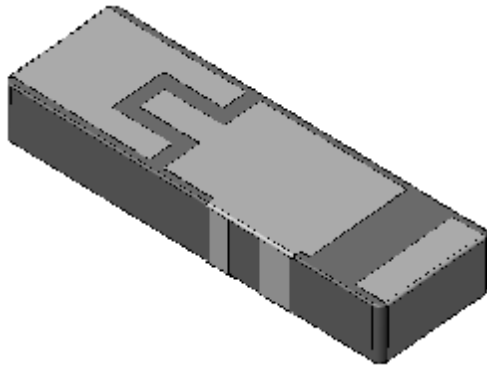


# W3056 Ceramic Single Feed GPS/BT Antenna

Ground clearance type i.e. groundings removed from all PWB layers (ground removal area **10.80 mm x 6.25 / 4.25 mm.**).

Pulse Part Number: W3056



## Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (10 x 3.2 x 1.5mm)
- Low weight (240 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

## Dual Band Applications

- GPS L1 band (1.575 GHz)
- Bluetooth, WLAN, WiFi (2.4 - 2.5GHz)

## Electrical specifications @ +25 °C

*Note: Electrical characteristics are measured on test pwb with matching circuit (2.2 nH shunt matching inductor on feed).*

## GPS / BT

Typical performance (test board size 100x40mm, PWB ground removal area **10.80 mm x 6.25/4.25 mm**)

Frequency Range [MHz]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [°C]
1575.42 +/-10	75/-1.25 (Peak) 65/-1.9 (+/- 10MHz)	-20 (Peak) -10 (+/- 10MHz)	50	-40 to +85
2400 - 2480	80/-1 (Peak) 70/-1.55 (Band edges)	-10 (Peak) -8 (Band edges)	50	-40 to +85

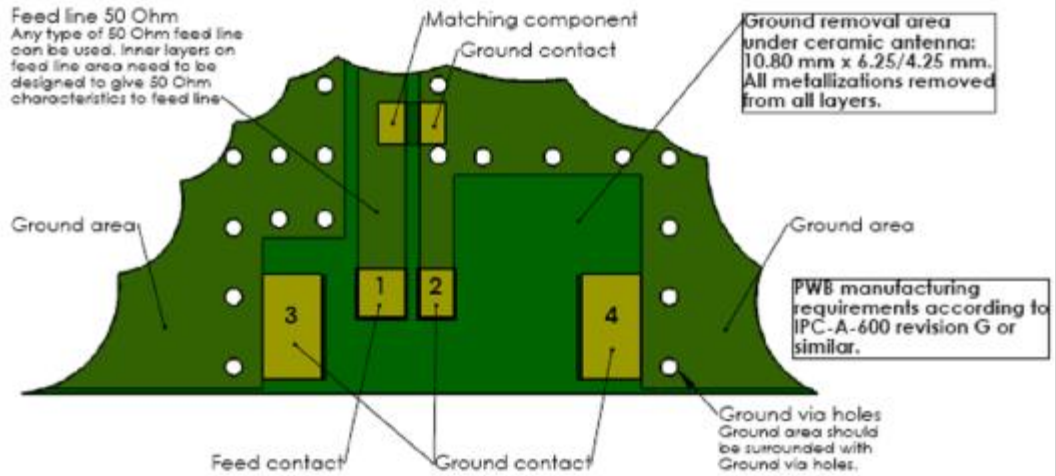
## Pulse Finland Oy

Takatie 6  
90440 Kempele, Finland  
Tel: +358 207 935 500  
Fax: +358 207 935 501

