

## 8177D GPS/GLONASS Active Permanent Mount Antenna



8177D

PCTEL's 8177D GPS L1/GLONASS L1 antenna is a high gain antenna with a wide voltage range, ideally suited to telematics platforms for use in vehicle-mounted and stand-alone time synchronization applications. With a wideband patch, this antenna was designed to operate at GPS L1 as well as GLONASS L1 frequencies. It features a precision tuned custom ceramic patch element for maximum signal reception and 15KV ESD circuit protection. This enables the 8177D to minimize loss-of-lock, even when conditions are less than ideal. Available in an all-plastic, non-corrosive low profile package for vehicle mounting in a dark gray housing.

### Features

- Weather proof, all-plastic, non-corrosive, low profile enclosure
- GPS L1 & GLONASS L1 Frequencies
- Voltage range 2.5 - 5 V
- LNA 28 dB gain typical
- Low noise figure: 1.5 dB

### Low Noise Amplifier Specifications

**Frequency Range:**  
1568MHz - 1618MHz (typical)

**Nominal Gain:**  
@ 3.3VDC: 26 dB +/- 1.5dB (typical)  
@ 5VDC: 28 dB +/- 1.5dB (typical)

**Noise Figure:**  
1.5 dB (typical)

#### Out-of-band Signal Rejection:

> 45dB @ 1535MHz	> 40dB @ 1670MHz
> 30dB @ 1540MHz	> 30dB @ 1650MHz
> 20dB @ 1545MHz	> 20dB @ 1640MHz

#### Voltage:

2.5-5 VDC (Operating)\*  
\*User may see a degradation of 2dB gain between 2.5-2.7 VDC from advertised specification

#### Current Draw:

9 mA @ 3.3V  
15 mA @ 5V

### RF/Electrical Specifications

Center Frequency	Nominal Gain	Polarization	Nominal Impedance
1568MHz - 1618MHz	1.5 dBic @ 90°	Right Hand Circular	50 Ohms

### Mechanical Specifications

Antenna Dimensions (diameter x height)	Weight	Shock	Vibration
2.36" x .83" (60 x 21 mm)	.11 lbs (50 g)	Vertical axis 50G, other axes 30G	3 axis, sweep = 15 min 10 - 200 Hz log sweep: 3G
Housing	Connector	Mounting Method	
GE Lexan® EXL9330	TNC Female	¾" thru-hole or bracket mount*	

### Environmental Specifications

Temperature Range	Ingress Protection
-40 °C to +85 °C operating	IP67*

### Available Models

Part Number	Description
8177D	Gray radome



\* Order MMK1925 bracket for compatible mounting  
\* When installed according to the manufacturer's installation instructions.