

## Antenna Information

### List of Antenna to be used with Transmitter

Manufacturer	Pulse
Part#	W3008C
Peak Gain	2.2 dBi
Antenna Description	See Manufacturer datasheet attached

1. The Antenna is soldered to PCB and is not user accessible or changeable.
2. The PCB guideline for antenna layout referenced in the document "Pules W3008C Guidelines.pdf".

W3008 Datasheet version 2.7. Bluetooth / WLAN / WiFi ceramic antenna. (01/10)

## Bluetooth / WLAN / WiFi Ceramic Chip Antenna

Ground cleared under antenna, clearance area 4.00 x 4.25/6.25 mm. Pulse Part Number W3008, W3008C



### Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (3.2 x 1.6 x 1.1 mm)
- Low weight (33 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

### Applications

- Bluetooth, WLAN, WiFi
- IEEE 802.11b/g
- ZigBee IEEE 802.15.4
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems

### Electrical specifications @ +25 °C

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

### Bluetooth, W3008

Typical performance (test board size 80x37 mm, PWB ground clearance area 4.00 x 4.25 mm)

Frequency Range [MHz]	Linear Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [°C]
2400–2483.5	1.7 (Peak) 0.7 (Band edges)	70 / -1.6 (Peak) 55 / -2.6 (Band edges)	-8	50	-40 to +85

### Bluetooth / WLAN / WiFi, W3008C

Typical performance (test board size 80x37 mm, PWB ground clearance area 4.00 x 6.25 mm)

Frequency Range [MHz]	Linear Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [°C]
2400–2483.5	2.2 (Peak) 1.9 (Band edges)	75 / -1.3 (Peak) 70 / -1.6 (Band edges)	-11	50	-40 to +85

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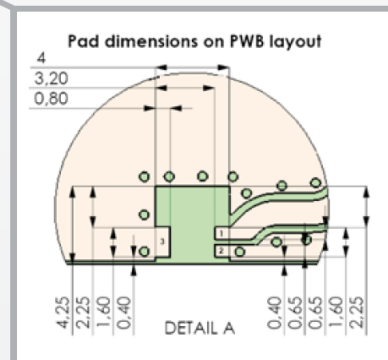
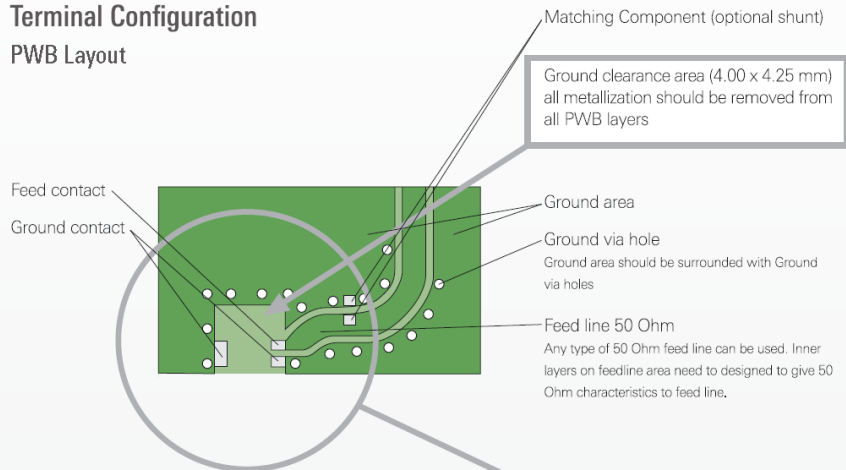
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## Bluetooth / WLAN / WiFi Ceramic Chip Antenna

### Terminal Configuration

#### PWB Layout



#### PWB features

No.	Terminal name	Terminal Dimensions
1	Feed	0.8 x 0.65 mm
2	GND	0.8 x 0.65 mm
3	GND	0.8 x 1.60 mm

