



# GPS Antenna with Low Noise Amplifier

## Model: SM-29

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**Compact & Sensitive IPX7 GPS antenna with ESD Circuit Protection for Mobile Applications**



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### Overview:

The SM-29 is the integration of the high performance GPS patch antenna and a state-of-the-art low noise amplifier into a very low profile/extremely compact/fully water resistance enclosure. When connected to a GPS receiver with +2.5 to +5.0 VDC antenna power, it can provide excellent signal amplification and out of band filtering & rejection for that receiver.

Last but not least, the design of a double lock (or an anti-theft locking nut) provides sound security for the product.

### Features:

- ESD circuit protection
- Low Noise Figure/ Fully Weatherproof/ Ultra-high Sensitivity
- Compact Construction/ Excellent Temperature Stability

### Applications:

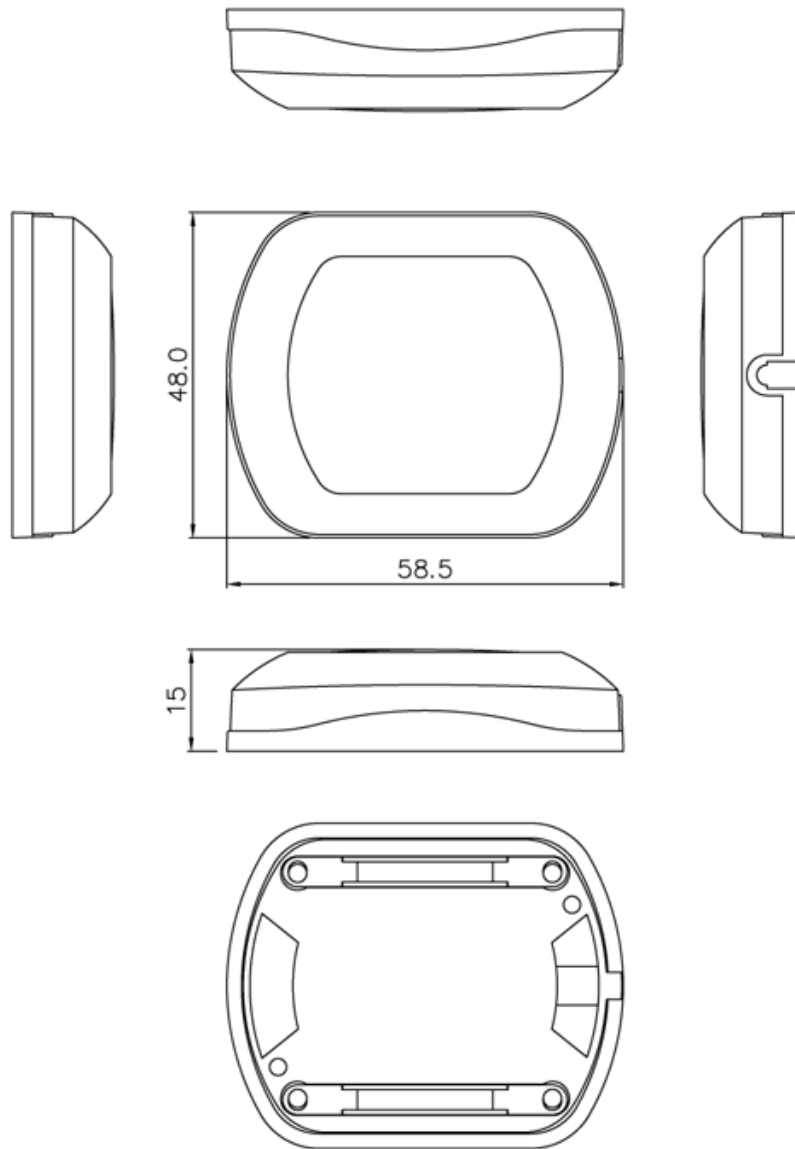
- AVL/Fleet Management Systems /Car Navigation/Marine GPS
- Weather Balloon/Security Surveillance/External Antenna for Handheld GPS

### Specification:

Physical Condition	
Construction:	Polycarbonate radome enclosure and die-cast-shell at the bottom
Dimension:	58 mm(L)x 48 mm(W)x 15 mm(H)
Weight:	63 grams (excluding cable & connector)
Standard Mounting:	2 magnetic mounts, screw mount with 2 M3 tapped holes on the base.
Optional Mounting Plate:	Metal flanges with holes for permanent mount.
Cable & Connector	
RF Cable:	5 meters RG174/U (standard) cable & length (optional)
Pulling Strength:	6 Kg @ 5 sec.
Connector Available:	BNC, TNC, FME, MMCX, MCX, SMA, SMB or SMC. Straight or right angle.
Optional Adapters:	Universal Connector Adapter (FME to TNC/BNC/SMA/SMB/MCX)
Antenna Element	
Polarization:	R.H.C.P. (Right Hand Circular Polarization)
Absolute Gain at Zenith:	+3 dBic typically
Gain at 10o Elevation:	-1 dBi typically
Axial Ratio:	3 dB max.
Low Noise Amplifier	
Gain:	27 dB typically
Band Width:	2 MHz min.
Noise Figure:	1.5 Typical.
Supply Voltage:	2.5~5V DC
Current Consumption:	10.6mA ± 1mA @ 3V DC 21mA ± 1mA @ 5.0V DC
OVERALL PERFORMANCE (Antenna Element, LNA & Cable)	
Center Frequency:	1575.42 MHz.
Gain:	28 ±2dB (Cable loss) note: 1.
Axial Ratio:	3 dB max.
VSWR:	2.0 max.
Output Impedance:	50 ohm
Environmental conditions	
Operating Temperature:	-40°C ~ +85°C
Storage Temperature:	-50°C ~ +90°C
Relative Humidity:	95% non-condensing

Note: 1: Cable loss (-1.2dB/m)

Mechanical Diagram:



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