
VEXXIS Antennas GNSS-502

HIGH PERFORMANCE ANTENNA FOR TERRESTRIAL APPLICATIONS



PATENTED TECHNOLOGY

The VEXXIS GNSS-500 series antennas provide outstanding circularly polarized, symmetric radiation patterns with superior multipath rejection performance. This is achieved with a patented, multi-point feeding network which provides uniquely low loss and frequency independent amplitude/phase balance. Strictly balancing signals and sequentially feeding the GNSS antenna at multiple points is the key to achieving remarkable performance.

OPTIMIZED FOR TERRESTRIAL APPLICATIONS

The GNSS-502 antenna is designed with a low profile, aerodynamic enclosure, ideal for ground vehicles in applications such as agriculture, machine control and mobile mapping. Magnetic mounts make the antenna easy to install or move between ground vehicle platforms. The combination of intelligent enclosure design along with multi-constellation and L-Band support makes it ideal for any terrestrial application.

RUGGEDIZED FOR CHALLENGING ENVIRONMENTS

The GNSS-502 has been thoroughly tested to withstand even the most challenging environments. It endured over 1000 hours of intense vibration testing to earn its MIL-STD-810G rating. It is also water resistant under heavy rainfall or high pressure spray, ensuring its long survivability under the toughest operating conditions.

FEATURES

- + Supports dual-frequency GPS, GLONASS, Galileo, BeiDou and SBAS signal reception
- + L-Band signal reception, supporting correction services such as TerraStar
- + Multi-point antenna feed provides stable phase center and enhanced multipath rejection
- + Designed for high quality performance when used with NovAtel's STEADYLINE technology
- + Low-profile design ideal for machine control applications

If you require more information about our antennas, visit www.novatel.com/antennas



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GNSS-502

PERFORMANCE

Signal Received	
GPS	L1, L2
GLONASS	L1, L2
Galileo	E1, E5b
BeiDou	B1, B2
L-Band	
Pass Band (typical)	
Upper passband	1588.0 ± 23.0 MHz
Lower passband	1220.0 ± 31.0 MHz
L-Band	1555.0 ± 10.0 MHz
Out-of-Band Rejection	
Band edges ± 50 MHz	15 dB (typical)
Band edges ± 100 MHz	25 dB (typical)
LNA Gain (typical)	
L1	34 dB
L2	38 dB
Gain at Zenith (90 °)	
L1/B1/E1/G1	+4.0 dBic minimum
L2/B2/E5b/G2	+4.0 dBic minimum
L-Band	+4.0 dBic minimum
Gain Roll-Off (from Zenith to Horizon)	
L1/B1/E1/G1	12 dB
L2/B2/E5b/G2	12 dB
L-Band	12 dB
Phase Center Stability	<5.0 mm
Noise Figure	2.5 dB (typical)
VSWR	≤2.0: 1
L1-L2 Differential Propagation Delay	7 ns (maximum)
Group Delay Ripple	<15 ns
Nominal Impedance	50 Ω

PHYSICAL AND ELECTRICAL

Dimensions	155 mm D × 45 mm H
Weight	450 g
Connector	TNC female
Mounting	2 × magnetic mounts 2 × M4 screw inserts
Power	
Input voltage	+3.3 to +18.0 VDC
Current	20 mA (typical)

ENVIRONMENTAL

Temperature	
Operating	-40°C to +85°C
Storage	-55°C to +85°C
Humidity	95% non-condensing
Salt Fog	MIL-STD-810G (CH1), 509.6
Water/Dust Resistance	IP67, IP69K
Vibration (operating)	
Random	MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24
Shock	MIL-STD-810G (CH1), 516.7 (40 g) Procedure 1
Bump	IEC 60068-2-27 Ea (25 g)

COMPLIANCE

	FCC, CE, ISED
RoHS	EU Directive 2011/65/EU

For the most recent details of this product:
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