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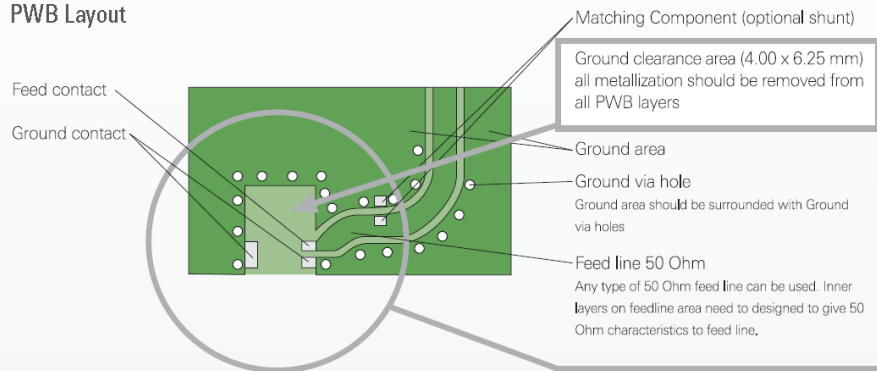
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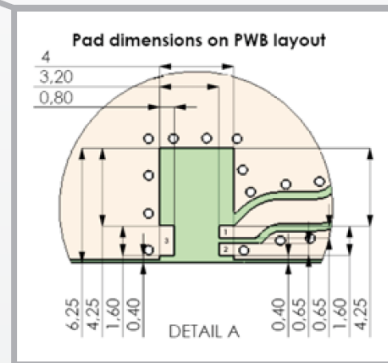
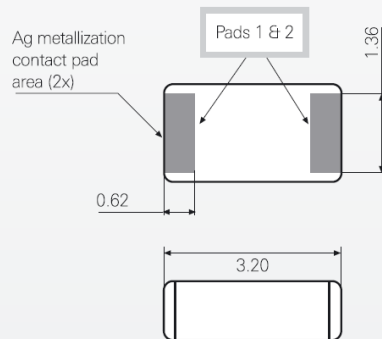
## Bluetooth / WLAN / WiFi Ceramic Chip Antenna

### Terminal Configuration

#### PWB Layout



#### Antenna



#### Antenna features

No.	Terminal name	Terminal Dimensions
1	Feed / GND	0.62 x 1.36 mm
2	Feed / GND	0.62 x 1.36 mm

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

#### PWB features

No.	Terminal name	Terminal Dimensions
1	Feed	0.8 x 0.65 mm
2	GND	0.8 x 0.65 mm
3	GND	0.8 x 1.60 mm

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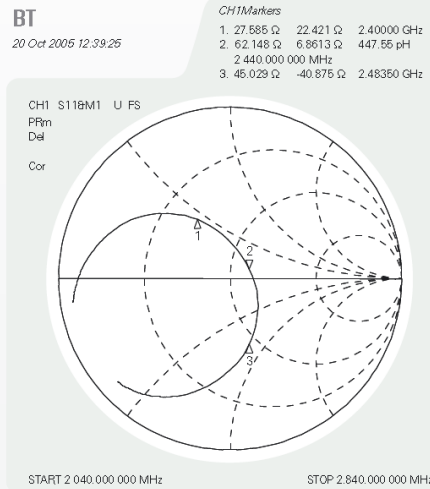
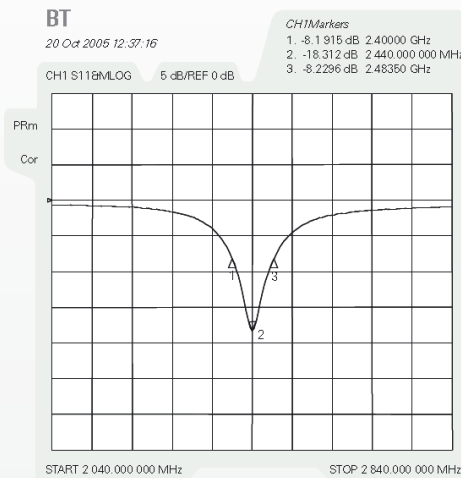
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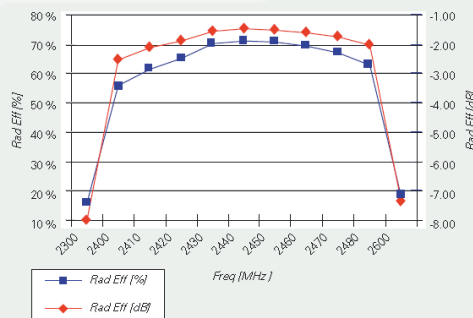
### Typical Electrical Characteristics (T=25 °C), W3008

Typical Return Loss S11/ impedance, measured on the test board

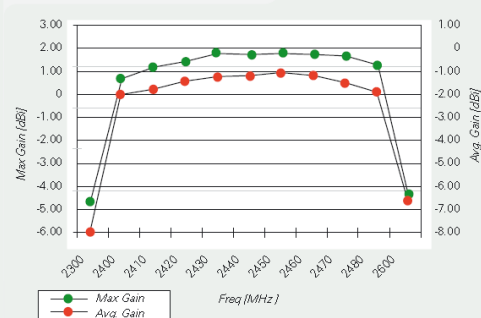


Free space efficiency and maximum gain / PWB ground clearance area 4.00 x 4.25 mm

