



a time and place...  
for everything

## Wi-Sys Communications Inc.

### WS3978 High Gain Permanent Mount GPS Antenna

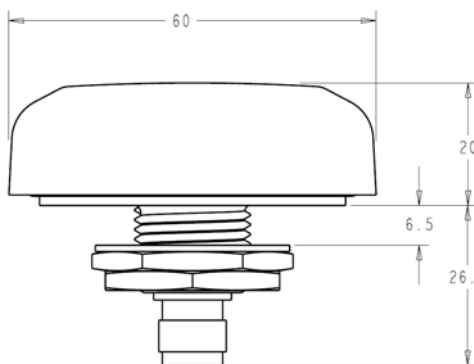
#### Applications:

- ◆ Fixed Timing & Positioning Applications
- ◆ WiMAX / Fixed Wireless Broadband
- ◆ Cellular Base Station
- ◆ Fleet Management & Telematics
- ◆ Marine Vessel Installations

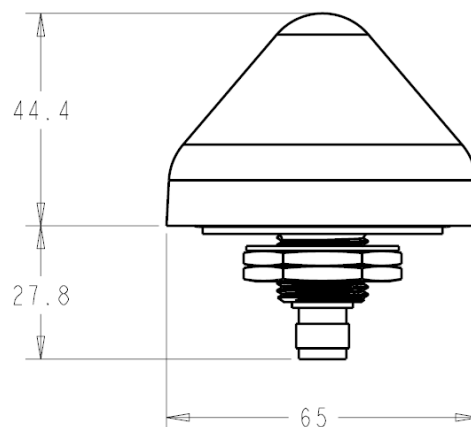


The WS3978 high gain permanent mount GPS Antenna provides 40 dBs of gain and great high out-of-band rejection performance. It features a perfectly tuned custom ceramic patch element for maximum signal reception, ESD circuit protection, a very low noise (0.5 dB) 3 stage LNA circuit and a SAW filter, enabling the WS3978 to provide a reliable and clear GPS signal while minimizing loss-of-lock, even when conditions are less than ideal. Available in an all-plastic, non-corrosive low profile package for vehicle mount or with a cone-shaped radome cover for fixed installations, the WS3978 high gain permanent mount GPS Antenna is the optimum choice for GPS Tracking and Timing applications with long cable runs.

WS3978 dimensions (mm)



WS3978-DH dimensions (mm)



#### Features:

- ◆ Weather proof, all-plastic, non-corrosive enclosure
- ◆ 3/4 inch thru-hole or bracket mount
- ◆ Voltage range: 2.7 to 5.5 V
- ◆ High gain: 40 dB (typical)
- ◆ Very low noise figure: 0.5dB
- ◆ Great out-of-band signal rejection
- ◆ 15 KV ESD circuit protection

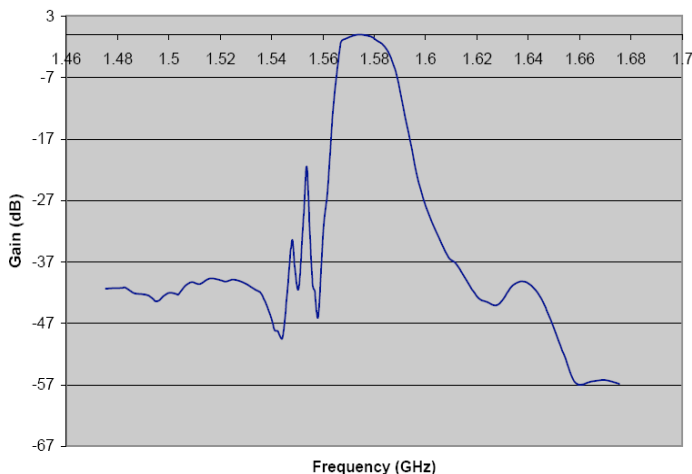


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#### Out-of-band filter rejection



#### Ordering information:

WS3978: High gain, all plastic low profile housing with TNC connector

WS3978-DH: High gain, all plastic housing with cone-shaped radome cover and TNC connector

## Technical Specifications

#### Environmental Specifications

- ◆ Operating temp: -40c to +85c (-45c to +85c storage)
- ◆ Weather Proof: IP67

#### Mechanical

- ◆ Dimensions:  
WS3978: 60 mm dia. x 21 mm H  
WS3978-DH: 65mm dia. x 44.4mm H
- ◆ Weight: 50g
- ◆ Housing: GE Lexan EXL9330, Colour BK1334 (other colours available)
- ◆ Mounting: 3/4" thru-hole or bracket mount
- ◆ Connector: TNC jack connector (flying-cable option also available)
- ◆ 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 5.5 VDC
- ◆ Current: 15mA
- ◆ ESD circuit protection: 15KV

#### LNA Specifications

- ◆ Frequency: 1572.5 – 1578 MHz
- ◆ Output Impedance: 50 Ohm
- ◆ VSWR: 1.5:1 max (at connector)
- ◆ Gain: 40 dB (typical)
- ◆ Noise figure: 0.5 dB (typical)

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