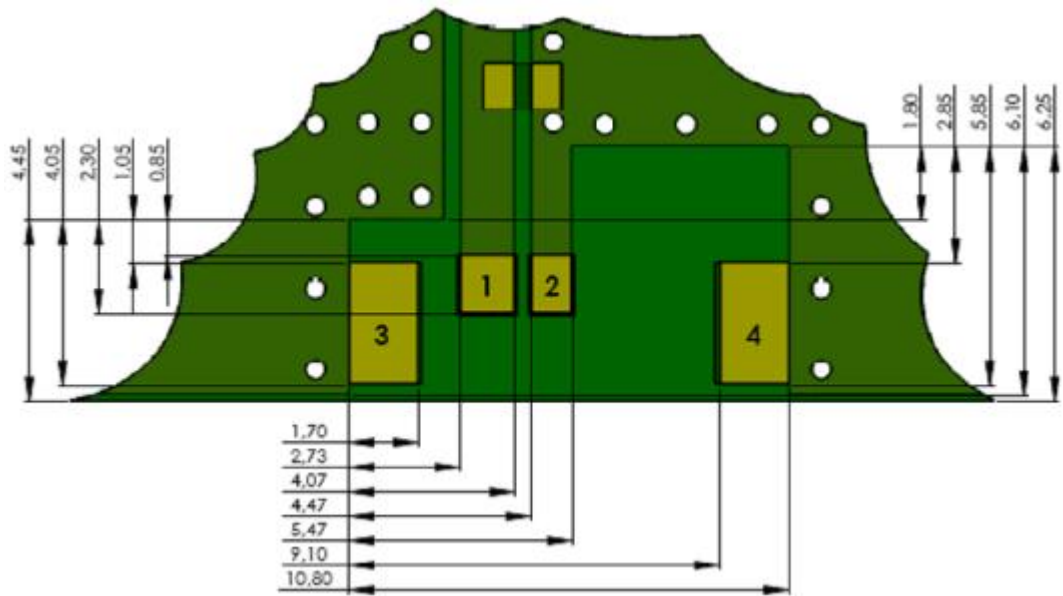
Domicile: Kempele  
Business ID: 1933992-8  
[firstname.lastname@pulseeng.com](mailto:firstname.lastname@pulseeng.com)  
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



## GPS/BT Ceramic Chip Antenna

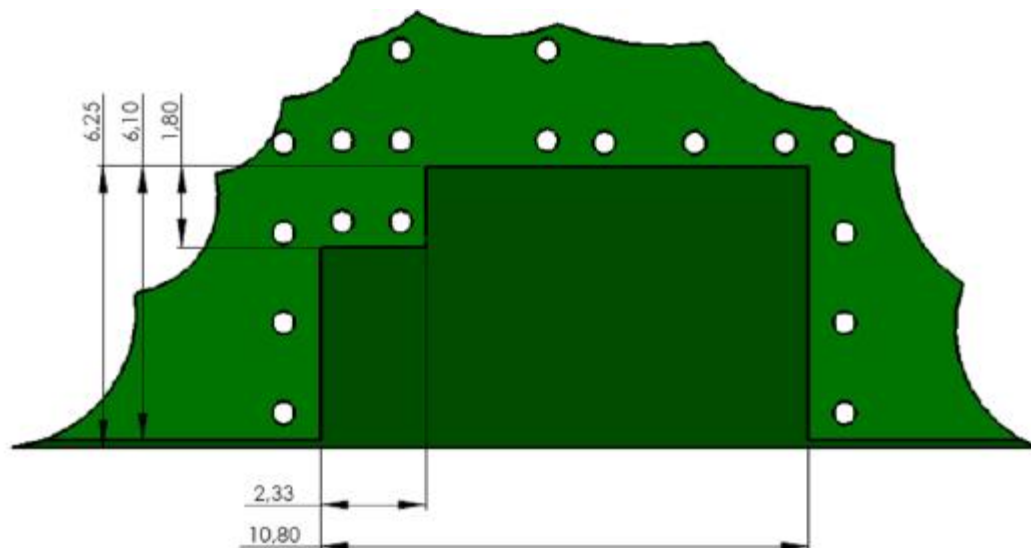


### PWB Layout under ceramic antenna



### Recommended Antenna Pad Dimensions on PWB Layout (top surface)

PWB features		
No.	Terminal Name	Terminal Dimensions
1	Feed	1.45 x 1.34 mm
2	GND	1.45 x 1.00 mm
3	GND	3.00 x 1.70 mm
4	GND	3.00 x 1.70 mm