#### BT GC 3.2 x 1.6 x 1.1 mm



#### BT GC 3.2 x 1.6 x 1.1 mm



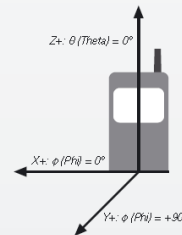
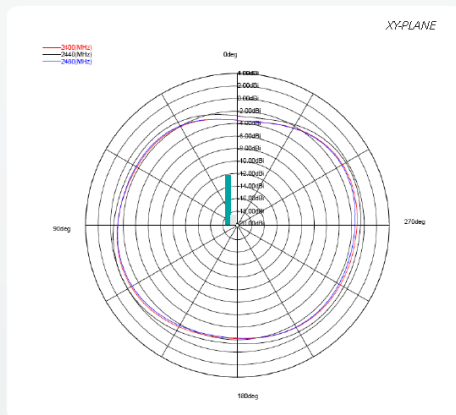
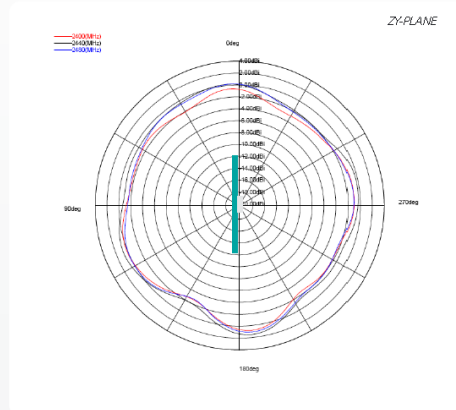
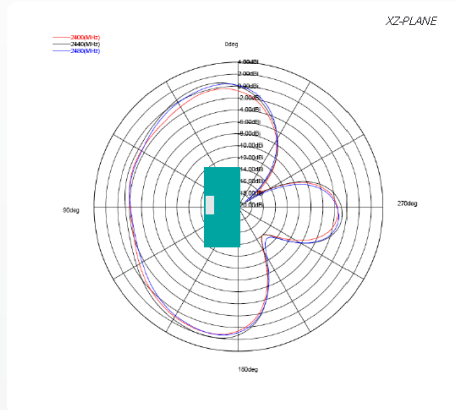
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## Bluetooth / WLAN / WiFi Ceramic Chip Antenna

### Typical Free Space Radiation Patterns, W3008



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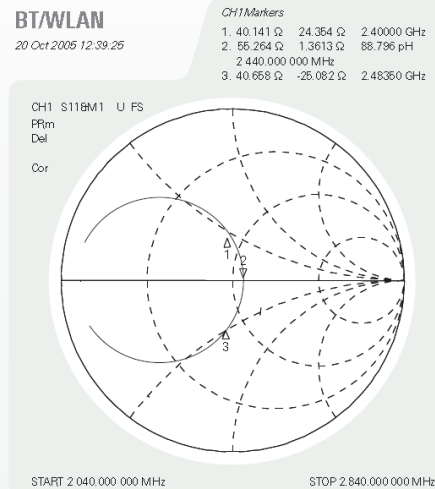
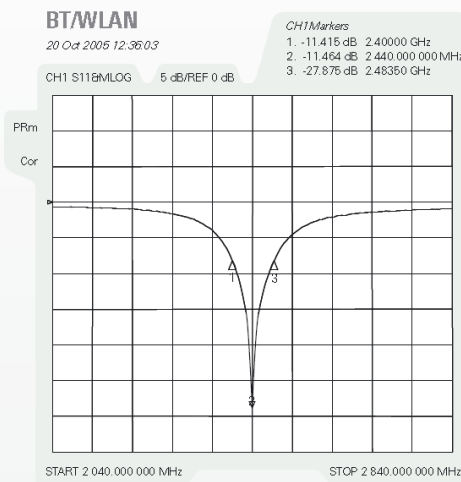
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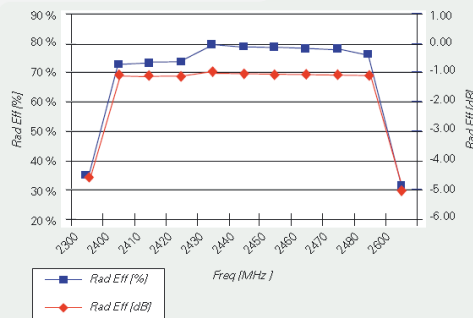
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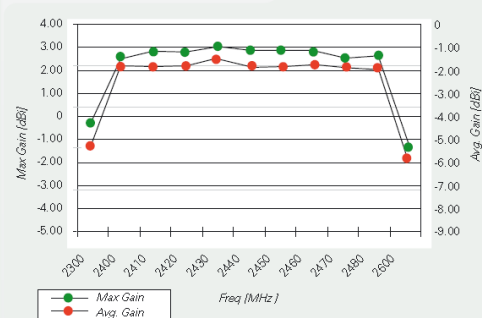


