



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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1.575 GHz Helical GPS SMD Antenna

Ground cleared under antenna, clearance area 7.50 x 5.50 mm

Pulse Part Number: W3110



Features

- Low profile (5.5 mm)
- Compact size WxLxH (5.0 x 2.5 x 5.5 mm)
- Low weight (170 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

Applications

- 1.575 GHz L1 band GPS receivers

Engineering samples available

Electrical specifications @ +25 °C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

1.575 GHz GPS

Typical performance (test board size 80 x 37 mm, PWB ground clearance area 7.50 x 5.50 mm)

Antenna measured on the test PWB with plastic covers and with matching circuit. Antenna location: top corner, left.

| Frequency Range [MHz] | RHCP Gain [dBic] | Linear Max Gain [dBi] | Efficiency [%] / [dB] | Return loss min. [dB] | Impedance [Ω] | Operating Temperature [°C] |
|-----------------------|----------------------------------|--------------------------------|--|-----------------------|---------------|----------------------------|
| 1575.42 +/- 10 | -2.1 (Peak) -2.4 (Band edges) | 1.3 (Peak) 0.7 (Band edges) | 47 / -3.3 (Peak) 43 / -3.7 (Band edges) | -16 | 50 | -40 to +85 |

Pulse Finland Oy

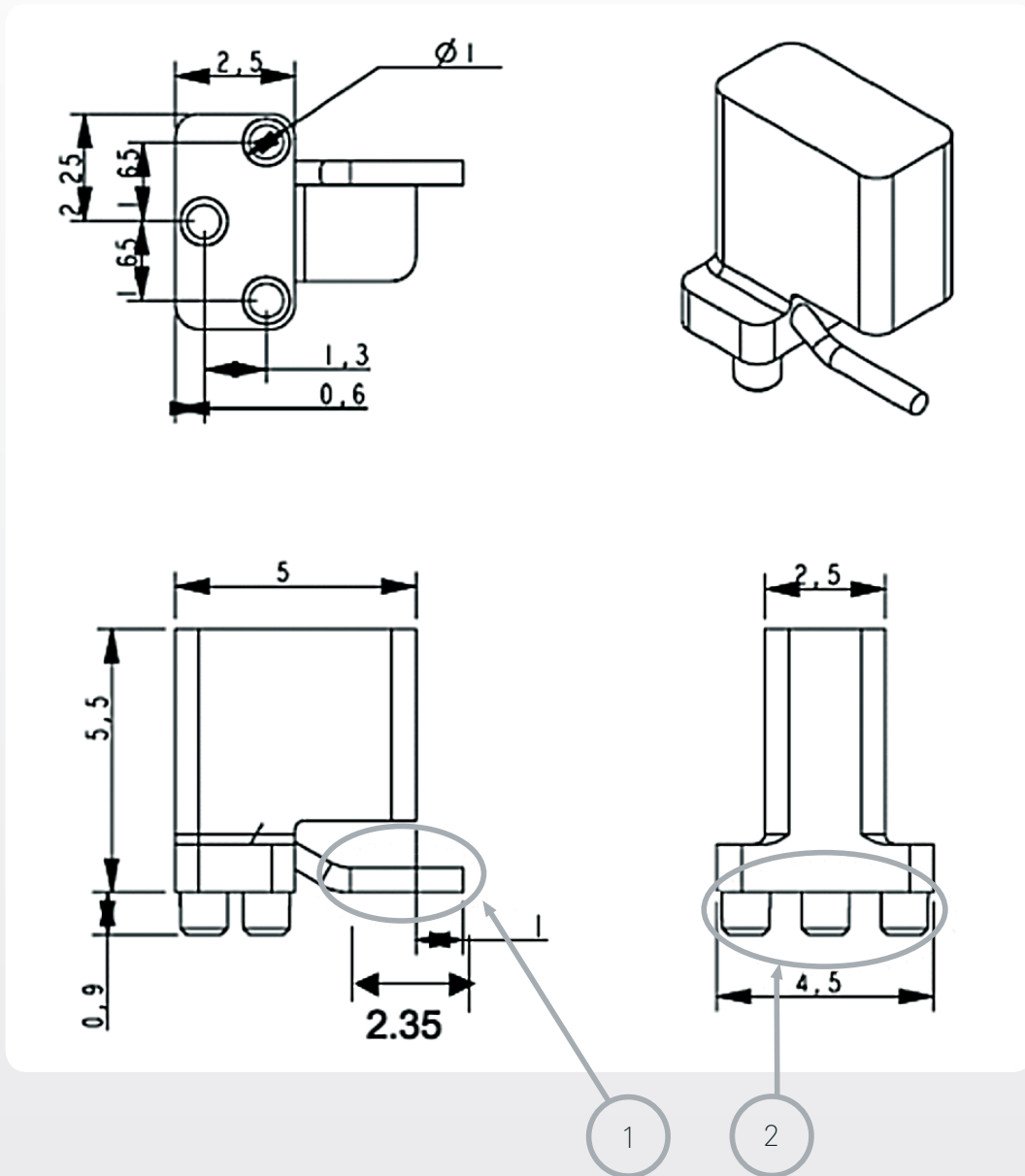
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www.pulseeng.com/antennas



