Antennas  GPS-713-GGG-N &
GPS-713-GGGL-N

ATEX QUALIFIED, PINWHEEL®
TRIPLE-FREQUENCY ANTENNA,
WITH INMARSAT REJECTION FILTER,
MAXIMIZES TRACKING CAPABILITIES

MAXIMIZE PERFORMANCE WITH MULTI-CONSTELLATION RECEPTION
The GPS-713-GGG-N and GPS-713-GGGL-N receives L1, L2, L5 GPS; L1, L2, L3
GLONASS; B1, B2 BeiDou and E1, E5a/b Galileo frequencies. The GPS-713-GGGL-N
also supports L-Band from 1525 to 1560 MHz. Customers can use the same antenna
for GPS-only, dual or triple constellation applications, resulting in increased flexibility
and reduced equipment costs. Both antennas provide enhanced Inmarsat interference
rejection, which allows tracking of GNSS signals in the presence of high powered
Inmarsat transmitters typically found on marine vessels.

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 fog. The GPS-
713-GGG-N and GPS-713-GGGL-N are similar in form factor to our other high
Meeting the European Union’s directive for Restriction of Hazardous Substances
(RoHS), integrators can be confident the GPS-713-GGG-N and GPS-713-GGGL-N
antennas can be used in system designs for years to come.

BENEFITS
+ 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
+ GNSS reception even in the
  presence of Inmarsat transmitters

FEATURES
+ L1, L2, L3, L5, B1, B2, E1, E5 and
  E5a/b
+ GPS+GLONASS+BeiDou+Galileo
  signal reception
+ Increased Inmarsat rejection
+ Excellent multipath rejection
+ Highly stable phase center
+ RoHS compliant
+ REACH compliant
+ II 3 G Ex ic IIC T4 Gc X

If you require more information about our
antennas, visit www.novatel.com/antennas
PERFORMANCE

3 dB Pass Band
Upper Band:  1568 ± 43 MHz (GGGL)
1584 ± 27 MHz (GGG)
Lower Band:  1210 ± 45 MHz (both variants)

Out-of-Band Rejection
GGGL variant
L1 ± 100 MHz / 30 dB (minimum)
L1 ± 150 MHz / 50 dB (minimum)
L2 ± 100 MHz / 30 dB (minimum)
L2 ± 150 MHz / 50 dB (minimum)
Inmarsat immunity  45 dB (minimum)
GGG variant
L1 ± 84 MHz / 30 dBc (minimum)
L1 ± 134 MHz / 50 dBc (minimum)
L2 ± 100 MHz / 30 dBc (minimum)
L2 ± 150 MHz / 50 dBc (minimum)
Inmarsat immunity  35 dB (minimum)

LNA Gain  35 dB (typical)
Gain at Zenith (90°)
GPS L1  4 dBi (minimum)
GPS L2  2.5 dBi (minimum)
GPS L5  0 dBi (minimum)

Gain Roll-Off (from Zenith to Horizon)
GPS L1  13 dB (maximum)
GPS L2  12 dB (maximum)
GPS L5  12 dB (maximum)

Noise Figure  2 dB (typical)

VSWR  ≤2 : 1
L1-L2 Differential Propagation Delay  7 ns (maximum)
Nominal Impedance  50 Ω
Altitude  9,000 m

PHYSICAL AND ELECTRICAL

Dimensions  185 mm diameter × 69 mm
Weight  <530 g
Power
Input voltage  +4.5 to +18 VDC
Current  40 mA (typical)
Connector  N-Type

ENVIRONMENTAL

Temperature
Operating (non-ATEX)  -40°C to +85°C
Operating (ATEX)  -40°C to +55°C
Storage  -55°C to +85°C
Humidity  MIL-STD 810G/CH1, Method 507.6, Procedure II

Vibration (operating)
Random  MIL-STD-810G/CH1, Method 514.7, Category 21
MIL-STD-810G/CH1, Method 514.7, Category 24
MIL-STD-810G/CH1, Method 514.7, Category 4
Sinusoidal  MIL-STD-810G/CH1, Method 528.1
IEC 60945, Section 8.7
IEC 60068-2-6, Test Fc
MIL-STD-810G/CH1, Method 516.7, Procedure I
MIL-STD-810G/CH1, Method 516.7, Procedure II

Shock
Random  MIL-STD-810G/CH1, Method 516.7, Procedure I
MIL-STD-810G/CH1, Method 516.7, Procedure II
Salt Fog  MIL-STD-810G/CH1, Method 505.6, Procedure II
IEC 60945 Section 8.12
IEC 60068-2-27, Test Ea, 25g
IEC 60068-2-27, Test Ea, 100g, (Non-Operating)
Salt Fog  MIL-STD-810G/CH1, Method 505.6, Procedure II
IEC 60945 Section 8.12
IEC 60068-2-27, Test Ea, 25g
IEC 60068-2-27, Test Ea, 100g, (Non-Operating)

Bump
IEC 60068-2-27, Test Ea, 25g
IEC 60068-2-27, Test Ea, 100g, (Non-Operating)

UV Protection  MIL-STD-810G/CH1, Method 509.6, Procedure II
Corrosive  MIL-STD-810G/CH1, Method 518.2
Salt Fog  MIL-STD-810G/CH1, Method 505.6, Procedure II
IEC 60945 Section 8.12
IEC 60068-2-27, Test Ea, 25g
IEC 60068-2-27, Test Ea, 100g, (Non-Operating)

Water Resistance  MIL-STD-810G/CH1, Method 509.6, Procedure II
IPX6/IPX7
IEC 60945 Section 8.8

COMPLIANCE

FCC
IC
CE
» RoHS  2011/65/EU
» R.E.D.  2014/53/EU
REACH  EC 1907/2006
ATEX  2014/34/EU

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

According to NovAtel Inc., the full diameter with the tape measure tab included is 195 mm.