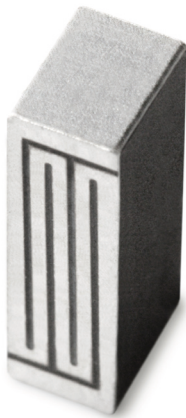


# 1.575 GHz GPS Ceramic Chip Antenna

On Ground type, ie. solid ground plane under antenna, top surface ground removal 10.80 x 6.25 mm.

Pulse Part Number: W3009



## Features

- Omnidirectional radiation
- Low profile
- Compact size W x L x H (10 x 3.2 x 4 mm)
- Low weight (600 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

## Applications

- GPS L1 band
- 1.575 GHz

## Electrical specifications @ +25 °C

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

## GPS

Typical performance (test board size 80 x 37 mm, PWB top surface ground removal area 10.80 x 6.25 mm)

Frequency Range [MHz]	RHCP Gain [dBic]	Linear Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [°C]
1575.42 +/-10	0.7 (Peak) 0.3 (Band edges)	3 (Peak) 2.5 (Band edges)	80 / -1 (Peak) 75 / -1.25 (Band edges)	-10	50	-40 to +85

## Pulse Finland Oy

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90440 Kempele, Finland  
Tel: +358 207 935 500  
Fax: +358 207 935 501

[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



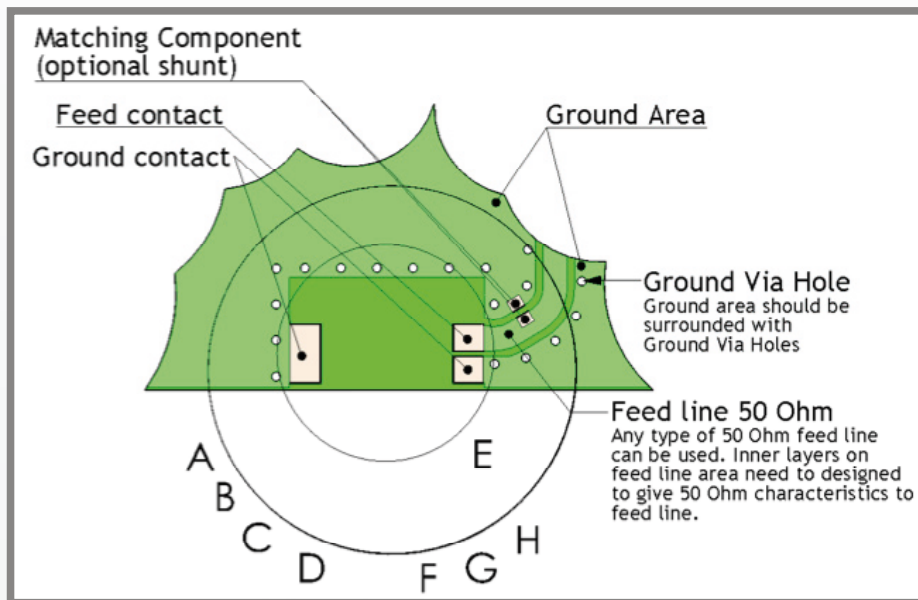
# 1.575 GHz GPS Ceramic Chip Antenna

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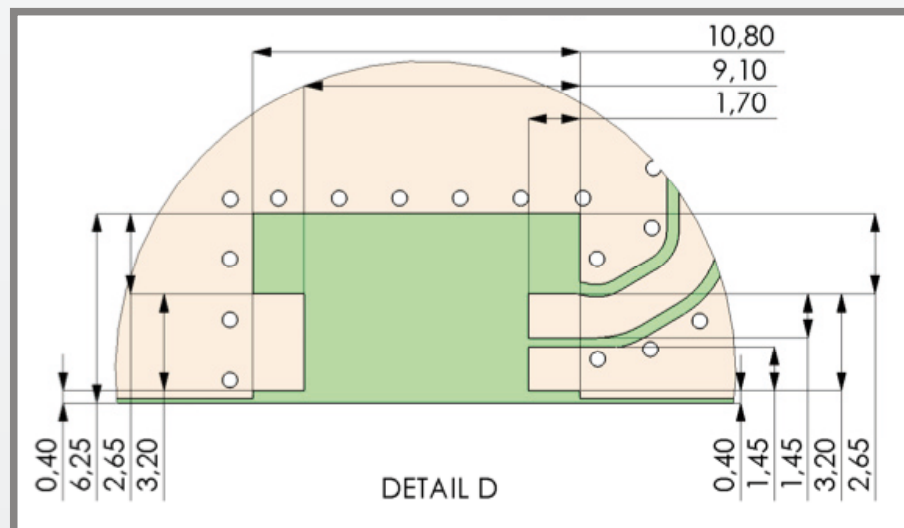
Pulse Part Number: W3009