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Ground cleared under antenna, clearance area 7.50 x 5.50 mm

Terminal Configuration



| No. | Terminal Name | Terminal Dimensions |
|-----|--------------------------|---|
| 1 | Feed | 0.50 mm diameter Sn plated wire, planar soldering area length 2.35 mm |
| 2 | Mechanical support studs | 1.00 mm diam, length 0.90 mm |

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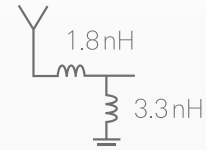


1.575 GHz Helical GPS SMD Antenna

Ground cleared under antenna, clearance area 7.50 x 5.50 mm

Typical Electrical Characteristics (T=25 °C)

Antenna measured on the test PWB with plastic cover. Shunt and series inductors used for matching.



Typical Return Loss S11/ impedance

GPS ANTENNA

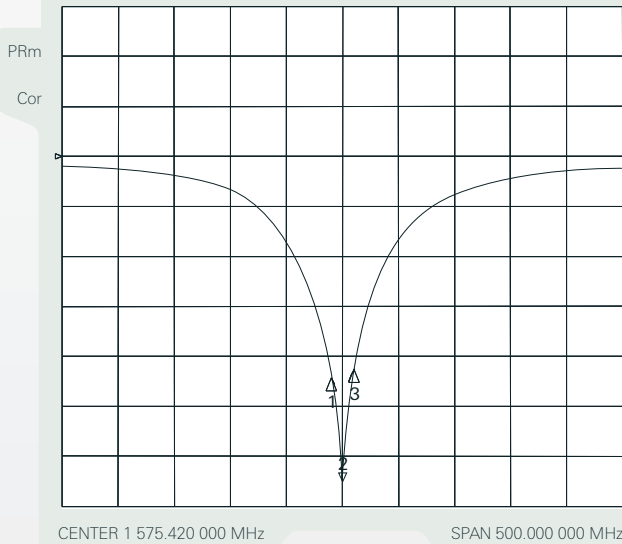
24 Aug 2006 08:44:11

CH1Markers

- 1. -17.512 dB 1.56500 GHz
- 2. -32.040 dB 1575.420000 MHz
- 3. -16.539 dB 1.58500 GHz

CH1 S11 LOG

5 dB/REF 0 dB



GPS ANTENNA

24 Aug 2006 08:45:11

CH1Markers

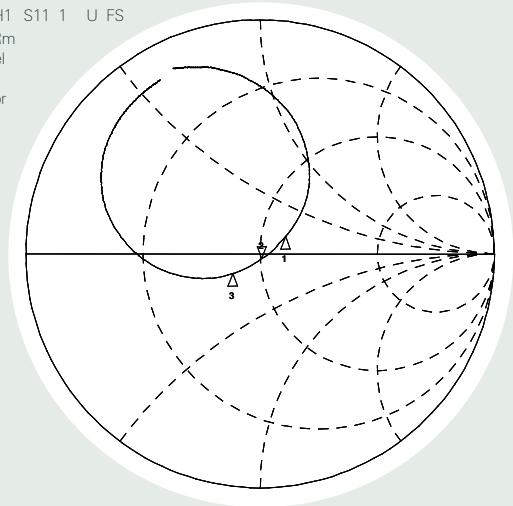
- 1. 61.484 Ω 9.2539 Ω 1.56500 GHz
- 2. 50.723 Ω -2.2129 Ω 45.652 pF 1.575.420 000 MHz
- 3. 39.158 Ω -6.7895 Ω 1.58500 GHz

CH1 S11 1 U FS

PRm

Del

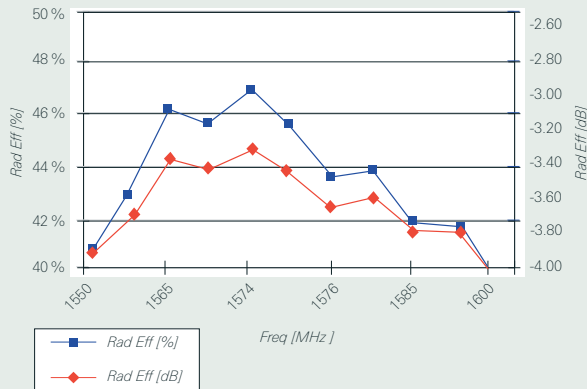
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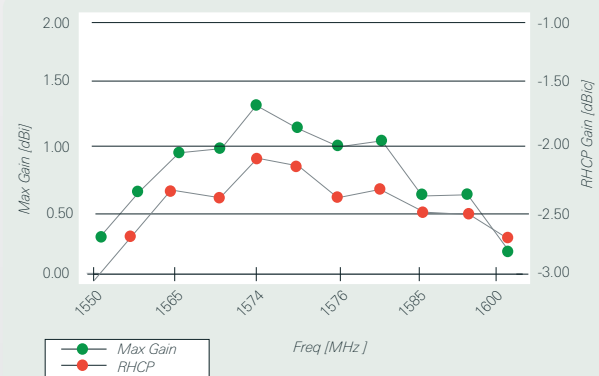
Free space efficiency and maximum gain

