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REVERSAL**

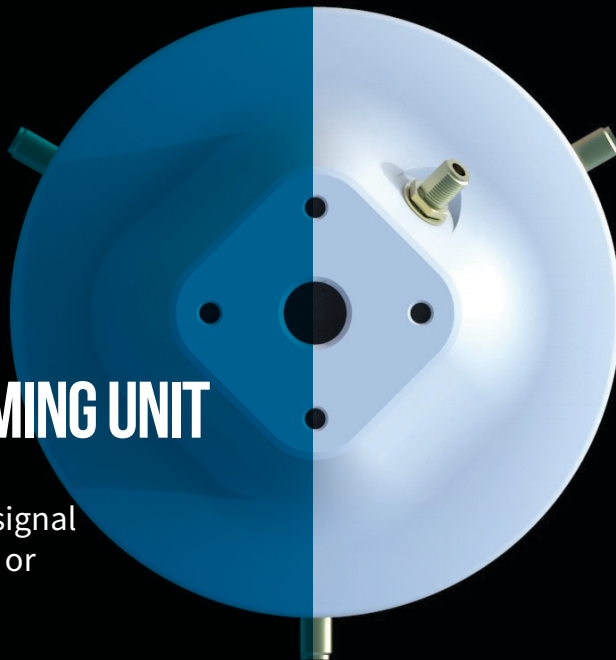
**CUTTING  
EDGE  
WIRELESS  
SOLUTIONS**



# **QR 100**

## **GPS L1/L2 ANTI-JAMMING UNIT**

Provides a robust RF link to GPS signal  
in a presence of an unintentional or  
intentional RF interference



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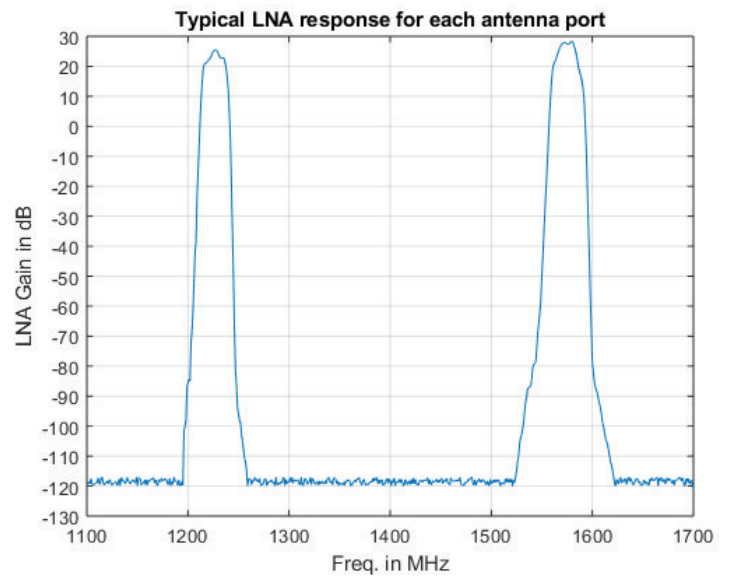
QR-100 anti-jamming unit allows to mitigate an unintentional RF interference or jamming signal using a spatial domain of an antenna array reception pattern. Three passive antennas of customer choice can be connected to the QR-100 unit using built-in SMA connectors. The unit default configuration (no jamming signal present) has a 120 deg phase gradient between antenna elements to maximize the reception of GPS right-hand circularly polarized (RHCP) signal. This feature allows to connect the unit to either RHCP type antennas or linearly polarized antennas. The default configuration of the unit is designed to connect to passive GPS antennas. Active GPS antennas may also be used with a different option ("-A") of the unit. It is recommended that all three antennas are of the same type and LNA gain (in case of active antennas).

The GPS receivers have inherent anti-jamming capability of minor interference levels of up to 30 dB J/S due to de-spreading technique of extracting the GPS signal from the noise. The QR-100 allows to extend this capability to medium and strong interference signal levels by adapting a deep null in the antenna array reception pattern towards the source of interference. This approach prevents the RF front end from saturation when exposed to high power sources or being in close proximity to medium power source locations. The unit's anti-jamming algorithm detection threshold is set at 6 dB above the thermal noise floor of the in-band L1/L2 signal. The anti-jamming algorithm is an adaptive algorithm that simultaneously performs nulling in both L1 and L2 bands without the need to know the unit's orientation or position.

**Ideal for lower power and small platforms**

**Immunity to interference and jamming**

**Designed for harsh environment**



## QR-100 Product Specification

Ordering Options:		QR-100 (Passive external antennas – default config)		QR-100-A (Active external antennas)		
Electrical	Bandwidth	30 MHz (L1/L2)		Mechanical & Environmental	Mounting	4x M4 machine screws 5/8"-11 UNC adapter
	In-Band Rejection (adaptive null depth)	-30 dB typical			Diameter/Height	116 mm /45 mm 134 mm (end of SMA connectors)
	Out-of-Band Rejection	<b>-120 dB @ ± 50 MHz</b>			Waterproof Level	IP67
	Number of antenna ports	3			Weight	0.2 kg
	Antenna Ports type (side connectors)	SMA-jack			Operating Temp	-40° to +85° C
	LNA Gain	27 dB			Storage Temp	-65° to +90° C
	Noise Figure	3 dB typical			Connector types	SMA-jack
	Supply current	200 mA			DC power Input	Center Conductor (bottom SMA -jack connector)
	Power Supply Range	4-12 VDC				
	Lightning	IEC61000-4-5 Level 4				
	Compliance	CE, FCC, WEE, RoHS				