

# 1.575GHz GPS Ceramic Chip Antenna

Ground cleared under antenna, clearance area 10.80 x 6.25mm

Pulse Part Number: W3010



## Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (10 x 3.2 x 2 mm)
- Low weight (310 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 and Ground Clearance area size.*

## GPS

Typical performance (test board size 80x37 mm, PWB ground clearance area 10.80 x 6.25 mm)

Frequency Range [MHz]	RHCP Gain [dBic]	Linear Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [°C]
1575.42 +/- 10	-0.2 (Peak) -0.7 (Band edges)	2.8 (Peak) 2.3 (Band edges)	75 / -1.25 (Peak) 70 / -1.55 (Band edges)	-18	50	-40 to +85

## Pulse Finland Oy

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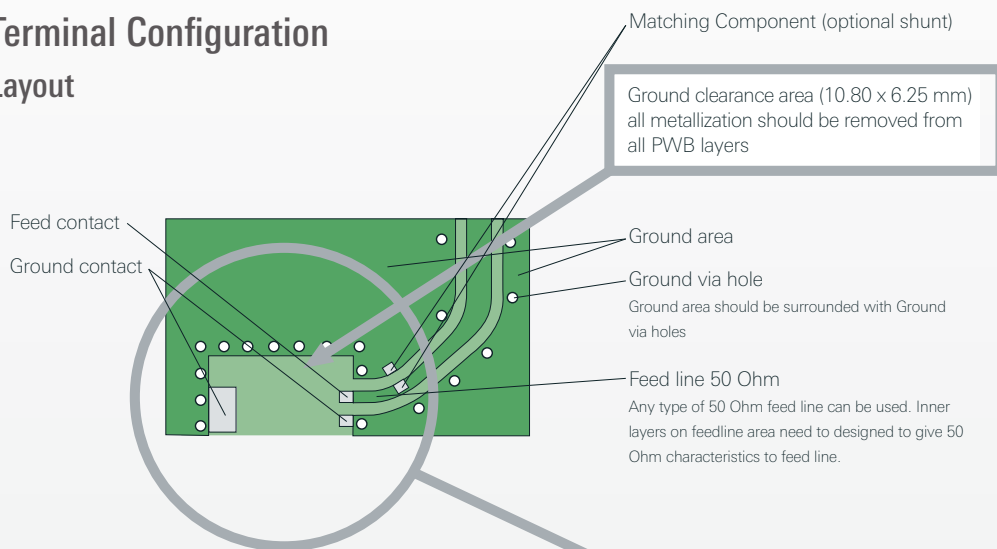
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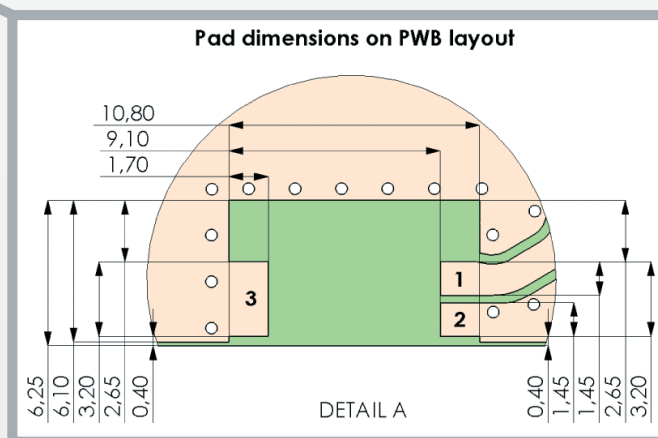
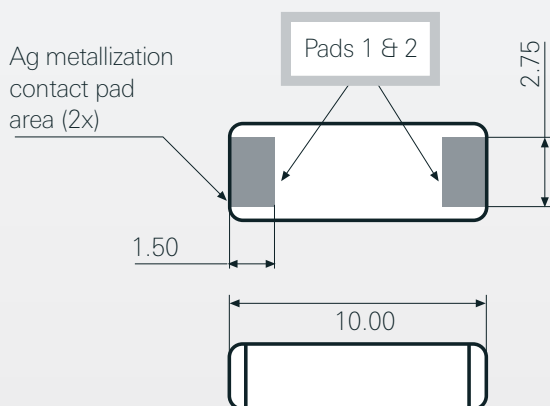
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## Terminal Configuration Layout



## Antenna



## Antenna features

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

## PWB features

No.	Terminal name	Terminal Dimensions
1	Feed	1,70 x 1,45 mm
2	GND	1,70 x 1,45 mm
3	GND	1,70 x 3,20 mm

