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# Antennas GPS-703-GGG-HV

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## HIGH VIBRATION PINWHEEL® TRIPLE-FREQUENCY ANTENNA MAXIMIZES TRACKING CAPABILITIES

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### MAXIMIZE PERFORMANCE WITH MULTI-CONSTELLATION RECEPTION

The GPS-703-GGG-HV receives L1, L2, L5 GPS; L1, L2, L3 GLONASS; B1, B2 BeiDou and E1, E5a/b Galileo frequencies. Customers can use the same antenna for GPS-only, dual or triple constellation applications, resulting in increased flexibility and reduced equipment costs.

### STABLE PHASE CENTER

The phase center of this antenna 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 antenna can be completed with ease. With the phase center in the same location for the GNSS signals and with minimal phase center variation between antennas, this antenna is ideal for baselines of any length.

### DURABLE, FUTURE-PROOF DESIGN

This rugged antenna is enclosed in a durable, waterproof housing and meets MIL-STD-810G for vibration, corrosive environment and salt spray. The GPS-703-GGG-HV is similar in form-factor to our other high performance GPS-700 series antennas with an increased robustness for use under high vibration conditions.

Meeting the European Union's directive for Restriction of Hazardous Substances (RoHS), integrators can be confident the GPS-703-GGG-HV antenna can be used in system designs for years to come.

### BENEFITS

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- + Choke ring antenna functionality without the size and weight
- + Reduces equipment costs and need for future redesign
- + High quality measurements and stable phase center for precision applications

### FEATURES

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- + L1, L2, L3, L5, B1, B2, E1, E5 and E5a/b
- + GPS+GLONASS+BeiDou+Galileo signal reception
- + Excellent multipath rejection
- + Highly stable phase center
- + RoHS compliant

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If you require more information about our antennas, visit [www.novatel.com/antennas](http://www.novatel.com/antennas)

# GPS-703-GGG-HV

## PERFORMANCE

### 3 dB Pass Band

L1/B1/E1	1580.0 ± 28.5 MHz (typical)
L2/L3/L5/B2/E5/E5a/E5b	1210.0 ± 45.0 MHz (typical)

### Out-of-Band Rejection

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

**LNA Gain** 29 dB ± 2 (typical)

### Gain at Zenith (90°)

GPS L1	+5 dBic (minimum)
GPS L2	+3 dBic (minimum)
GPS L5	+3 dBic (minimum)

### Gain Roll-Off (from Zenith to Horizon)

GPS L1	12 dB
GPS L2	13 dB
GPS L5	13 dB

**Noise Figure** 2 dB (typical)

**VSWR** ≤ 2 : 1

**L1-L2 Differential Propagation Delay**  
5 ns (maximum)

**Nominal Impedance** 50 Ω

**Altitude** 9,000 m

## PHYSICAL AND ELECTRICAL

**Dimensions** 185 mm diameter<sup>1</sup> × 69 mm

**Weight** < 530 g

### Power

Input Voltage +4.5 to +18 VDC

Current 36 mA (typical)

**Connector** TNC female

Optional N-Type

## ENVIRONMENTAL

### Temperature

Operating -40°C to +85°C

Storage -55°C to +85°C

**Humidity** 95% non-condensing

### Vibration (operating)

Random MIL-STD-810G 514.6E-1

Category 24

MIL-STD-810G 514.6C-3

Category 4

Sinusoidal

ASAE EP455 Section 5.15.2 Level 1

ISO 9022-3 Method 36

**Shock** MIL-STD-810G 516.6 (40 g)

**Bump** ISO 9022-3 Method 30 (100 g)

IEC 68-2-27 (60 g)

**Salt Spray** MIL-STD-810G 509.5

**Corrosive** MIL-STD-810G 518.1

**Waterproof** IPX6/IPX7

**Compliance** FCC, CE

**RoHS** EU Directive 2011/65/EU

For the most recent details of this product:

[www.novatel.com/products/gnss-antennas/high-performance-gnss-antennas](http://www.novatel.com/products/gnss-antennas/high-performance-gnss-antennas)

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**Version 2** Specifications subject to change without notice.

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