## Terminal Configuration

Layout



Pad dimensions in top copper



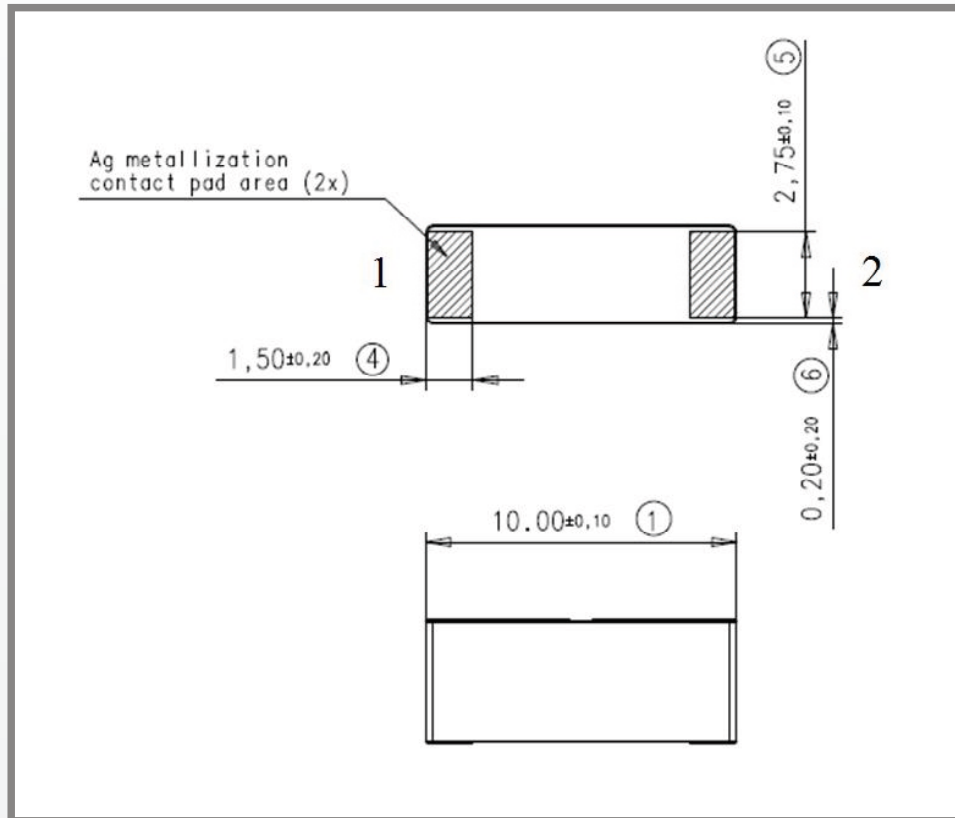
# 1.575 GHz GPS Ceramic Chip Antenna

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## Terminal Configuration

Antenna



No.	Terminal Name	Terminal Dimensions
1	Feed / GND	1.50 x 2.75 mm
2	Feed / GND	1.50 x 2.75 mm

Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND

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Pulse Part Number: W3009

## Typical Electrical Characteristics (T=25 °C)

Measured on the 80 x 37 mm test board with matching circuit (2.2 pF shunt matching capacitor on feed).

## Typical Return Loss S11/ impedance, free space efficiency and gain

### GPS Ceramic Chip Antenna

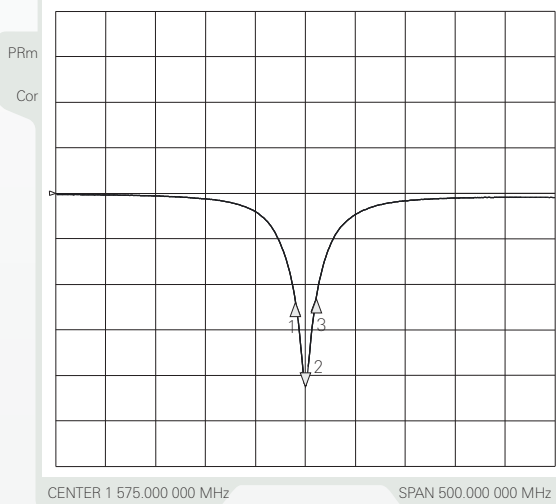
25 May 2007 07:22:17

CH1Markers

- 1. -12.032 dB 1.56500 GHz
- 2. -20.839 dB 1.575.420 MHz
- 3. -11.637 dB 1.58500 GHz

