



## Revolutionary GNSS Wideband Antenna Delivers Enhanced Accuracy and Performance

### Benefits

High precision measurements

More signal observations ensure higher performance

Eliminates need to upgrade as future GNSS signals become available

Withstands harsh environments

### Features

Stable phase centre

Ultra-wideband Dorne-Margolin element

Aluminum alloy construction

Tracks signals when visible, down to the horizon and below

### Supports GPS, GLONASS, Galileo and Compass

NovAtel's multi-constellation GNSS-750 antenna delivers next generation choke ring technology, ensuring functionality with existing and planned satellite constellations. Its robust, low profile construction makes it ideal for reference stations, geological monitoring and other applications requiring a robust high performance antenna.

### Superior Performance and Accuracy

The innovative design of this 3D antenna not only improves low-elevation tracking, it provides superior multi-path mitigation, delivering enhanced performance and positioning accuracy. An insert to the choke ring was also added to the design to further enhance multipath rejection based on results from live GIOVE-A, GIOVE-B and L5 signals.

### Proven Robust Technology

Utilizing an ultra-wideband Dorne-Margolin antenna element, the GNSS-750 optimizes antenna gain enabling use with most manufacturers' geodetic receivers. Its sturdy aluminum alloy construction ensures it can withstand the most difficult environmental conditions.

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



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## Performance

### Signals Tracked

GPS	L1, L2, L2C, L5
GLONASS	L1, L2, L3
Galileo	E1, E5a, E5b, E6, AltBOC
Compass	B1, B2, B3
L-band	(including OmniSTAR and CDGPS)

### 3 dB Pass Band

L1	1568.5±55 MHz (typical)
L2	1232±80 MHz (typical)

### Out-of-Band Rejection

L1 ( $f_c=1568.5$ MHz)	
$f_c \pm 100$ MHz	30 dBc (typical)
$f_c \pm 150$ MHz	50 dBc (typical)
L2 ( $f_c=1232.5$ MHz)	
$f_c + 150$ MHz	30 dBc (typical)
$f_c - 150$ MHz	50 dBc (typical)
$f_c \pm 100$ MHz	30 dBc (typical)
Other Bands	
$f < 900$ MHz	80 dBc (typical)
$f > 150$ MHz	80 dBc (typical)

**LNA Gain** 43 dB (typical)

### Gain at Zenith (90°)

L1/E1/B1	+5.0 dBic (minimum)
L2 /L5/E5	+5.0 dBic (minimum)
B2/B3/E6	+5.0 dBic (minimum)

**Noise Figure** 2.0 dB (typical)

**VSWR** 1.5 : 1

**Phase Centre Offset** <2 mm<sup>1</sup>

**Altitude** IEC-68-2-13  
(-400 to +10,400 m)

## Physical and Electrical

**Dimensions** 380 mm diameter  
x 200 mm

**Weight** 7.6 kg

### Power

Input Voltage	+3.3 to +12.0 VDC
Power Consumption	100 mA (typical)

**Nominal Impedance** 50 ohms

**Connector** N-type with  
TNC adapter supplied

## Environmental

### Temperature

Operating	-55° C to +85° C
Storage	-55° C to +90° C

**Humidity** ISO-9022-13-06  
100% non-condensing

**Solar Radiation** IEC-68-2-5

**Resistance to Corrosion** IEC-60950-22

**Water Ingress** IEC-60529 1PX6, 1PX7

**Dust Ingress** IEC-605929 1P6X

**Salt Fog** IEC-68-2-11

**Sinusoidal Vibration (operating)**  
ISO 9022-3 Method 36

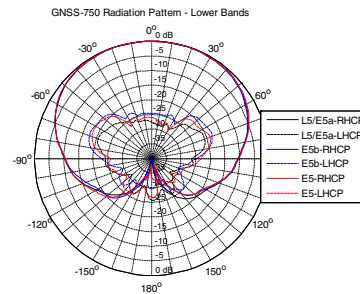
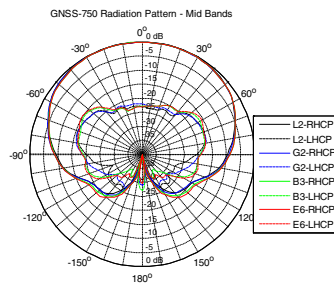
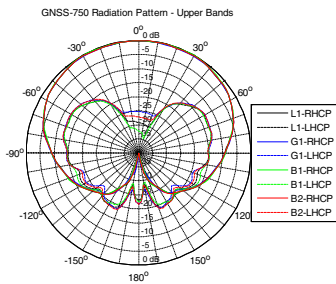
**Shock** MIL-STD-810F, 516.5

**RoHS** EU Directive 2002/95/EC

**Compliance** FCC, CE

## Elevation Gain Patterns

The plots below represent the typical right-hand circular polarized (RHCP) and left-hand circular polarized (LHCP) normalized radiation patterns for all GNSS frequencies.



Version 2 - Specifications subject to change without notice.

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For the most recent details of this product:

[novatel.com/Documents/Papers/GNSS-750.pdf](http://novatel.com/Documents/Papers/GNSS-750.pdf)

<sup>1</sup> Phase centre offsets and phase centre variations are less than 2 mm at any GNSS frequency using NovAtel anechoic chamber results. Geott calibration data will be available soon.

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