



Low-Voltage GPS Antenna

Model: SM-19

Compact & Sensitive GPS Antenna with Excellent Signal Amplification for Mobile Applications



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Introduction:

SM-19 is an externally mounted GPS antenna that provides continuous L1 band with high gain and low power consumption to a wide selection of GPS receivers in today's market. It is the integration of a high-performance GPS patch antenna and a low noise amplifier into a low profile, extremely compact and fully waterproof enclosure. SM-19 provides excellent signal amplification to any GPS receiver with 2.5~3.3V DC antenna power at the center pin.

Coming with small size and ruggedness, SM-19 is designed mainly to meet the robust demand for a GPS antenna that can maintain GPS signal stability for automatic vehicle locating and navigation even in a harsh environment.

Features:

- Compact Construction/ Low Profile/ Fully Weatherproof
- Low Power Consumption
- New Universal Connectors/Magnet or Screw Mount
- Excellent Temperature Stability
- Low Noise Figure
- Ultra-High Sensitivity



Applications:

- AVL
- Fleet Management Systems
- Car Navigation
- Marine GPS
- Weather Balloon
- Security Surveillance
- External Antenna for Handheld GPS

Specification:

Physical Condition	
Construction:	Polycarbonate radome at the top, die-cast-shell at the bottom/ rubber gasket for water seal in between
Dimension:	58mm(L) x 48mm(W) x 15mm(H).
Weight:	65grams (excluding cable & connector)
Standard Mounting:	magnet mount and/or screw mount with 2 pieces of M3 tapped holes on the plastic flanges
Optional Mounting Plate:	customized metal sheet
Cable & Connector	
RF Cable:	5 meter RG174/U (standard) cable, other length available
Pulling Strength:	6 Kg/5 sec. with molded plastics on connector end for strain relief
Connector Available:	BNC, TNC, FME (to be adapted), GT5, MCX (OSX), SMA, SMB or SMC in straight or right angle type
Optional Adapters:	Universal Connector Adapter (FME to TNC/BNC/SMA/SMB/MCX)
Antenna Element	
Center Frequency:	1575.42 MHz +/- 1.023 MHz
Polarization:	R.H.C.P. (Right Hand Circular Polarization)
Absolute Gain at Zenith:	+5 dBi typically
Gain at 10o Elevation:	-1 dBi typically
Axial Ratio:	3 dB max.
Output VSWR:	1.5 max.
Output Impedance:	50 ohm
Low Noise Amplifier	
Center Frequency:	1575.42 MHz +/- 1.023 MHz
Gain:	27 dB typically

Band Width:	2 MHz min.
Noise Figure:	1.3 max.
Out Band Attenuation:	12dB min. @F0 +/- 140MHz
Supply Voltage:	2.5~3.3V DC
Current Consumption:	5.5mA +/-1 mA@3.3V
Output Impedance:	50 ohm
OVERALL PERFORMANCE (Antenna Element, LNA & Cable)	
Center Frequency:	1575.42 MHz.
Gain:	20 dB min.
Noise Figure:	1.3 max.
Axial Ratio:	3 dB max.
Bandwidth:	2 MHz min.
VSWR:	1.5 max.
Output Impedance:	50 ohm
Environmental conditions	
Operating Temperature:	-40°C~+85°C
Storage Temperature:	-50°C~+90°C
Relative Humidity:	95% non-condensing
Water Resistance:	100% waterproof

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