CH1 S11 LOG

5 dB/REF 0 dB

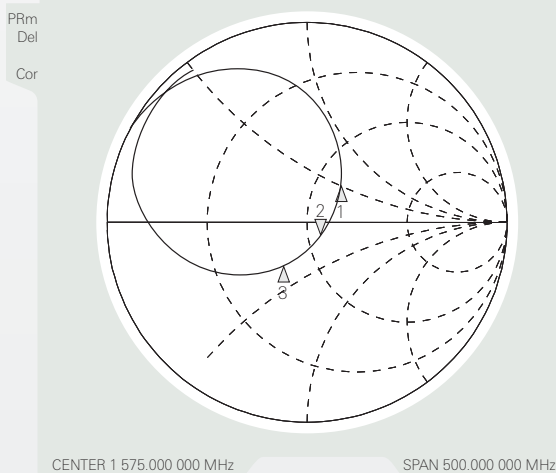


### GPS Ceramic Chip Antenna

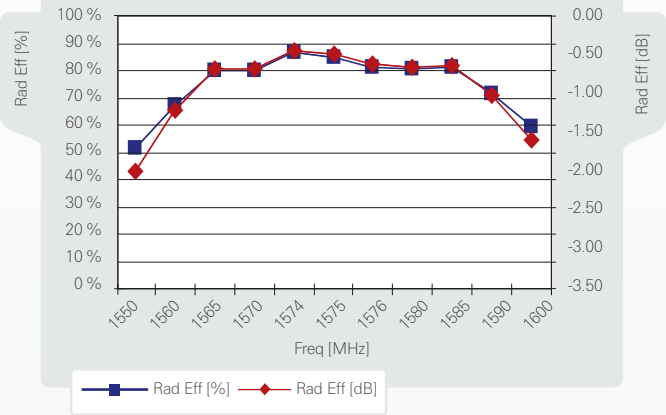
25 May 2007 07:23:38

- 1. 64.203 Ω 25.500 Ω 1.56500 GHz
- 2. 56.211 Ω -8.5977 Ω 11.750 pF  
1.575.420 000 MHz
- 3. 33.688 Ω -17.396 Ω 1.58500 GHz

