

GPS- 701/702- GG



Features

Combined GPS +
GLONASS signal reception

Excellent multipath
rejection

Highly stable phase center

RoHS compliant

Benefits

Provides a single antenna
solution for GPS L1/L2 and
GLONASS L1/L2 reception

Provides performance equivalent
to a choke ring antenna without
the cumbersome size and weight

Offers flexibility in antenna
placement and aids in precise
positioning, even when used on long
baselines

Eliminates the need for re-design in the
future

The GPS-701-GG and GPS-702-GG antennas are part of NovAtel's GPS-700 antenna series, and offer access to GPS L1 and L2 frequencies, as well as GLONASS.

Dual Constellation

The GPS-701-GG and GPS-702-GG antennas offer combined GPS + GLONASS signal reception at the same performance as GPS-only antennas. This enables customers to use the same antenna for GPS-only or dual constellation applications, resulting in increased flexibility and reduced costs.

Stable Phase Center

For added reliability, the antenna's phase center remains constant as the azimuth and elevation angle of satellites change. With signal reception unaffected by the rotation of the antenna or satellite elevation, placement and installation of the GPS-702-GG can be completed with ease. In addition, the phase center is in the same location for both the L1 and L2 signals. This, combined with minimal phase center variation between individual antennas, makes the GPS-702-GG ideal for baselines of any length.

Durable, RoHS Compliant Design

In addition, the GPS-701/702-GG meet the European Union's directive for Restriction of Hazardous Substances (RoHS). As one of the first RoHS compliant GPS products, integrators can be confident that the GPS-701/702-GG can be used in system designs for years to come. For extended life, the GPS-701/702-GG also feature a waterproof housing and meets MIL-STD-202F for vibration and MIL-STD-810F for salt spray. Sharing the same form factor as the other antennas in the GPS-700 series, the GPS-701/702GG is compact and lightweight, making it a highly portable and rugged antenna suitable for a wide variety of environments and applications.



Precise thinking

GPS-701/702-GG

Performance

3 dB Pass Band

L1	1588.5 ± 23 MHz (typical)
L2	1236 ± 18.3 MHz (typical)

Out-of-Band Rejection

± 100 MHz	30 dBc (typical)
± 200 MHz	50 dBc (typical)

LNA Gain **29 dB (typical)**

Gain at Zenith (90°)

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

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 & Electrical

Size

Diameter ¹	185 mm
Height	69 mm

Weight **500 g**

Power

Input Voltage	+4.5 to +18 VDC
Current Consumption	35 mA (typical)

Connector **TNC female**

Environmental

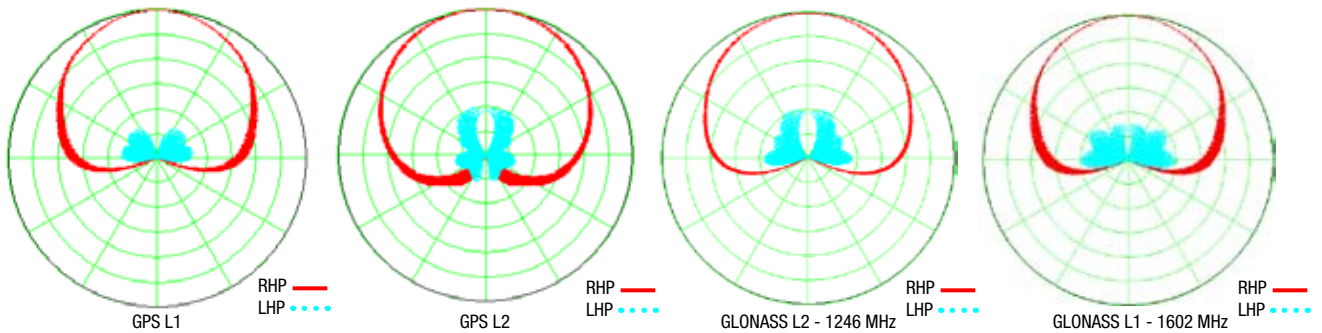
Temperature	
Operating	-40°C to +85°C
Storage	-55°C to +85°C
Humidity	95% non-condensing
Vibration (operating)	
Random	MIL-STD-202F
Sinusoidal	SAEJ1211, Section 4.7
Shock	IEC 68-2-27 (Ea)
Bump	IEC 68-2-29 (Eb)
Salt Spray	MIL-STD-810F, 509.4
Waterproof	IEC 60529 IPX7
RoHS	EU Directive 2002/95/EC

Regulatory **FCC Class B, CE**

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

Elevation Gain Patterns

The plots below represent the typical right-hand polarized (RHP) and left-hand polarized (LHP) normalized radiation patterns for GPS L1/L2, and GLONASS L1/L2 frequencies, respectively.



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