**
	Size: 140.7mm x 140.7mm x 25mm
	Weight: 365g
	RF Module
	Size: 141mm x 64mm x 50.7mm
	Weight: 500g
	Power: 18W (typical)
External Interfaces	Power: 12 to 28V DC
	RF connectors: MCX (1x to GNSS RX, 4x to ANT)
	Data/Power connector: M8, 8-position, A-coded circular connector
	Data interface: Serial over USB (FTDI)
GNSS Performance	Bands: GNSS L1, L2, L5
	Polarization: RHCP (AR< 3dB above 15 deg elevation)
	Gain: 2dBic > 15 deg elevation
	Interference sources: 3
	Suppression level:> 34dB
	Interference types: wideband, in-band
INS/GNSS compatibility	Any produced by Inertial Labs INS or commercially available GNSS receivers
Environmental	Operating temperature: -40degC to +50 degC
	Storage temperature: -45degC to +85 degC
	Altitude: >18000 feet AGL

M-AJ-QUATRO mechanical drawings

Antenna Module







RF Module