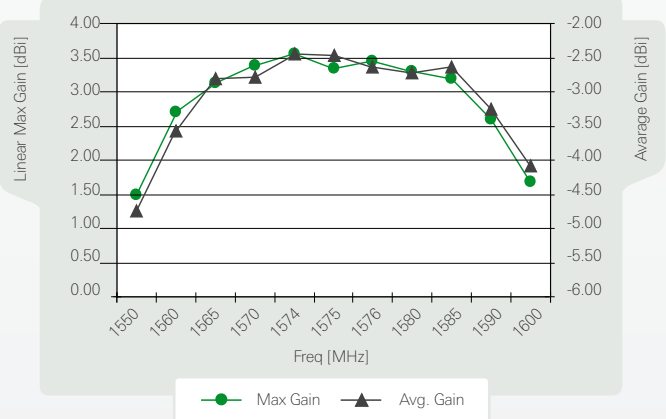
CH1 S11 1 U FS



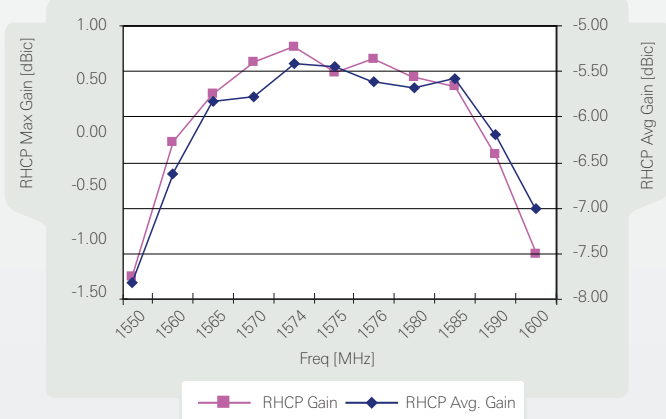
### GPS OG 10 x 3.2 x 4 mm



### GPS OG 10 x 3.2 x 4 mm



### GPS OG 10 x 3.2 x 4 mm

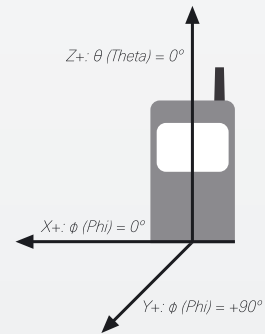
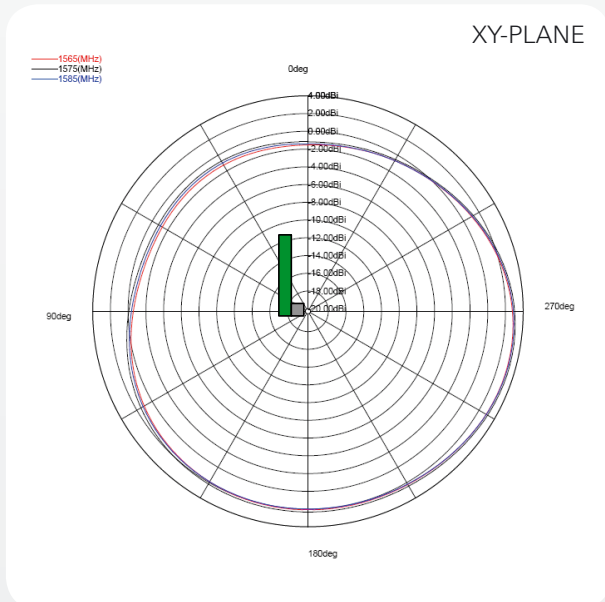
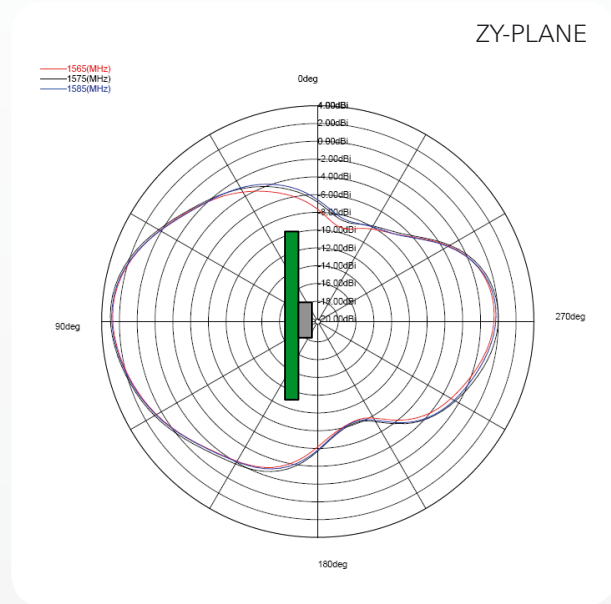
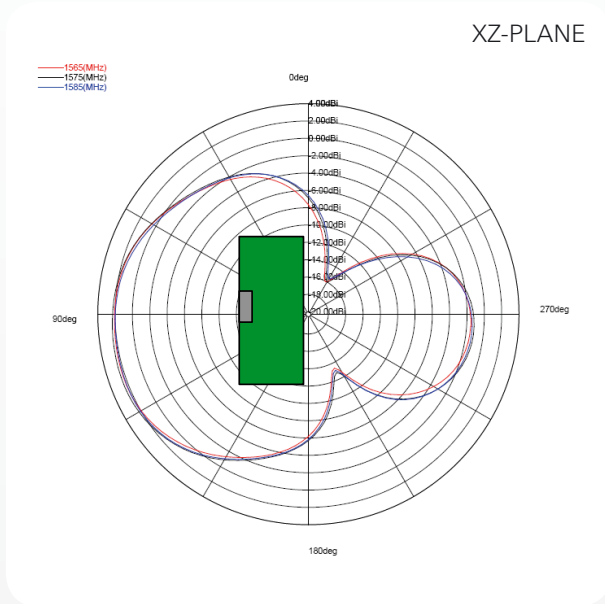


# 1.575 GHz GPS Ceramic Chip Antenna

On Ground type, ie. solid ground plane under antenna, top surface ground removal 10.80 x 6.25 mm.

Pulse Part Number: W3009

## Typical Free Space Radiation Patterns



# 1.575 GHz GPS Ceramic Chip Antenna

On Ground type, ie. solid ground plane under antenna, top surface ground removal 10.80 x 6.25 mm.

Pulse Part Number: W3009

## W3009 GPS Antenna Packing

Packing form

Carrier tape reel showing dimensions:  $\varnothing 180\text{mm}$  and 500 PCS/REEL.

CARRIER TAPE H85-00158  
width=24,00 depth=4.15  
COVER TAPE H85-00159  
width=21.20

LENGTH OF TAPE:

- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

Box containing the carrier tape reel.

BOX H85-00128                      1 pcs  
(182x182x125)

- LABEL                                      1 pcs/BOX

REEL H85-00160                      4 pcs  
(D180, W28)

- REEL LABEL                              1 pcs/REEL

MATERIAL			
HANDLINGS			
		RATIO	DRWN 160107 PeHa H
			DGNER G
			CHKD F
			APPRD E
PRODUCT H90-0Y800-F01P01			APPRD BY D
			C
DENOMINATION PACKING FORM			B
			A
		VERSION	MOD/DATE/NAME