



Dual Frequency Antenna Delivers Excellent Performance, Multipath Rejection and L-band Functionality

Benefits

Single antenna solution reduces costs

Can be used in any positioning mode

Eliminates need for future redesign

Features

Access to OmniSTAR and CDGPS L-band signals

Enhanced RTK performance

Excellent multipath rejection

RoHS compliant

Exceptional L-band Reception

The GPS-702L antenna allows users to take advantage of the improved positioning accuracy provided by L-band technology. Free CDGPS L-band corrections are available to users within North America, providing sub-metre accuracy with a data signal structured to perform well in difficult environmental conditions. Worldwide, OmniSTAR's subscription-based service offers real-time DGPS positioning with metre to decimetre-level accuracy.

Enhanced RTK Performance

The GPS-702L delivers enhanced RTK performance for high accuracy, real-time positioning applications. Closely located L1 and L2 phase centers combined with high phase center stability ensures optimal RTK operation, even over long baselines. The antenna includes NovAtel's proprietary Pinwheel™ technology providing excellent multipath rejection. As a result, this antenna enables the versatility to work in virtually any positioning mode.

Durable, Future-Proof Design

Enclosed in a durable, waterproof housing, the GPS-702L meets MIL-STD-202F for vibration and MIL-STD-810F for salt spray. Sharing the same form factor as other NovAtel GPS-700 series antennas, the GPS-702L antenna is compact and lightweight, making it highly portable and suitable for a wide variety of environments and applications.

The antenna meets the European Union's directive for Restriction of Hazardous Substances (RoHS), integrators can be confident the GPS-702L antenna can be used in system designs for years to come.

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



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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)	
$f_c \pm 75$ MHz	30 dBc (typical)
$f_c \pm 100$ MHz	50 dBc (typical)
L2 ($f_c=1227$ MHz)	
$f_c + 50$ MHz	25 dBc (typical)
$f_c - 50$ MHz	30 dBc (typical)
$f_c \pm 100$ 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 and Electrical

Dimension 185 mm diameter¹ x 69 mm

Weight 500 g

Power

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

Connector TNC female

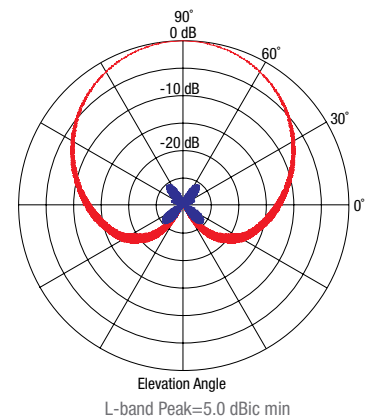
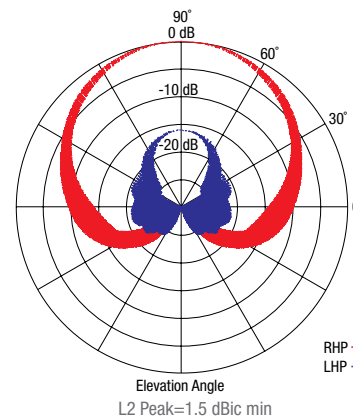
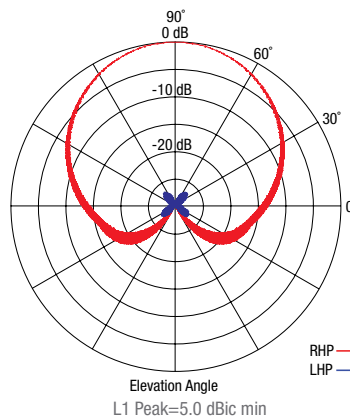
Environmental

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

Compliance FCC, CE

Elevation Gain Patterns

These plots 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.



Version 2 - Specifications subject to change without notice.

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

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For the most recent details of this product:

novatel.com/Documents/Papers/GPS-702L.pdf

