

58532A

GPS L1 Reference Antenna



Key Features

- Delivers L1 carrier frequency signals to GPS synchronization modules and receivers
- Durable and easy to install
- Operates reliably in a wide range of environmental conditions

Key Benefits

- Low noise and high gain provide optimum signal quality
- Offers improved immunity to induced surge voltages through built-in diode protection

The Symmetricom® 58532A GPS L1 Reference Antenna is the latest in a line of Symmetricom antennas used to deliver L1 carrier frequency signals to GPS synchronization modules and receivers. Based on a design with proven reliability in tens of thousands of installations, the 58532A, like its predecessors, is characterized by low noise and high gain to provide optimum signal quality.

Outstanding Immunity to RF Interference

Noise and interference near the L1 carrier can compromise reception of GPS signals. The 58532A features excellent filtering, with narrow bandwidth and steep rolloff to preserve the GPS signal while attenuating unwanted signals near the L1 carrier.

Improved Immunity to Lightning

Electromagnetic fields caused by nearby lightning strikes can induce surge voltages in the antenna cable, damaging the antenna. The 58532A offers improved immunity to induced voltages through built-in diode protection.

Durable and Easy to Install

Designed for easy installation in outdoor locations, the 58532A features a durable, unobtrusive, cone-shaped cover that prevents snow and debris build-up. In addition, a sturdy aluminum mounting base allows easy attachment to the Option AUB antenna mast. With this type of mounting, the antenna/cable connector (type N) is protected from the weather. If your system requires the 58529A Antenna Line Amplifier with Bandpass Filter, this cylindrical product can fit directly inside the antenna mast to be sheltered from the weather as well.

Power is conveniently supplied to the antenna via the RF cable. The antenna requires 5 Vdc at less than 27 mA. This is available from several different GPS engines.

Mounting hardware kit, including a mast, available (58532A-AUB).

58532A

Specifications

ELECTRICAL SPECIFICATIONS

| | |
|-----------------------------------|--|
| Frequency Range (3 dB Bandwidth): | 1575.42 MHz \pm 10 MHz (typical) |
| Polarization: | Right hand circular |
| Output Impedance: | 50 Ω (typical) |
| Total Gain: | >30 dBi (38 dBi typical @ elevation angle 90°) |
| Out-of-Band Signal Attenuation: | 60 dB (typical) at 1575.42 MHz \pm 50 MHz |
| Noise Figure: | <2.2 dB (1.8 dB typical) |
| VSWR: | <2.5 (1.5 typical) |
| DC Power: | 5 VDC \pm 0.5 VDC, <27 mA (20 mA typical) |

PHYSICAL SPECIFICATIONS

| | |
|-------------------------------|---|
| Connector: | Type-N Jack |
| Antenna Dimensions: | |
| Antenna without Mounting Base | 90 mm D x 140 mm H (includes connector) |
| Mounting Base | 43 mm I.D., 75 mm O.D., 65 mm H |
| Mounting Mast (Option AUB) | 39 mm I.D., 42 mm O.D., 355 mm L |

| | |
|-------------------------------|-------|
| Antenna Weight: | |
| Antenna without Mounting Base | 187 g |
| Mounting Base | 240 g |
| Mounting Mast (Option AUB) | 250 g |

Material:

| | |
|----------------------------------|--|
| Antenna | |
| Radome | UV-stabilized polycarbonate |
| Bottom housing | Die-cast aluminum, powder coated |
| Mounting Base | Die-cast aluminum, powder coated |
| Option AUB Mounting Mast | Anodized aluminum with teflon coating or stainless steel |
| Color, Antenna and Mounting Base | White |

ENVIRONMENTAL SPECIFICATIONS

| | |
|------------------------|----------------|
| Operating Temperature: | -40°C to +85°C |
| Storage Temperature: | -45°C to +90°C |

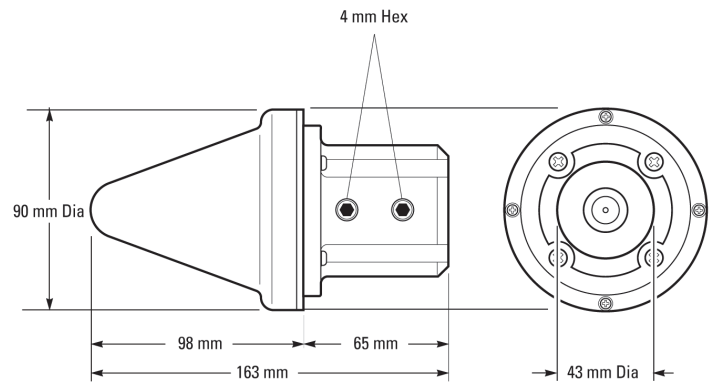


Figure 1. Antenna and mounting base dimensions



Figure 2. Mounting mast dimensions [available in 58532A-AUB mounting hardware kit]

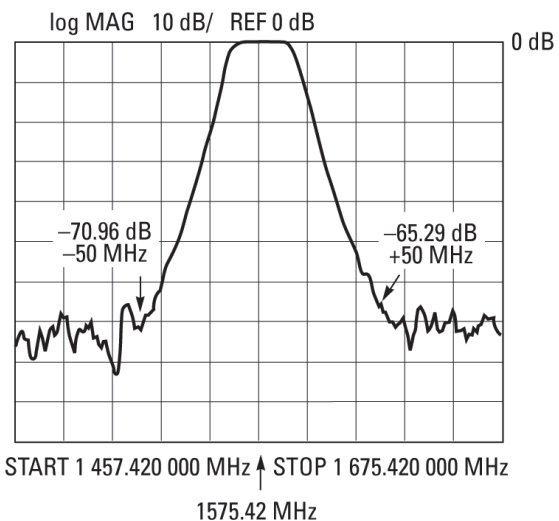


Figure 3. Relative amplitude versus frequency response for 58532A GPS L1 Reference Antenna.