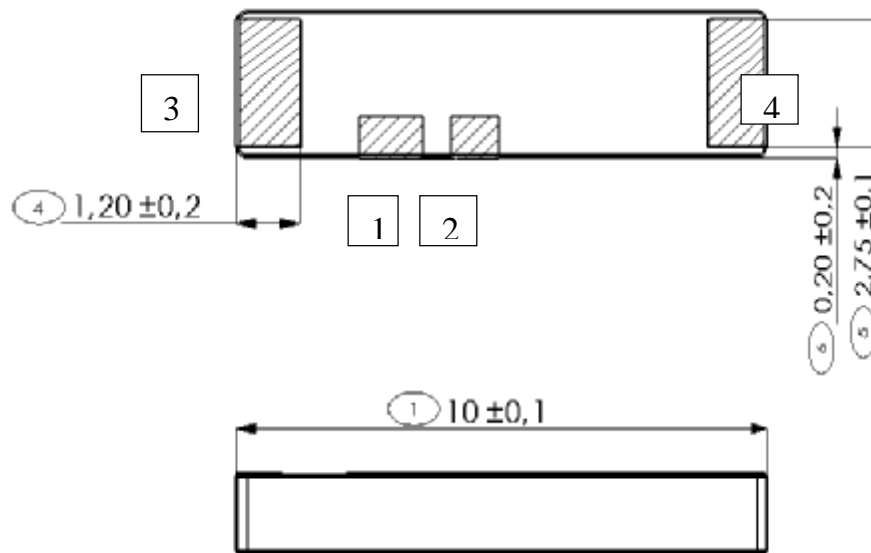


*Recommended ground clearance area under antenna on PWB (bottom surface)*

## GPS/BT Ceramic Chip Antenna

### Terminal Configuration

#### Antenna



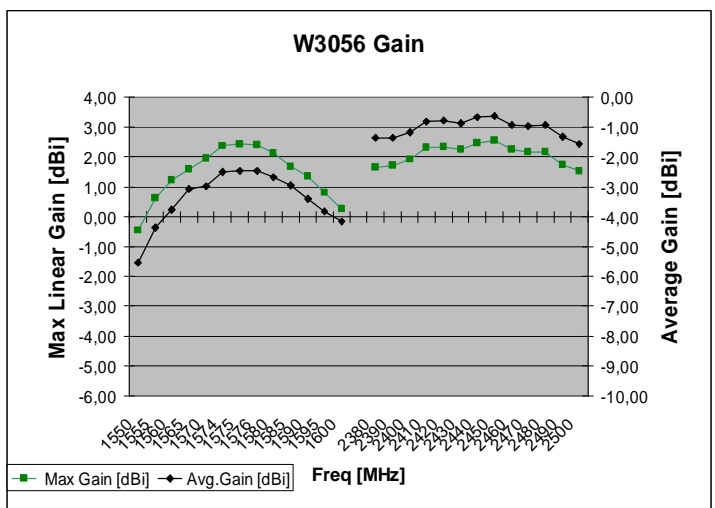
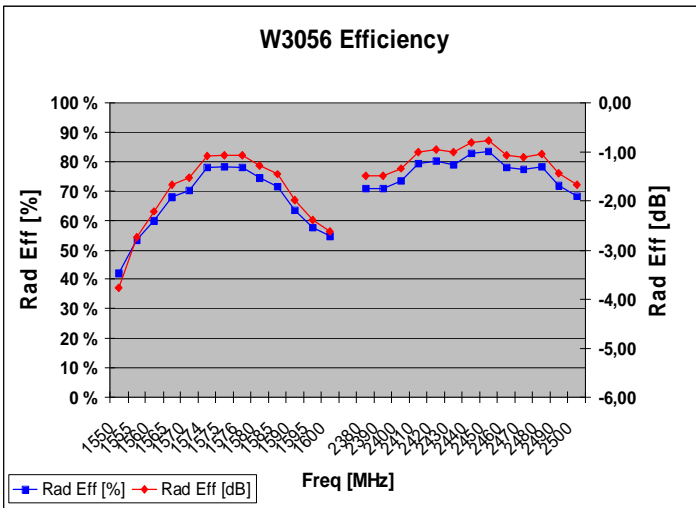
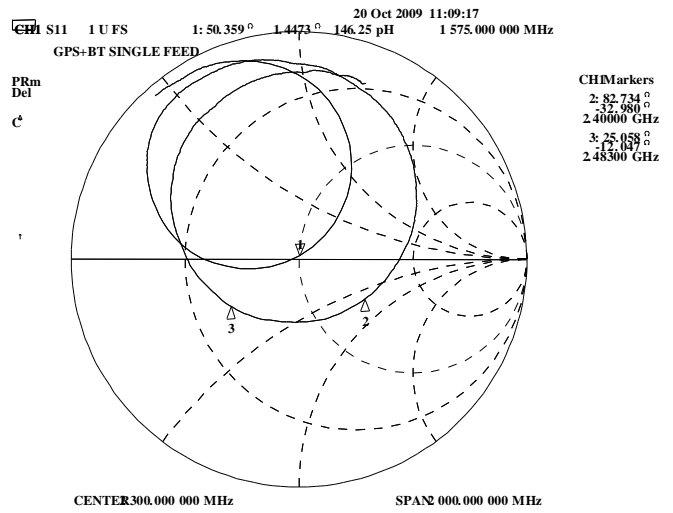
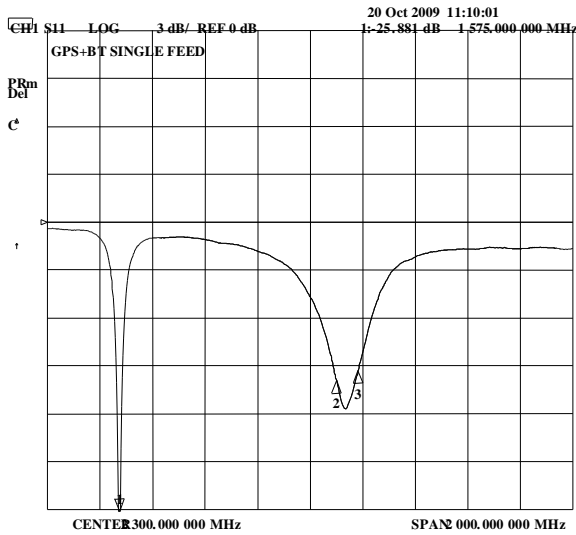
No.	Terminal Name	Terminal Dimensions
