



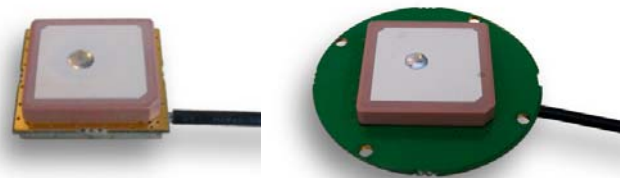
a time and place...  
for everything

# Wi-Sys Communications Inc.

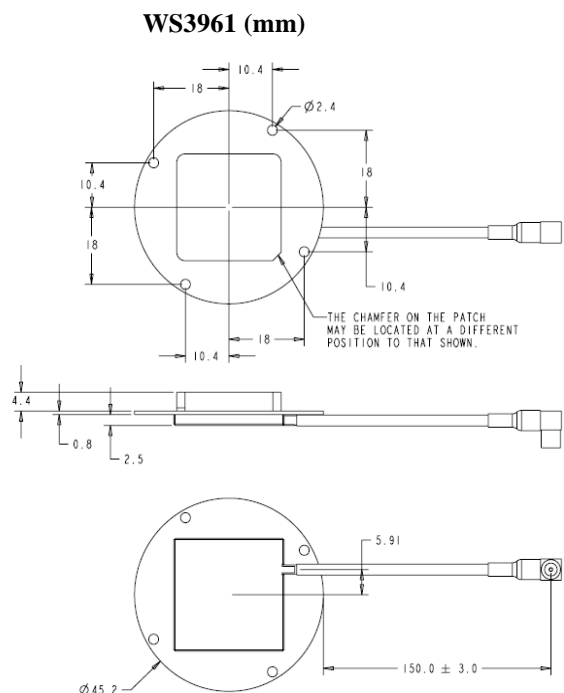
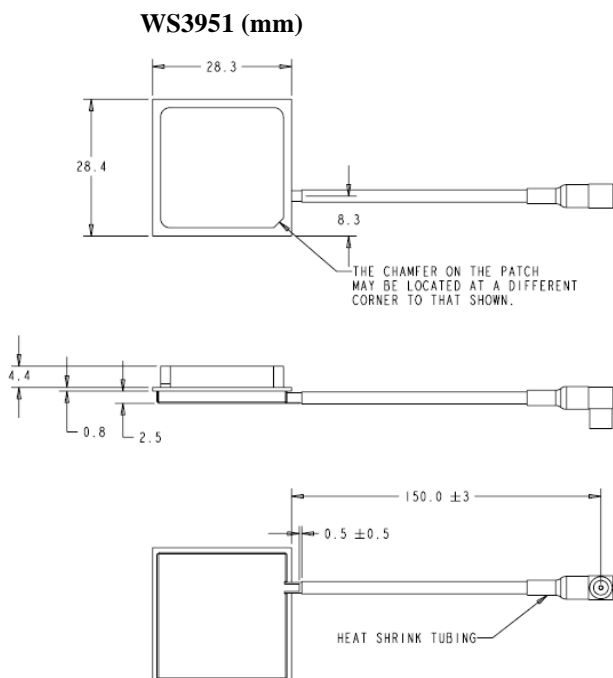
## WS3951-HR / WS3961-HR – “No Interference” Embedded GPS Antenna with Dual SAW High Rejection Filter

### Applications:

- ◆ Anti-jam / Mission Critical GPS
- ◆ Military Radios
- ◆ Law Enforcement / Public Safety
- ◆ Avionics
- ◆ Fleet Management & Telematics
- ◆ Asset Tracking



The WS3951-HR / WS3961-HR “No Interference” Embedded GPS Antennas with Dual SAW High Rejection Filter have the industry’s best out-of-band filter performance. These antennas feature a custom designed ceramic patch element that minimizes detuning effects caused by adjacent objects, ESD circuit protection, a patented two-stage low noise amplifier and a dual SAW high rejection filter. The WS3951-HR / WS3961-HR antennas provide the most consistent, clear GPS signal reception while minimizing loss-of-lock in high-RF fields. The WS3951 comes in a compact square package and the WS3961 comes with a 45.2 mm diameter mini ground-plane.





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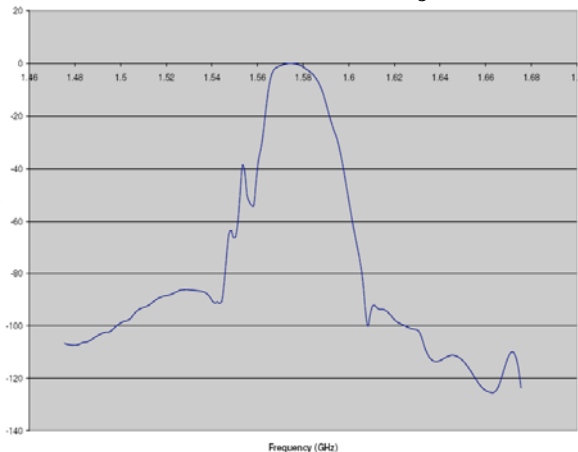
### WS3951-HR / WS3961-HR

“No Interference” GPS Embedded GPS Antennas

#### Features:

- ◆ WS3951-HR: without internal ground-plane
- ◆ WS3961-HR: with internal ground-plane
- ◆ Very high rejection dual SAW filter
- ◆ Patented high performance dual LNA
- ◆ High gain: 25.5 dB @ 5 V (typ.)
- ◆ Low current: 7.5 mA @ 3.3 V (typ.)
- ◆ 3.1 dB low noise figure
- ◆ 15KV ESD circuit protection
- ◆ RoHS compliant

#### Out-of-band Filter Rejection



#### Ordering Information:

- ◆ **WS3951-HR-15cm-MCX:** 15 cm cable with a MCX right angle connector
- ◆ **WS3961-HR-15cm-MCX:** 15 cm cable with a MCX right angle connector

### Wi-Sys Communications Inc.

31B Richardson Side Road  
Ottawa, ON K2K 0A1 Canada  
Tel 613.254.7386 Fax 613.254.7388  
sales@wi-sys.com www.wi-sys.com



## Technical Specifications

#### Environmental Specifications

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

#### Mechanical

- ◆ WS3951 - 28.4 mm x 28.3 mm x 7.7 mm
- ◆ WS3961 - 45.2 mm diameter x 7.7 mm
- ◆ 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 to 5 VDC
- ◆ Current: 7.5 mA @ 3.3VDC, 11.5 mA @ 5VDC
- ◆ ESD circuit protection: 15K Volts
- ◆ Connector: MCX right angle  
Other connector types available
- ◆ Cable: RG174
- ◆ 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: 25 dB @ 3.3 VDC: (typical)  
25.5 dB @ 5 VDC: (typical)
- ◆ Noise figure: 3.1 dB