



## 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® subscription-based services 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 centres combined with high phase centre 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-810F for vibration and 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/gnss-antennas](http://novatel.com/products/gnss-antennas)

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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**  $\leq 2.0 : 1$

**L1-L2 Differential**

**Propagation Delay** 15 ns (maximum)

**Nominal Impedance** 50  $\Omega$

**Altitude** 9,000 m

**Physical and Electrical****Dimension**

185 mm diameter<sup>1</sup> x 69 mm

**Weight** 500 g

**Power**

Input Voltage +4.5 to +18.0 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

**Compliance**

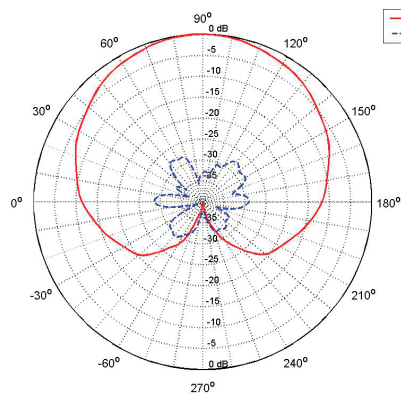
FCC, CE

**RoHS** EU Directive 2002/95/EC

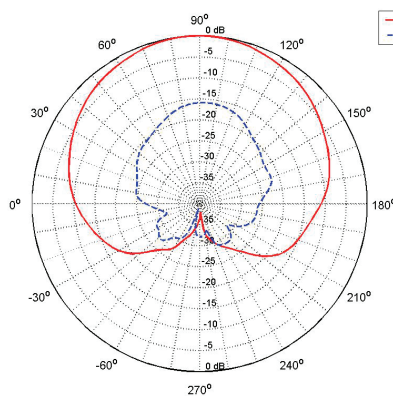
**Elevation Gain Patterns**

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.

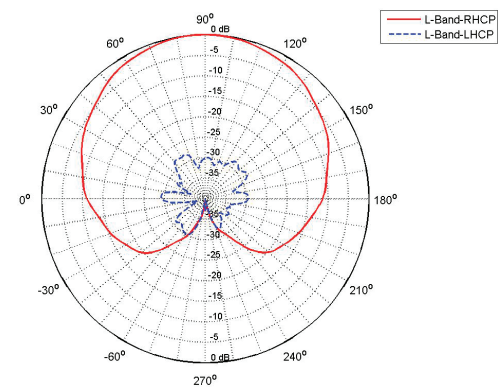
UUT Upper Band Radiation Pattern



UUT Lower Band Radiation Pattern



UUT L-Band Radiation Pattern



Version 6 - Specifications subject to change without notice.

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For the most recent details of this product:

[novatel.com/Documents/Papers/GPS-702L.pdf](http://novatel.com/Documents/Papers/GPS-702L.pdf)

<sup>1</sup> Not including tape measure tab. Full diameter with tape measure tab is 195 mm.

