
Antennas GNSS-501



HIGH PERFORMANCE
ANTENNA SUPPORTS MULTIPLE
CONSTELLATIONS PLUS ACCESS TO
L-BAND SERVICES

GNSS TRACKING PLUS L-BAND

The GNSS-501 is a single-frequency antenna that receives L1, E1, and B1 frequencies and offers combined GPS, GLONASS, Galileo and BeiDou signal reception.

The antenna also receives correction services transmitted in the L-Band such as Terrastar. Customers can use the antenna for GPS-only or multi-constellation applications, resulting in increased flexibility and reduced equipment costs.

STABLE PHASE CENTER

The phase center of the antenna remains constant as the azimuth and elevation angle of the satellites changes. Signal reception is unaffected by the rotation of the antenna or satellite elevation, simplifying installation and placement. With minimal phase center variation, the antenna is ideal for baselines for any length.

DURABLE, FUTURE-PROOF DESIGN

The antenna is enclosed in a durable, low profile, IP67 water resistant housing and meets MIL-STD-810G(CH1) for vibration and salt fog.



BENEFITS

- + Supports single-frequency signals including L-Band for correction services
- + Designed for high quality performance when used with NovAtel® GLIDE™ technology
- + Multi-point antenna feed provides stable phase center and enhanced multipath rejection

FEATURES

- + L1, E1, B1 supported frequencies
 - + GPS, GLONASS, Galileo, BeiDou and SBAS signal reception
 - + L-Band signal reception
 - + Low-profile design ideal for machine control applications
 - + RoHS compliant
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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	1588.5 ± 23.0 MHz
L-Band	1545.0 ± 20.0 MHz

Out-of-Band Rejection

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

LNA Gain	29 dB (typical)
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Gain at Zenith (90°)

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

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1/L-Band	12 dB
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Phase Center Stability	<5.0 mm
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Noise Figure	2.5 dB (typical)
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VSWR	≤2.0 : 1
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Group Delay Ripple

<15 ns across L1 frequency band

PHYSICAL AND ELECTRICAL

Dimensions	155 mm D × 45 mm H
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Weight	450 g
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Connector	TNC female
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Mounting	2 × magnetic mounts 2 × M4 screw inserts
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Power

Input voltage	+3.3 to +18.0 VDC
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Current	20 mA (typical)
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Nominal Impedance	50 Ω
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ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
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Storage	-55°C to +85°C
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Humidity	95% non-condensing
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Salt Fog	MIL-STD-810G(CH1), 509.6
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Water Resistance	IP67, IP69K
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Vibration (operating)

Random	MIL-STD-810G(CH1), 514.7 Annex E Procedure 1, Category 24
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Shock	MIL-STD-810G(CH1), 516.7 (40 g) Procedure 1
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Bump	IEC 68-2-27 Ea (25 g)
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Regulatory Compliance	FCC, CE
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RoHS	EU Directive 2011/65/EU
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For the most recent details of this product:

www.novatel.com/products/gnss-antennas/high-performance-gnss-antennas/

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