Antennas

GPS-701-GG and GPS-702-GG

Pinwheel™ Antennas Enhance Flexibility and Reduce Costs

Benefits

Choke ring antenna performance without size and weight

Reduces equipment costs

Placement flexibility and precision positioning, even on long baselines

Eliminates need for future redesign

Features

L1 or L1/L2 options

GPS+GLONASS signal reception

Excellent multipath rejection

Highly stable phase centre

RoHS compliant

Dual Constellation For Enhanced Positioning

The GPS-701-GG uses the L1 frequency while the GPS-702-GG uses the L1 and L2 frequencies. Both antennas offer combined GPS+GLONASS signal reception. 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 centre variation between the antennas, these antennas are ideal for baselines of any length.

Durable, Future-Proof Design

These rugged 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, the GPS-701-GG and GPS-702-GG antennas are compact and lightweight, making them highly portable and suitable for a wide variety of environments and applications.

Both 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

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or 403-295-4900

China 0086-21-54452990-8011

Europe 44-1993-848-736

SE Asia and Australia 61-400-883-601

GPS-701-GG and GPS-702-GG

Performance

3 dB Pass Band

L1	1588.5±23.0 MHz (typical)
L2	1236±18.3 MHz (typical)

Out-of-Band Rejection

L1±100 MHz	30 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 **2.0 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 diameter[2] 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

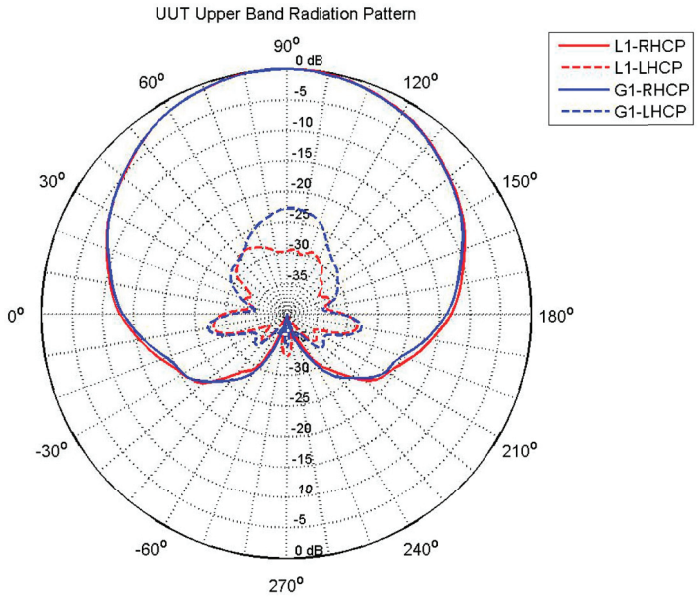
Waterproof IEC 60529 IPX7

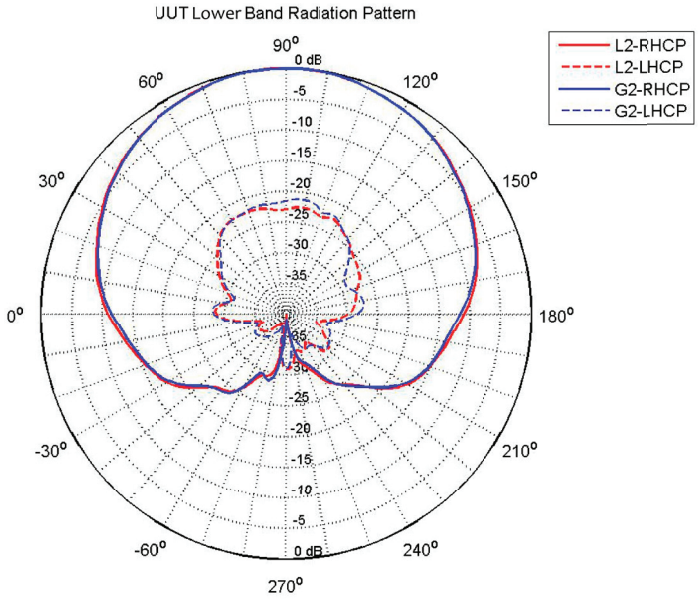
Compliance FCC, CE

RoHS EU Directive 2002/95/EC

Elevation Gain Patterns[2]

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





Version 5 - Specifications subject to change without notice.

Printed in Canada. D09719
GPS-701-GG and GPS-702-GG September 2011
For the most recent details of this product:
novatel.com/Documents/Papers/GPS701_702GG.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.