



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 Centre

The phase centre 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 easily completed. With the phase centre 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/gnss-antennas

novatel.com

sales@novatel.com

1-800-NOVATEL (U.S. and Canada)

or 403-295-4900

China 0086-21-54452990-8011

Europe 44-1993-848-736

SE Asia and Australia 61-400-883-601



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 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

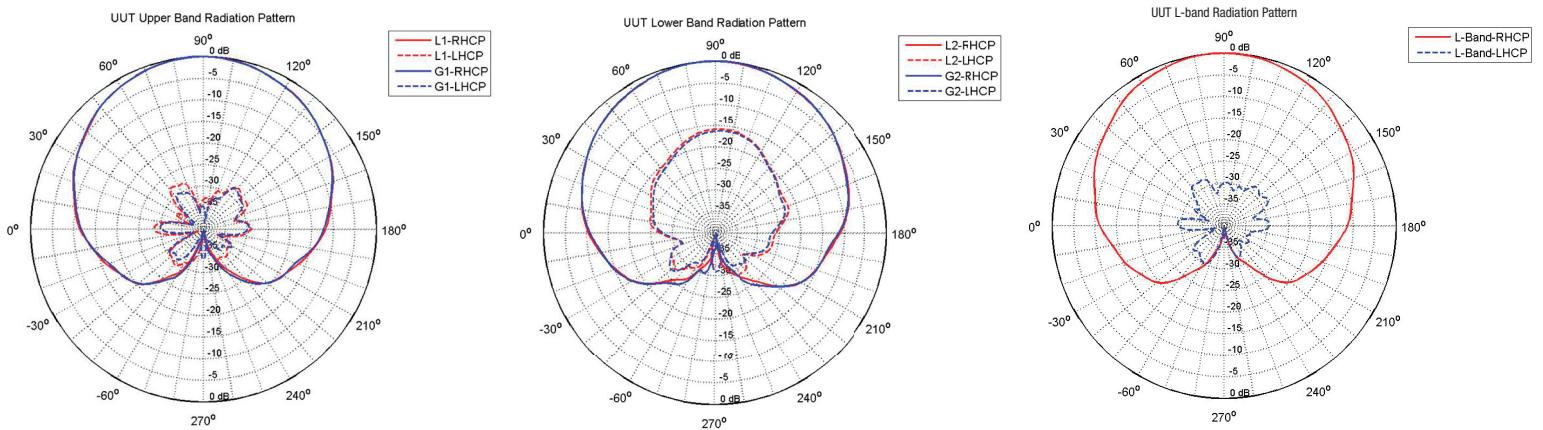
Compliance

FCC, CE and Industry Canada

RoHS EU Directive 2002/95/EC

Elevation Gain Patterns²

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 4 - Specifications subject to change without notice.

©2011 NovAtel Inc. All rights reserved.

NovAtel is a registered trademark of NovAtel Inc.

Pinwheel is a trademark of NovAtel Inc.

OmniSTAR is a registered trademark of OmniSTAR Inc.

Printed in Canada. D13876

GPS-701-GGL and GPS-702-GGL September 2011

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-GGL only.