Antennas GNSS-502

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

GNSS TRACKING PLUS L-BAND

The GNSS-502 is a dual-frequency antenna that receives L1, L2, E1, E5b, B1 and B2 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 the phase center in the same location for L1 and L2 signals and with minimal phase center variation, the antenna is ideal for baselines of 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 dual-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, L2, E5b, B1, B2 supported frequencies
+ GPS, GLONASS, Galileo, BeiDou and SBAS signal reception
+ L-Band signal reception
+ Low-profile design ideal for machine control applications
+ RoHS compliant

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

GNSS-502

PERFORMANCE

Signal Received

GPS	L1, L2
GLONASS	L1, L2
Galileo	E1, E5b
BeiDou	B1, B2
L-Band	

Pass Band (typical)

Upper passband	1588.5 ± 23.0 MHz
Lower passband	1220.0 ± 31.0 MHz
L-Band	1545.0 ± 20.0 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	15 dB min
Band edges ± 100 MHz	25 dB min

LNA Gain 29 dB (typical)

Gain at Zenith (90°)

L1/B1/E1/G1	+4.0 dBic min
L2/B2/G2/E5b	+4.0 dBic min
L-Band	+4.0 dBic min

Gain Roll-Off (from Zenith to Horizon)

L1, L2/B1, B2/E1/G1, G2/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 across L1 frequency band

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)

Nominal Impedance 50 Ω

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 Resistance IP67, IP69K

Vibration (operating)

Random
MIL-STD-810G(CH1), 514.7 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/high-performance-gnss-antennas/

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