1	Feed	1.34 x 0.80 mm
2	GND	1.00 x 0.80 mm
3	GND	2.75 x 1.20 mm
4	GND	2.75 x 1.20 mm

# GPS/BT Ceramic Chip Antenna

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

Measured on test pwb with matching circuit (2.2 nH shunt matching inductor on feed).

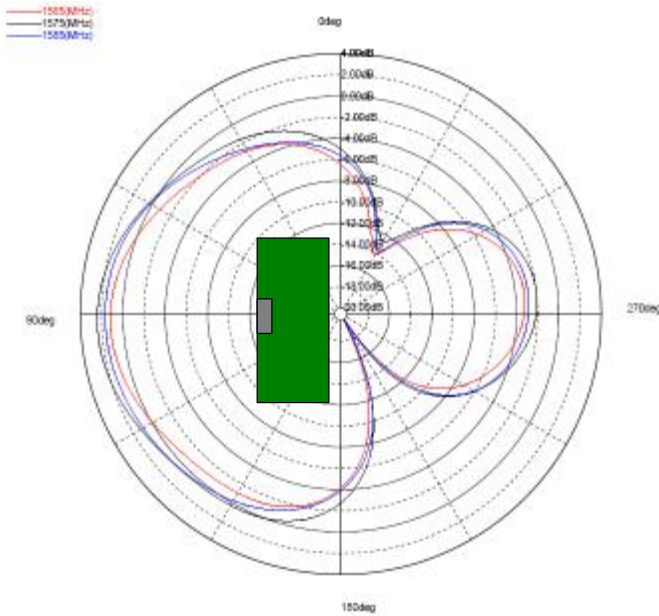
Typical Return Loss S11/ impedance, free space efficiency and gain



