GPS-702L

The GPS-702L, part of NovAtel's GPS-700 antenna series, offers access to the GPS L1 and L2 frequencies, as well as the L-band frequencies used by the OmniSTAR and Canada-wide Differential GPS (CDGPS) correction services.

Features

Access to OmniSTAR and CDGPS L-band signals

Improved RTK performance

RoHS compliant

Benefits

Provides a single antenna solution for GPS L1, GPS L2, and L-band reception

Offers the flexibility to be used with virtually any positioning mode

Eliminates the need for re-design in the future

Exceptional L-band reception

When combined with NovAtel's ProPak-LB *plus* receiver, the GPS-702L allows users to take advantage of the improved positioning accuracy provided by L-band technology. For users within North America, free CDGPS L-band corrections provide sub-meter accuracy with a data signal structured to perform well in difficult conditions such as heavy foliage. Worldwide, OmniSTAR's subscription-based service offers real-time DGPS positioning with meter- to decimeter-level accuracy.

Improved RTK performance

The GPS-702L also features improved RTK performance for high-accuracy, real-time positioning applications. Closely located L1 and L2 phase centers combined with high phase center stability ensure optimal RTK operation, even over long baselines. The antenna also includes Pinwheel™ technology for excellent multipath rejection. As a result, the GPS-702L offers the versatility to work in virtually any positioning mode.

Durable, RoHS compliant design

In addition, the GPS-702L meets the European Union's directive for Restriction of Hazardous Substances (RoHS). As one of the first RoHS compliant GPS products, integrators can be confident that the GPS-702L can be used in system designs for years to come. For extended life, the GPS-702L also features a waterproof housing and meets MIL-STD-202F for vibration and MIL-STD-810F for salt spray. Sharing the same form factor as the other antennas in the GPS-700 series, the GPS-702L is compact and lightweight, making it a highly portable and rugged antenna suitable for a wide variety of environments and applications.

NovAtel

Precise thinking

GPS-702L

Performance

3 dB Pass Band

L1	1575 ± 20 MHz (typical)
L2	1228 ± 20 MHz (typical)
L-band	1543± 20 MHz (typical)

Out-of-Band Rejection

L1, L-band (f_c = 1555 MHz)	
f_c ± 75 MHz	30 dBc (typical)
f_c ± 100 MHz	50 dBc (typical)
L2 (f_c = 1227 MHz)	
f_c + 50 MHz	25 dBc (typical)
f_c - 50 MHz	30 dBc (typical)
f_c ± 100 MHz	50 dBc (typical)

LNA Gain **27 dB (typical)**

Gain at Zenith (90°)

L1	+5.0 dBic (minimum)
L2	+1.5 dBic (minimum)
L-band	+5.0 dBic (minimum)

Gain Roll-Off (from Zenith to Horizon)

L1	13 dB
L2	12 dB
L-band	13 dB

Noise Figure **2.5 dB (typical)**

VSWR **≤ 2.0 : 1**

L1-L2 Differential Propagation Delay **15 ns (maximum)**

Nominal Impedance **50 Ω**

Altitude **9,000 m**

Physical & Electrical

Size

Diameter[1]	185 mm
Height	69 mm

Weight **500 g**

Power

Input Voltage	+4.5 to +18 VDC
Current Consumption	33 mA (typical)

Connector **TNC female**

Environmental

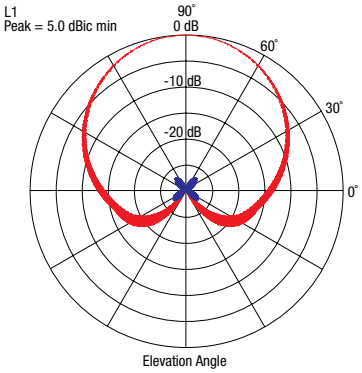
Temperature	
Operating	-40°C to +85°C
Storage	-55°C to +85°C
Humidity	95% non-condensing
Vibration (operating)	
Random	MIL-STD-810F
Sinusoidal	ASAE 5.15.2, Level 1
Shock	IEC 68-2-27, Ea
Bump	IEC 68-2-29, Eb
Salt Spray	MIL-STD-810F, 509.4
Waterproof	IEC 60529 IPX7
RoHS	EU Directive 2002/95/EC

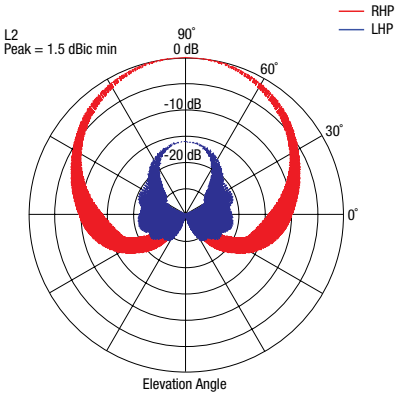
Regulatory **FCC Class B, CE**

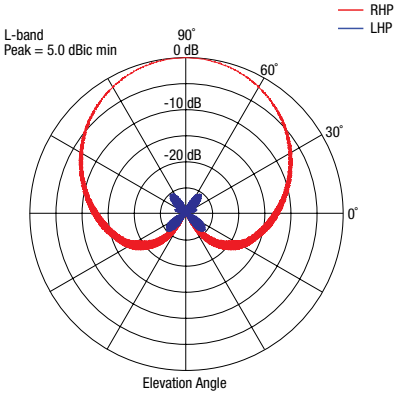
1 Not including tape measure tab. Full diameter with tape measure tab is 195 mm.

Elevation Gain Patterns

The plots below represent the typical right-hand polarized (RHP) and left-hand polarized (LHP) normalized radiation patterns for the L1 frequency, the L2 frequency, and the L-band, respectively.







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Precise thinking

RoHS COMPLIANT

ISO 9001:2000 FM 92323

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