PWB ground clearance area 7.50 x 5.50 mm

GPS 5.5 mm Helical Antenna



GPS 5.5 mm Helical Antenna



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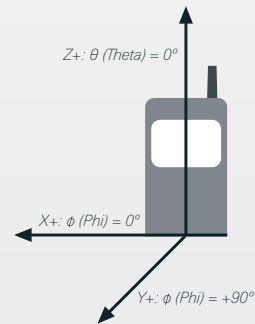
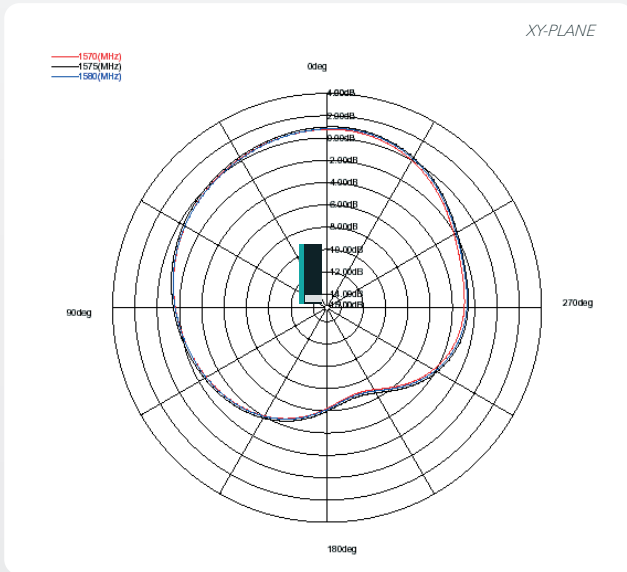
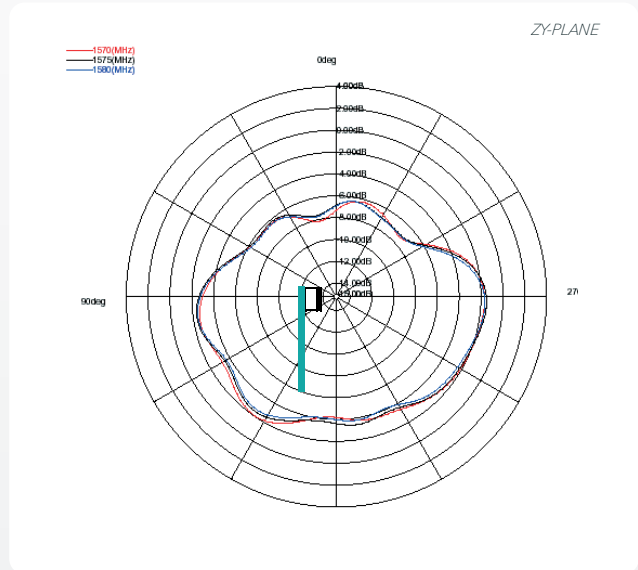
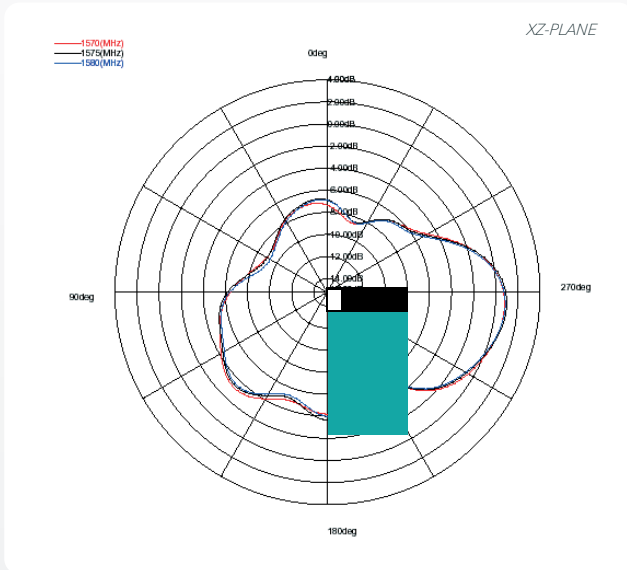
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Typical Free Space Radiation Patterns



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