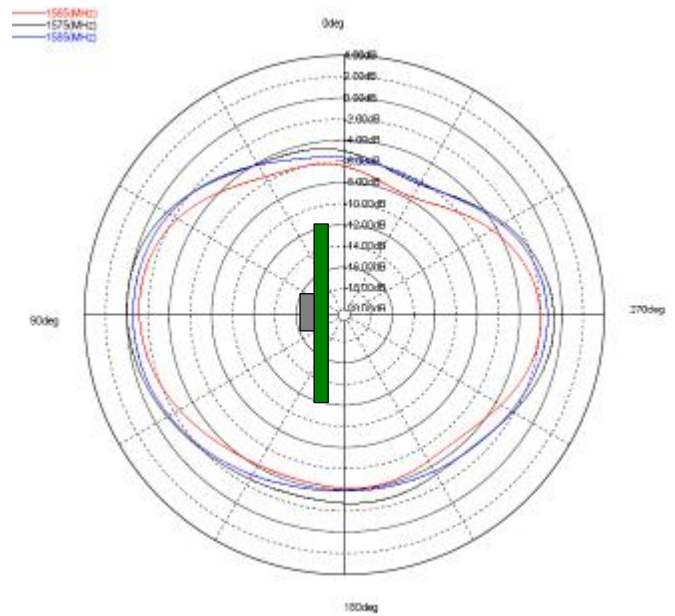
# GPS/BT Ceramic Chip Antenna

## Typical Free space Radiation Patterns / GPS

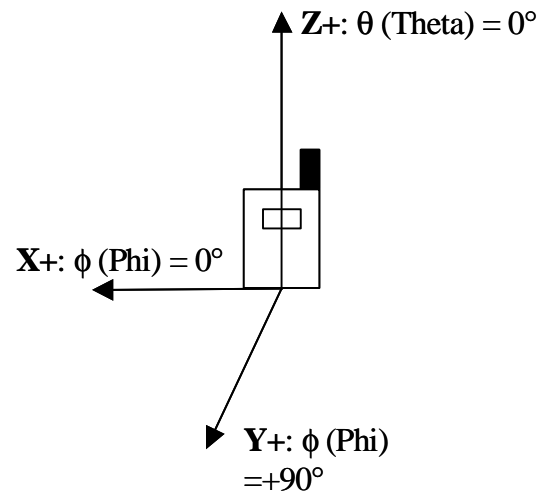
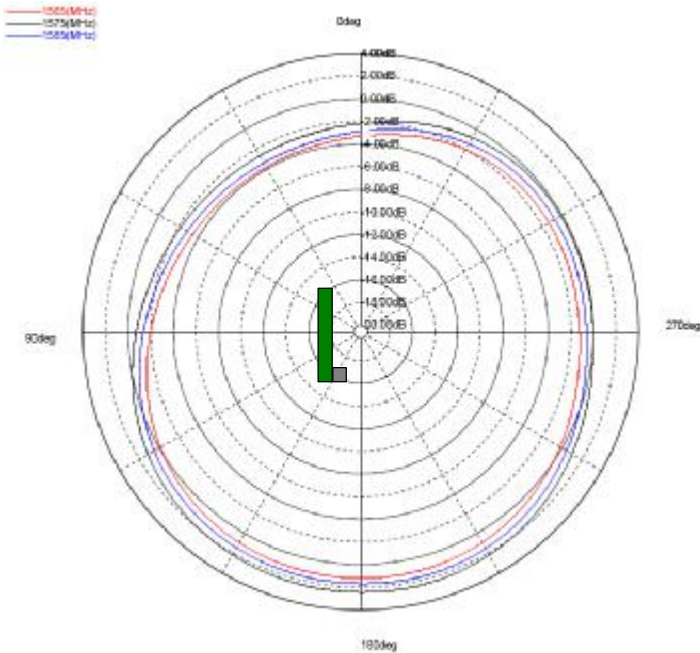
**XZ-PLANE**