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

Measured with 3.3 pF shunt capacitor

## Typical Return Loss S11/impedance

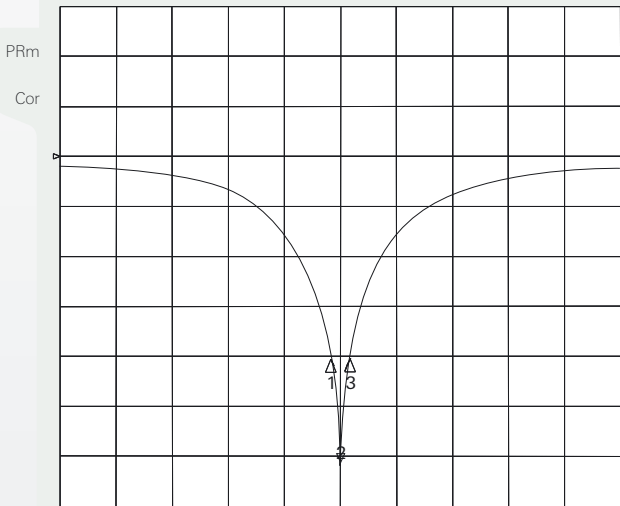
### GPS

2 Jan 2005 18:53:16

CH1 S11&MLOG 5 dB/REF 0 dB

#### CH1Markers

1. -20.554 dB 1.56500 GHz
2. -30.473 dB 1575420000 MHz
3. -20.768 dB 1.58500 GHz



START 1 325.000000 MHz

STOP 1 825.000000 MHz

### GPS

16 Sep 2005 13:28:45

#### CH1Markers

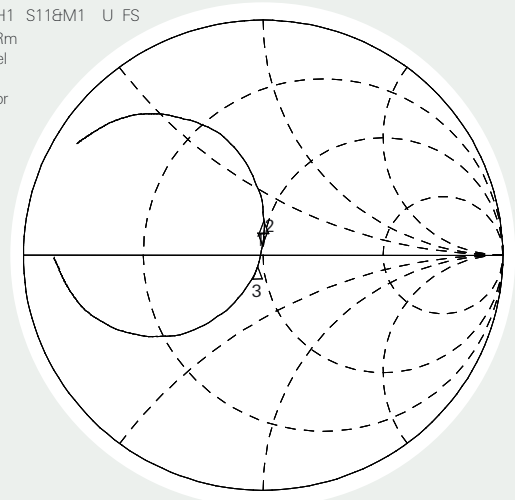
- |             |           |             |
|-------------|-----------|-------------|
| 1. 48.318 Ω | 14.178 Ω  | 1.56500 GHz |
| 2. 49.631 Ω | 4.2090 Ω  | 425.21 pH   |
| 3. 47.574 Ω | -4.6738 Ω | 1.58500 GHz |

