



High Performance Pinwheel™ Antennas Provide GPS+GLONASS L1 & L2 Frequencies Plus Access to L-band Services

Benefits

Enhanced differential performance with L-band reception

Choke ring antenna functionality without size and weight

Reduces equipment costs & need for future redesign

Placement flexibility and precision positioning, even on long baselines

Features

L1 or L1/L2 options

OmniSTAR & CDGPS capable

GPS+GLONASS signal reception

Excellent multipath rejection

Highly stable phase center

RoHS compliant

Dual Constellation Plus L-band

The GPS-701-GGL utilizes the L1 frequency while the GPS-702-GGL uses the L1 and L2 frequencies. Both antennas offer combined GPS+GLONASS signal reception and receive L-band signals. This enhances antenna performance by providing access to popular differential services such as OmniSTAR® and CDGPS. Customers can use the same antenna for GPS-only or dual constellation applications, resulting in increased flexibility and reduced equipment costs.

Stable Phase Center

The phase center of these two antennas remains constant as the azimuth and elevation angle of the satellites change. Signal reception is unaffected by the rotation of the antenna or satellite elevation, so placement and installation of the antennas can be completed with ease. With the phase center in the same location for both the L1 and L2 signals, and with minimal phase center variation between the antennas, the GPS-701/702-GGL antennas are ideal for baselines of any length.

Durable, Future-Proof Design

The GPS-701/702-GGL antennas are enclosed in a durable, waterproof housing, and meet MIL-STD-202F for vibration and MIL-STD-810F for salt spray. Sharing the same form factor as other NovAtel GPS-700 series antennas, both antennas are compact and lightweight, making them highly portable and suitable for a wide variety of environments and applications.

The GPS-701/702-GGL antennas meet the European Union's directive for Restriction of Hazardous Substances (RoHS), so integrators can be confident these antennas can be used in system designs for years to come.

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



novatel.com

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or 403-295-4900

Europe 44-1993-85-24-36

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Performance**3 dB Pass Band**

L1	1588.5±23.0 MHz (typical)
L2	1236±18.3 MHz (typical)
L-band	1545±20.0 MHz (typical)

Out-of-Band Rejection

L1±150 MHz	30 dBc (typical)
L2±100 MHz	30 dBc (typical)
L1±250 MHz	50 dBc (typical)
L2±200 MHz	50 dBc (typical)

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

L1	+5.0 dBc (minimum)
L2	+2.0 dBc (minimum)

Gain Roll-Off (from Zenith to Horizon)

L1	13 dB
L2	11 dB

Noise Figure 2.5 dB (typical)**VSWR ≤2.0 : 1****L1-L2 Differential Propagation Delay 5 ns (maximum)****Nominal Impedance 50 Ω****Altitude 9,000 m****Physical and Electrical****Dimensions 185 mm diameter¹
x 69 mm****Weight 500 g****Power**

Input Voltage	+4.5 to +18.0 VDC
Power Consumption	35 mA (typical)

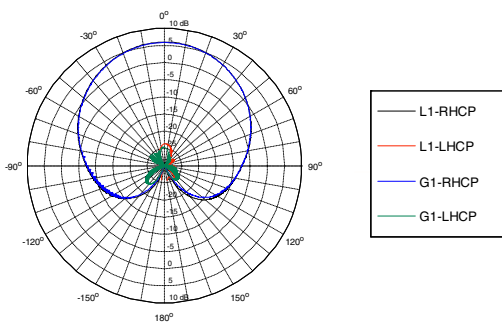
Connector TNC female**Environmental**

Temperature	
Operating	-40°C to +85°C
Storage	-55°C to +85°C
Humidity 95% non-condensing	
Vibration (operating)	
Random	MIL-STD-202F
Sinusoidal	SAEJ1211, Section 4.7
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	

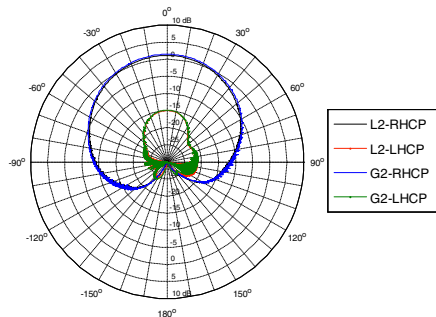
Compliance FCC, CE**Elevation Gain Patterns²**

The plots below represent the typical right-hand circular polarized (RHCP) and left-hand circular polarized (LHCP) normalized radiation patterns for the L1/L2 and L-band frequencies, respectively.

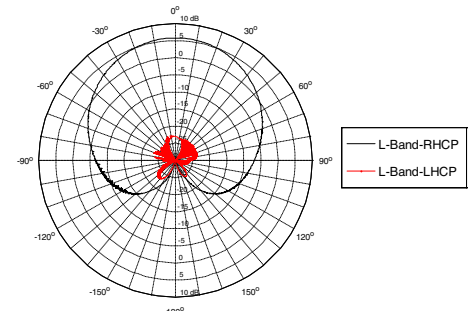
GPS-701/702-GGL Antenna Radiation Patterns



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GPS-701/702-GGL Antenna Radiation Patterns



Version 1 - Specifications subject to change without notice.

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Printed in Canada. D13876

GPS-701-GGL and GPS-702-GGL February 2010

For the most recent details of this product:

novatel.com/Documents/Papers/GPS701_702GGL.pdf

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

² L2 specifications apply to the GPS-702-GG only.