**ZY-PLANE**



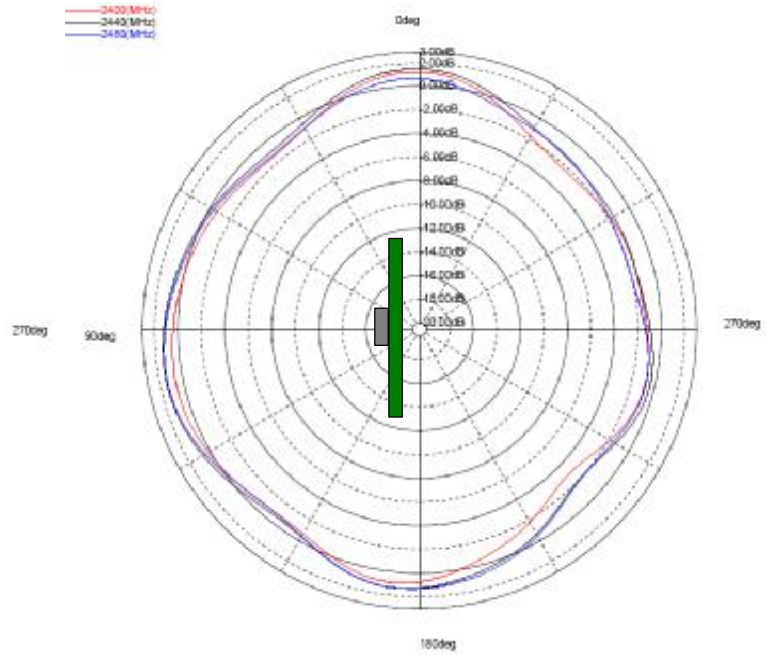
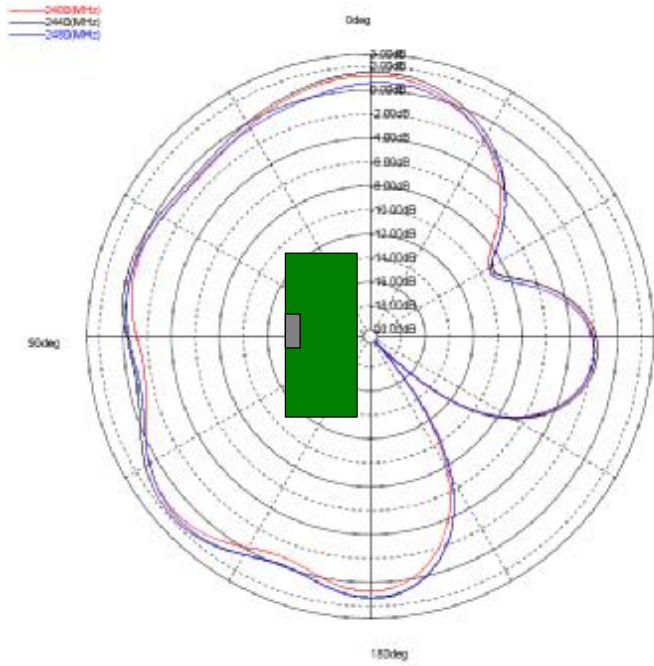
**XY-PLANE**



