Dual Frequency Antenna Delivers Excellent Performance, Multipath Rejection and L-band Functionality

Benefits
Single antenna solution reduces costs
Can be used in any positioning mode
Eliminates need for future redesign

Features
Access to OmniSTAR and CDGPS L-band signals
Enhanced RTK performance
Excellent multipath rejection
RoHS compliant

Exceptional L-band Reception
The GPS-702L antenna allows users to take advantage of the improved positioning accuracy provided by L-band technology. Free CDGPS L-band corrections are available to users within North America, providing sub-metre accuracy with a data signal structured to perform well in difficult environmental conditions. Worldwide, OmniSTAR® subscription-based services offers real-time DGPS positioning with metre to decimetre-level accuracy.

Enhanced RTK Performance
The GPS-702L delivers enhanced RTK performance for high accuracy, real-time positioning applications. Closely located L1 and L2 phase centres combined with high phase centre stability ensures optimal RTK operation, even over long baselines. The antenna includes NovAtel’s proprietary Pinwheel™ technology providing excellent multipath rejection. As a result, this antenna enables the versatility to work in virtually any positioning mode.

Durable, Future-Proof Design
Enclosed in a durable, waterproof housing, the GPS-702L meets MIL-STD-810F for vibration and salt spray. Sharing the same form factor as other NovAtel GPS-700 series antennas, the GPS-702L antenna is compact and lightweight, making it highly portable and suitable for a wide variety of environments and applications.

The antenna meets the European Union’s directive for Restriction of Hazardous Substances (RoHS), integrators can be confident the GPS-702L antenna can be used in system designs for years to come.

For more information contact

NavtechGPS
Your ONE Source for GNSS Products and Solutions

+1-703-256-8900 or 800-628-0885
info@NavtechGPS.com
www.NavtechGPS.com
Antennas

Performance

3 dB Pass Band
L1  1575±20 MHz (typical)
L2  1228±20 MHz (typical)
L-band  1543±20 MHz (typical)

Out-of-Band Rejection
L1, L-band (fc=1555 MHz)
  fc±75 MHz  30 dBc (typical)
  fc±100 MHz  50 dBc (typical)
L2 (fc=1227 MHz)
  fc±50 MHz  25 dBc (typical)
  fc±50 MHz  30 dBc (typical)
  fc±100 MHz  50 dBc (typical)

LNA Gain
  27 dB (typical)

Gain at Zenith (90°)
L1  +5.0 dBiC (minimum)
L2  +1.5 dBiC (minimum)
L-band  +5.0 dBiC (minimum)

Gain Roll-Off (from Zenith to Horizon)
L1  13 dB
L2  12 dB
L-band  13 dB

Noise Figure
L1-L2 Differential
  Propagation Delay  15 ns (maximum)
  Nominal Impedance  50 Ω
  Altitude  9,000 m

Noise Figure  2.5 dB (typical)
VSWR  ≤2.0 : 1

Physical and Electrical

Dimension
  185 mm diameter x 69 mm

Weight  500 g

Power
  Input Voltage  +4.5 to +18.0 VDC
  Power Consumption  33 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-810F
  Sinusoidal  ASAE 5.15.2, Level 1

Shock
  IEC 68-2-27, Ea
  IEC 68-2-29, Eb

Salt Spray
  MIL-STD-810F, 509.4

Waterproof  IEC 60529 IPX7

Compliance
  FCC, CE
  RoHS  EU Directive 2002/95/EC

Elevation Gain Patterns

These plots represent the typical right-hand polarized (RHP) and left-hand polarized (LHP) normalized radiation patterns for the L1 frequency, the L2 frequency and the L-band, respectively.

UUT Upper Band Radiation Pattern
UUT Lower Band Radiation Pattern
UUT L-Band Radiation Pattern