Free space efficiency and maximum gain / PWB ground clearance area 4.00 x 6.25 mm

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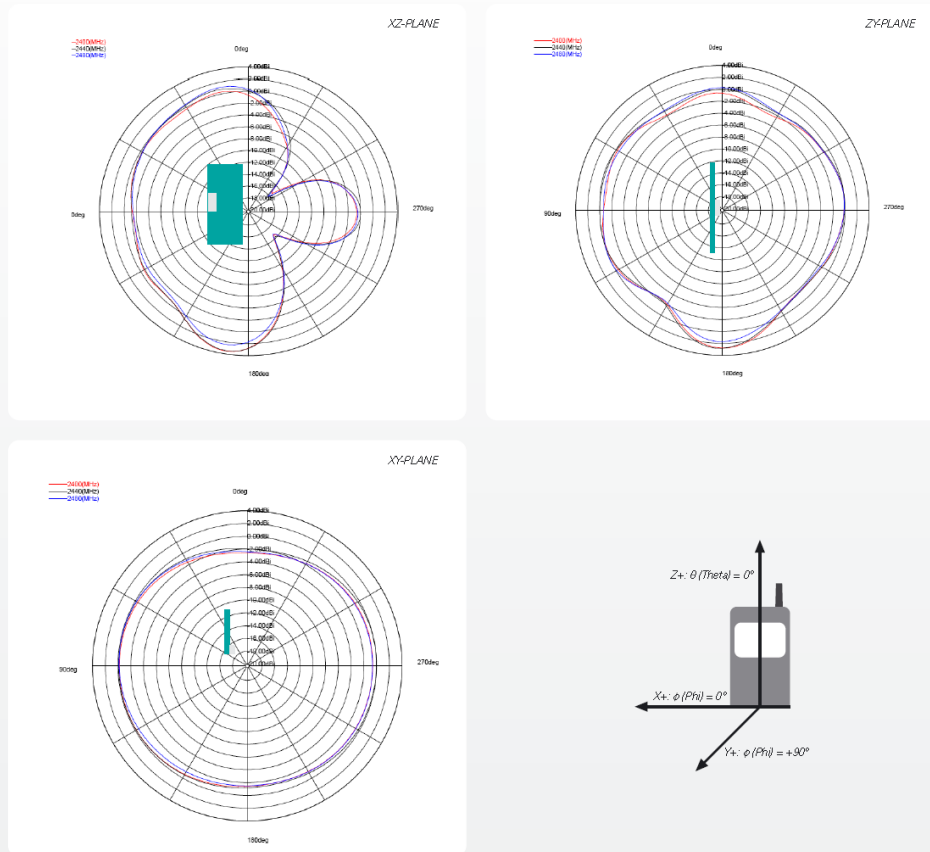
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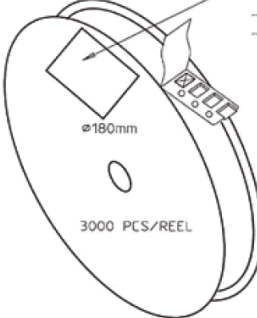
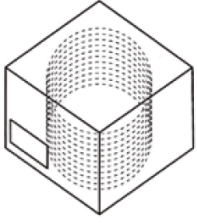
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## Bluetooth / WLAN / WiFi Ceramic Chip Antenna

### Packing Form

**REEL LABEL INFORMATION:**

- TRACEABILITY
- QUANTITY
- PRODUCT CODE


CARRIER TAPE H85-00125  
width=8,00 depth=1,22  
COVER TAPE H85-00126  
width=5,60

LENGTH OF TAPE:

- Leader section: 50 empty cavities before component section
- Trailer section: 25 empty cavities after component section.

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

BOX H85-00128 (182x182x132)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00127 (D180, W12)	10 pcs
- REEL LABEL	1 pcs/REEL

MATERIAL			
HANDLINGS			
	RATIO	DRWN	010305 PeHa H
		DGNER	G
		CHKD	F
		APPRD	E
		APPRD BY	D
PRODUCT		H90-OY116-F01P01	
DENOMINATION		PACKING FORM	
VERSION		MOD/DATE/NAME	

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