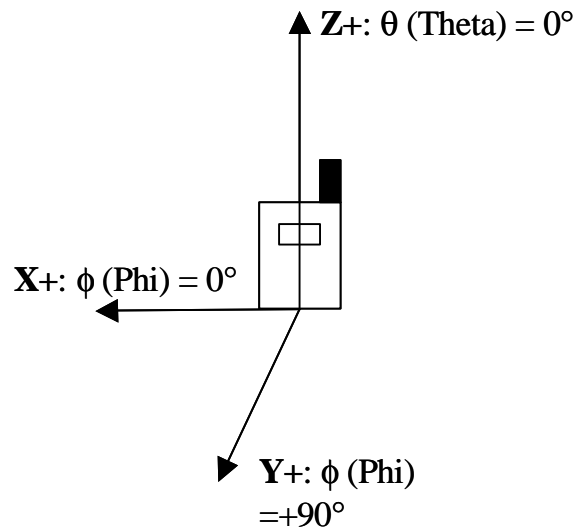
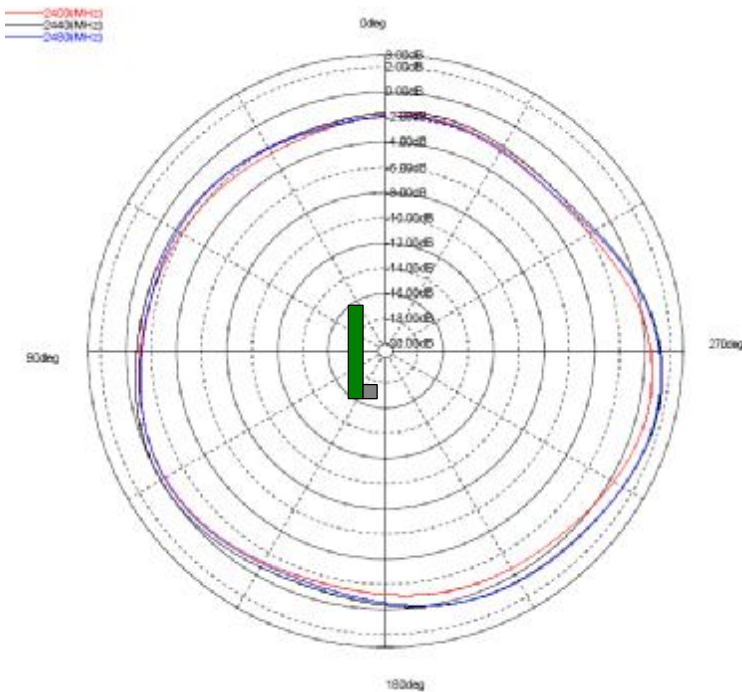
### Typical Free space Radiation Patterns / BT

**XZ-PLANE**

**ZY-PLANE**

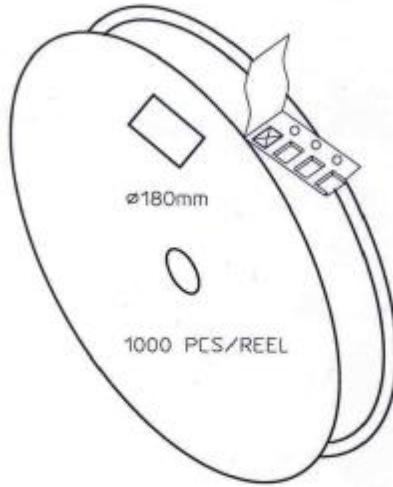
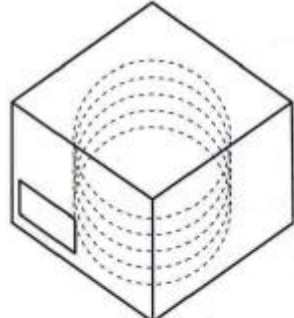


**XY-PLANE**



# W3056 GPS/BT Antenna Packing

## Packing form


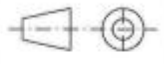
CARRIER TAPE H85-00168  
width=24,00 depth=2.20  
COVER TAPE H85-00159  
width=21.20

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 (182x182x125)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00160 (D180, W28)	4 pcs
- REEL LABEL	1 pcs/REEL

MATERIAL				
HANDLINGS				
		RATIO	DRWN 160107 PeHa H	
			DGNER	G
			CHKD	F
			APPRD	E
PRODUCT H90-OY113-F01P01		APPRD BY	D	
DENOMINATION PACKING FORM			C	
			B	
			A	
		VERSION	MOD/DATE/NAME	



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