



Revolutionary GNSS Wideband Antenna Enhances 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 improves low-elevation tracking. An insert has been added to the choke ring design to 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.

For more information contact

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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 mm¹

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 Ω

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 IPX6
and IPX7

Dust Ingress

IEC-60529 IPX6

Salt Fog

IEC-68-2-11

Sinusoidal Vibration (operating)

ISO 9022-3 Method 36

Shock

MIL-STD-810F, 516.5

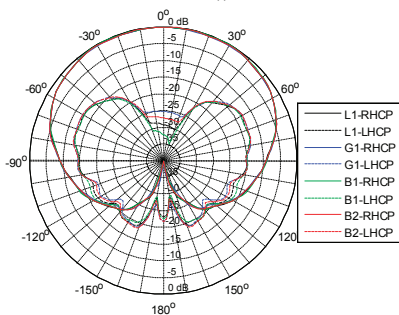
Compliance

FCC, CE

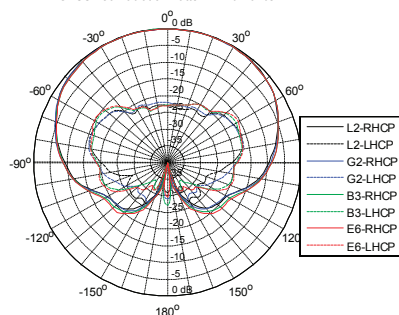
Elevation Gain Patterns

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

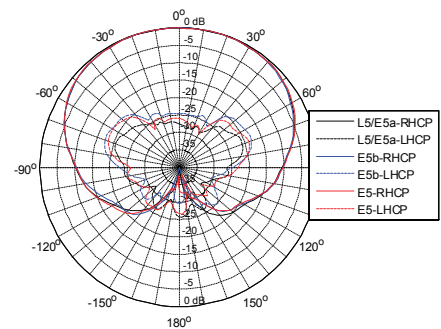
GNSS-750 Radiation Pattern - Upper Bands



GNSS-750 Radiation Pattern - Mid Bands



GNSS-750 Radiation Pattern - Lower Bands



Version 3 - 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

¹ Antenna calibration data is published on the NGS website: <http://www.ngs.noaa.gov/ANTCAL/> and Geo++ website: <http://gnpcvdb.geopp.de/pcvdb/GNPCVDB.html>.



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