



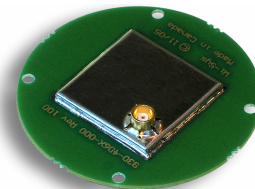
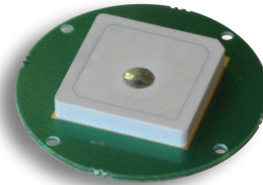
a time and place...  
for everything

# Wi-Sys Communications Inc.

## WS4051/WS4061 Low Noise OEM GPS Antenna with Built-in MCX Connector

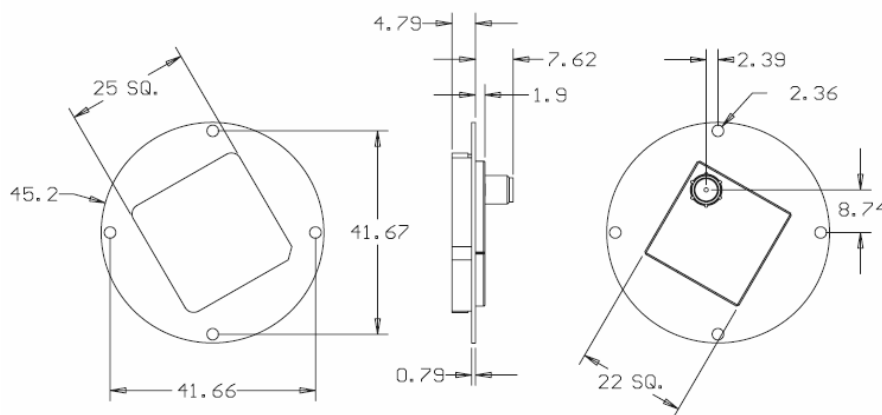
### Applications:

- ◆ 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



The WS4051/WS4061 low noise OEM GPS Antenna series with built-in connector is unparalleled in quality and performance, and ideal for embedded OEM applications. The WS4051/WS4061 series features a custom designed ceramic patch element that minimizes detuning effects caused by adjacent objects, as well as a Low Noise Amplifier and a SAW filter that enable these antennas to provide a consistent, clear signal while minimizing loss-of-lock when GPS conditions are less than ideal. Both models come equipped with a MCX connector. The WS4051 comes in a very compact 25 mm square package and the WS4061 comes with a 45.2 mm dia. mini-ground plane.

### Dimensions in mm (WS4061)



### Features:

- ◆ Available with and without internal ground plane
- ◆ 28 dB gain @ 3.3 VDC
- ◆ Extremely low noise figure: 0.8 dB
- ◆ Excellent out-of-band signal rejection
- ◆ Built in MCX connector
- ◆ High performance patented LNA



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### WS4051/WS4061 OEM GPS Antenna

*Designed for maximum GPS performance, the connectorised WS4051/61 antennas' advanced circuitry integrates a SAW filter and low-noise amplifier to ensure a reliable and clear signal for the GPS receiver even in difficult conditions. Where other GPS antennas fail, the WS4051/61 antennas' superior out-of-band rejection and low noise characteristics can provide a reliable signal, which can be critical for improving acquisition times and minimizing outages*

### The Wi-Sys OEM Antenna Family

**WS3930-ULD:** Quad Band Cellular Covert Antenna

**WS3940-ULD:** Active GPS + Quad Band Cellular Combined Covert Antenna

**WS3947-ULD:** Low Cost Active GPS + Quad Band Cellular Combined Covert Antenna

**WS3950/WS3960:** High gain, Low Noise Embedded Antenna

**WS3954/WS3964:** Low Current Embedded GPS Antenna

**WS3957/WS3967:** Low Price Filtered Embedded GPS antenna

**WS4055/WS4065:** Low Current OEM GPS Antenna with built-in MCX Connector

**WS4057/WS4067:** Low Cost OEM GPS Antenna with built-in MCX Connector

## Technical Specifications

### Environmental Specifications

- ◆ -40c to +80c operating temp. (-45c to +80c storage)
- ◆ Humidity 95% max (non condensing)

### Mechanical

- ◆ **WS4051** – 25 mm x 25 mm x 6.7 mm (no ground plane) (0.98" x 0.98" x 0.26")
- ◆ **WS4061** – 45.2 mm dia. x 6.7 mm (with ground plane) (1.78" diameter x 0.26")
- ◆ 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 – 5.0 VDC
- ◆ Current: 7.5 mA @ 3.3VDC (typical)
- ◆ Connector: MCX
- ◆ Cable Accessory: Custom cable assembly is available, please contact factory.

### LNA Specifications

- ◆ Frequency: 1572.42 – 1578.42 MHz
- ◆ Output Impedance: 50 Ohm
- ◆ VSWR: 1.5:1 max (at connector)
- ◆ Gain: @ 3.3VDC: 28 dB (typical)  
@ 5.0VDC: 30 dB (typical)
- ◆ Noise figure: 0.8 dB
- ◆ Out-of-band rejection: + 15 MHz: 10 dB/- 15 MHz: 30 dB  
+ 20 MHz: 20 dB/- 20 MHz: 30 dB  
+ 40 MHz: 40 dB/- 40 MHz: 40 dB

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