



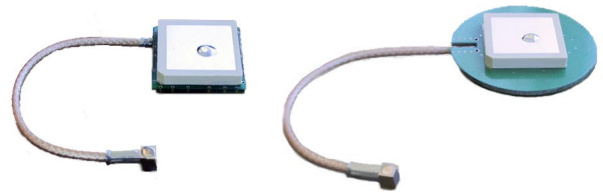
expanding the borders  
of wireless systems

# Wi-Sys Communications Inc.

## WS3957 / WS3967 – Embedded GPS Antenna

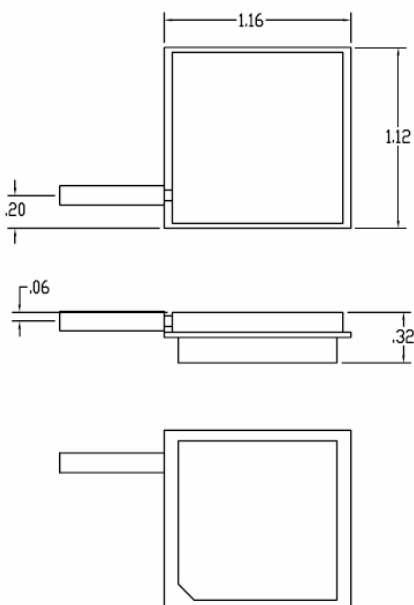
### Applications:

- ◆ Portable Telematics
- ◆ Automotive Navigation Systems
- ◆ Fleet Management & Telematics Systems
- ◆ Marine Navigation Systems
- ◆ Asset Tracking Equipment
- ◆ Military Radios and In-Vehicle-Systems
- ◆ Law Enforcement Radios and In-Vehicle-Systems
- ◆ WLAN, WiMax and Cellular Base Station GPS Clock and Timing Systems

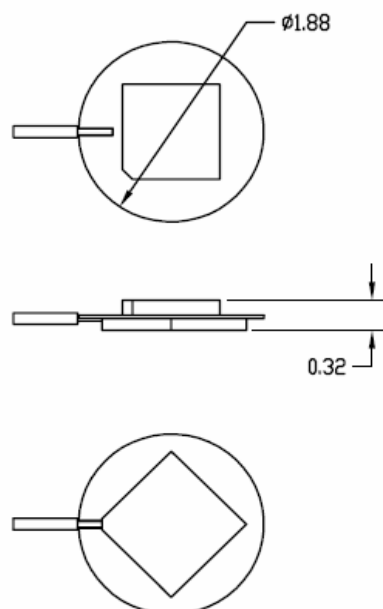


The WS3957/WS3967 GPS antenna series is ideal for handheld GPS devices, mobile asset tracking equipment and GPS clock & timing applications. With its compact size and low price, the WS3957/WS3967 series is perfectly suited for OEM applications. The WS3957/WS3967 series features a custom designed ceramic patch element, a two-stage low noise amplifier and a SAW filter, enabling the WS3957/WS3967 series to provide great out-of-band signal rejection performance, consistent and clear signal while minimizing loss-of-lock. The WS3957 comes in a compact square package and the WS3967 comes with a 1.85" mini-ground plane.

**WS3957**



**WS3967**



### Features:

- ◆ 2.7 to 5 V operation
- ◆ Available with and without an internal ground plane
- ◆ Optional cable types and lengths available
- ◆ Wide range of connector types available
- ◆ Ideal for embedded applications
- ◆ Low price



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## Wi-Sys Communications

### WS3957/WS3967 Low cost Embedded GPS Antenna

*Designed for easy integration into a variety of OEM platforms, the WS3957/WS3967 series integrates a two-stage low-noise amplifier to ensure a reliable and clear signal for the GPS receiver even in difficult conditions, as well as a SAW filter for even greater performance for telematics applications where out-of-band signal rejection is required.*

### The Wi-Sys Antenna Family

**WS3910:** High gain, low noise GPS antenna

**WS3914:** Low current GPS antenna

**WS3916:** Low cost GPS antenna

**WS3917:** Low cost filtered GPS antenna

**WS3940:** Active GPS + Cellular Combined  
Glass mount/covert antenna

**WS3942:** Active GPS + Cellular Combined  
Magnetic mount antenna

**WS3950/WS3960:** High gain, low noise  
Embedded antenna

**WS3954/WS3964:** low current Embedded  
GPS antenna

**WS3957/WS3967:** low price filtered  
Embedded GPS antenna

**WS3977:** Through-hole Mount GPS Antenna

## Technical Specifications

### Environmental Specifications

- ◆ Operating temp: -40c to +85c (-45c to +80c storage)
- ◆ Humidity: 95% max (non condensing)

### Mechanical

- ◆ **WS3957** – 29.5mm x 28.4mm x 8mm  
(1.16" x 1.12" x 0.32")
- ◆ **WS3967** - 47mm diameter x 8mm with ground plane  
(1.85" diameter x 0.32")
- ◆ Shock: Vertical axis 50G, other axes 30G
- ◆ Vibration: 3 axis, sweep = 15 min  
10–200 Hz log sweep: 3G

### Antenna Response

- ◆ Frequency: 1575.42 MHz
- ◆ Gain: @ 90° 3 dBic  
@ 20° -2.0 dBic
- ◆ Polarization: Right Hand Circular
- ◆ Axial ratio: @ 90° 4 dB, @ 20° 6 dB

### Electrical

- ◆ Voltage: 2.7 – 5 VDC
- ◆ Current: 15 mA @ 5V, 9 mA @ 3.3V
- ◆ Connector: Right angle MCX  
Other connector types available
- ◆ Cable: Shikoku Coax Cable p/n 1.5QEHV(TA)
- ◆ Cable length: 15 cm (6"), other lengths available

### LNA Specifications

- ◆ Frequency: 1572.5 – 1578 MHz
- ◆ Output Impedance: 50 Ohm
- ◆ VSWR: 1.5:1 max (at connector)
- ◆ Gain: @ 3.3VDC: 28 dB (typical)  
@ 5VDC: 30 dB (typical)
- ◆ Noise figure: 1.5 dB (typical)
- ◆ Out-of-band rejection: +/- 15 MHz: 5dB  
+/- 20 MHz: 10 dB  
+/- 30 MHz: 32 dB  
+/- 40 MHz: 40 dB

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