High-Accuracy GNSS Active Antenna

Model: TL-111

V2.0 2017-06-27

Survey grade waterproof antenna resists unwanted signal interference, designed for precise position applications.

IP67 / Shock/ Vibration/ ESD Test / UV / Chemical Resistance

Overview:

TL-111 integrates high performance GNSS ceramic patch antenna and unique filtering features with innovative proprietary circuit design and advanced double filters, which reduce multipath effect and prevent interference from out-of-band signals. With especially-designed rugged/IP67 water proof enclosure, TL-111 is suitable for installing in harsh environment. The high-performance active antenna is compatible with most GNSS receivers with 3~5V DC input power. TL-111 receives all existing public GNSS signals, including GPS, GLONASS, Galileo and BeiDou, which provide better positioning accuracy for a variety of GNSS applications such as heavy equipment, vehicle navigation, surveying and mapping.

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Features:

- Substantial and environmental-resistance structure
- Proprietary antenna design provides the flexibility to reach a range of operational goals
- IP67 grade waterproof
- Supports GPS, GLONASS, Galileo, and BeiDou systems
- Multi-Constellation and Signal-Frequency for faster initialization

Applications:

- Geospatial Surveys / AVL / Single & Multiple frequencies RTK positioning / Vehicle Tracking / Security Surveillance / Precise Guidance / Machine Control

Specification:

Physical	
Dimension	Diameter:140mm High:49mm
Weight	345.4g
Operation temperature	-40°C to +85°C
Storage temperature	-40°C to +85°C
Relative Humidity	+40±2 °C, 90~95%R.H
Cable	RG-58 (3~5M is recommended)
Connector	TNC (Straight Female)
Mount	5/8 inch female thread
Antenna Patch	
Satellite Frequency	1559-1610 MHz
GNSS Reception	GPS L1, GLONASS G1, BeiDou B1, Galileo E1, SBAS, and L-band.
Polarization	R.H.C.P.(Right Hand Circular Polarization)
Absolute Gain @ Zenith	+4 dBic Typ.
Axial Ratio	3.0 dB typical
Output VSWR	1.5 dB typical
Bandwidth@ Return Loss ≦ -10dB	≧ 51 MHz
Electrical	
LNA Gain	31 dB Typ.
Noise Figure	2.4 dB Max.
Supply Voltages	3~5V DC
Current Consumption	6.9 mA Typ.
Output VSWR	2.0 Max.
Output Impedance	50 ohm

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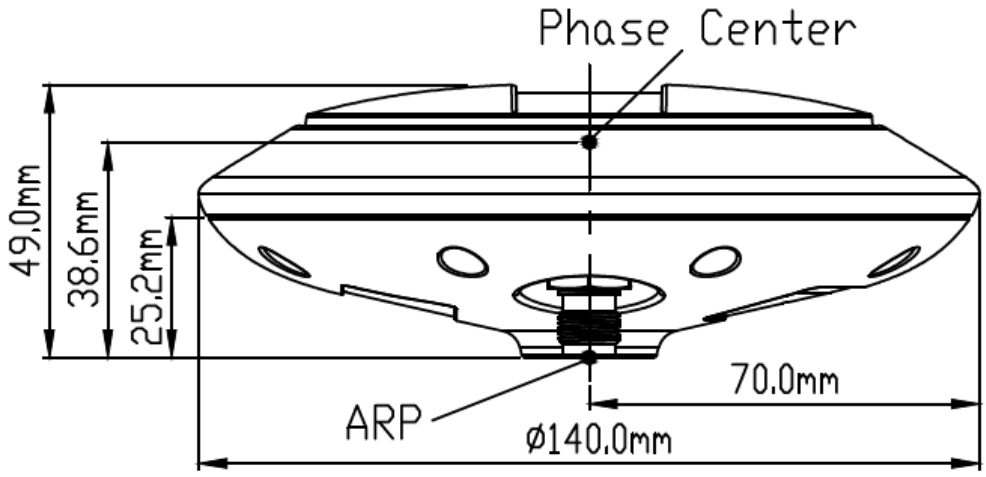
Environmental Qualifications	
Electronic Discharge	EN61000-4-2: 20KV Air-discharge；8KV Contact-discharge
Enclosure Rating	IEC 60529 standard: IP67
Solar Radiation	MIL-STD 810E, SAE 1961
Mechanical Shock	MIL-STD-810G, Method 516.6 a. Procedure I, Functional shock
Vibration	Antenna Non-Working 5G/30min Antenna Working 2.5G/30min
Chemical Resistance	Alcohol、Plastic and Vinyl cleaner、Glass cleaner、Saline Solution、Soapy water

Mechanical Diagram:



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