

VEXXIS™ Antennas GNSS-501



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-501 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 makes 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-501 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 single-frequency GPS, GLONASS, Galileo and BeiDou signals
- + 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

GNSS-501



PERFORMANCE

Signal Received

GPS	L1
GLONASS	L1
Galileo	E1
BeiDou	B1
L-Band	

Pass Band (typical)

Upper passband	1569.0 ± 43.0 MHz
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Out-of-Band Rejection

Band edges ± 50 MHz	15 dB (typical)
Band edges ± 100 MHz	25 dB (typical)

LNA Gain

29 dB (typical)

Gain at Zenith (90°)

L1/B1/E1/G1	+4.0 dBic minimum
L-Band	+4.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1	12 dB
L-Band	12 dB

Phase Center Stability

<5.0 mm

Noise Figure

2.5 dB (typical)

VSWR

≤2.0 : 1

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 68-2-27 Ea (25 g)

Regulatory Compliance

FCC, CE

RoHS

EU Directive 2011/65/EU

For the most recent details of this product:
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Version 3 Specifications subject to change without notice.

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Printed in Canada.

D20658 September 2016



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