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 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-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
PERFORMANCE

Signal Received
- GPS L1
- GLONASS L1
- Galileo E1
- BeiDou B1
- L-Band

Pass Band (typical)
Upper passband: 1569.0 ± 43.0 MHz

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 x magnetic mounts
- 2 x 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: www.novatel.com/products/gnss-antennas/vexxis-series-antennas/gnss-500-series-antennas/

novatel.com
sales@novatel.com
1-800-NOVATEL (U.S. and Canada) or 403-295-4900
China 0086-21-68882300
Europe 44-1993-848-736
SE Asia and Australia 61-400-883-601

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