CH1 S11&M1 U FS

PRm

Del

Cor

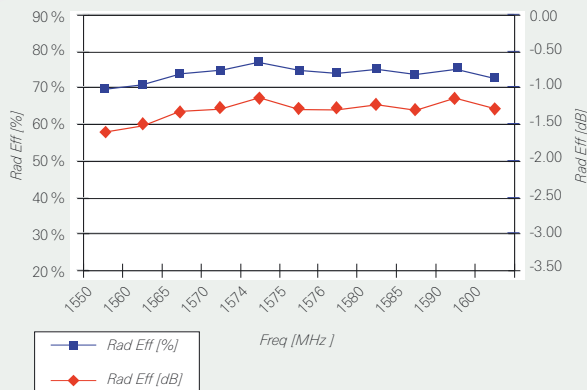


CENTER 1 578.000 000 MHz

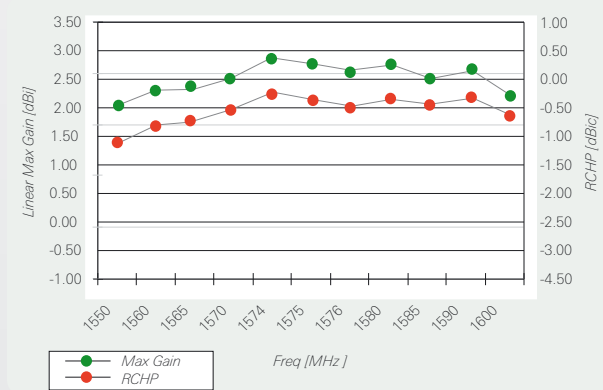
SPAN 500.000 000 MHz

## Free space efficiency and maxium gain

### GPS CG 10 x 3.2 x 2 mm



### GPS CG 10 x 3.2 x 2 x 2 mm



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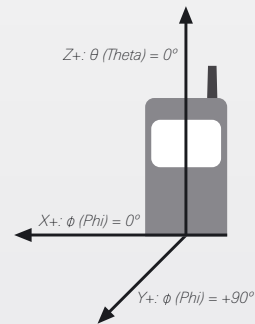
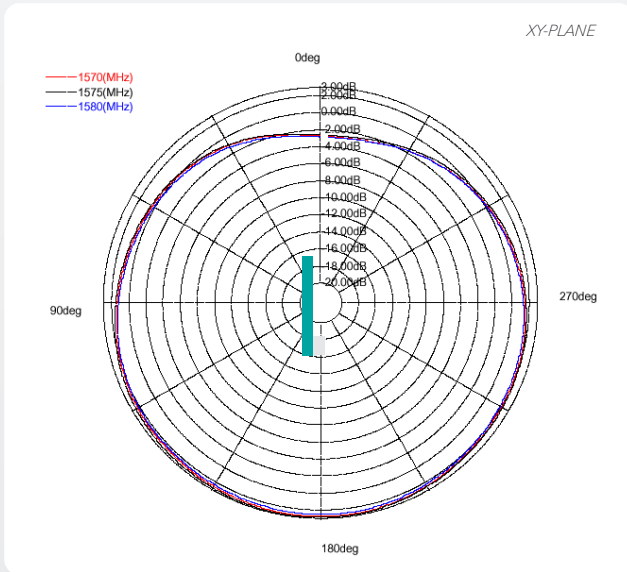
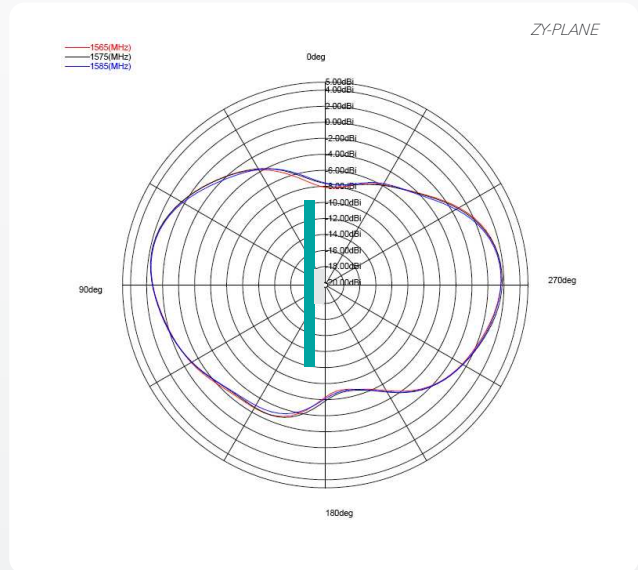
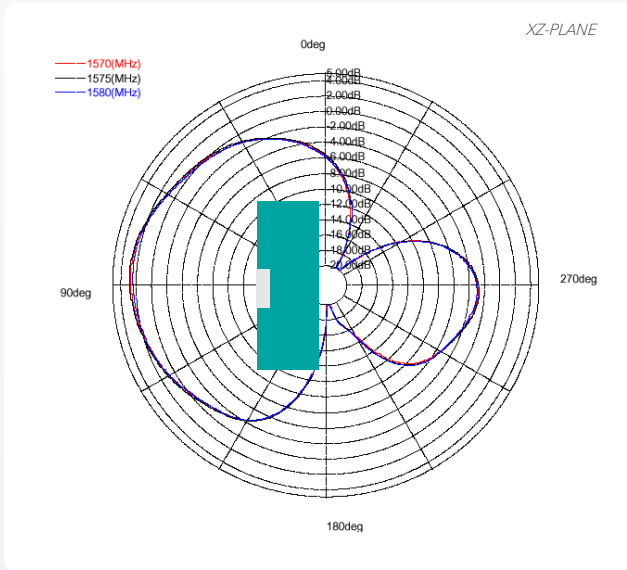
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## Typical Free space Radiation Patterns



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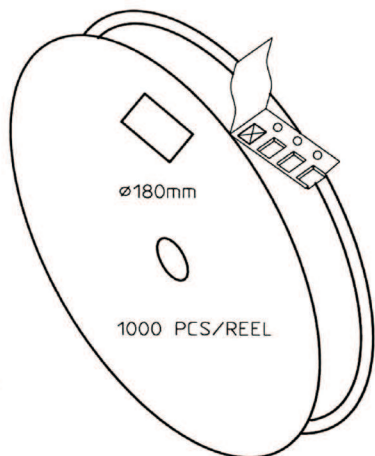
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## Packing form

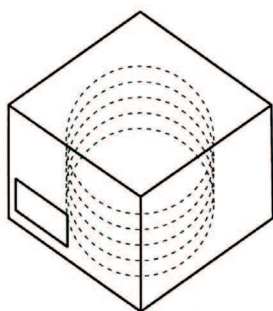


CARRIER TAPE H85-00188  
width=24,00 depth=2.20  
COVER TAPE H85-00159  
width=21.20

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 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			APPRD BY		D
H90-OY113-F01P01					C
					B
					A
DENOMINATION			VERSION		MOD/DATE/NAME
PACKING FORM					

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