

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 |

Pulse Finland Oy

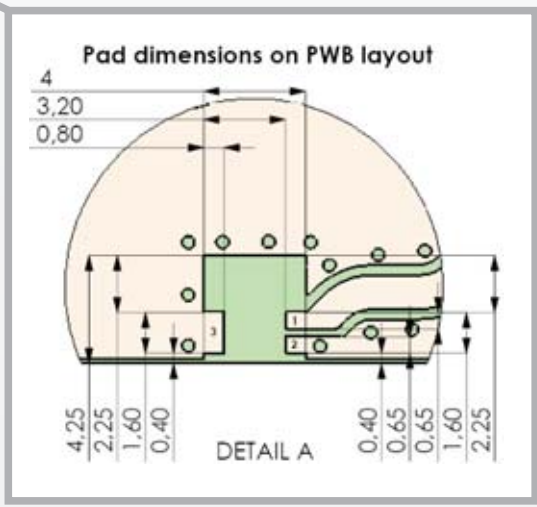
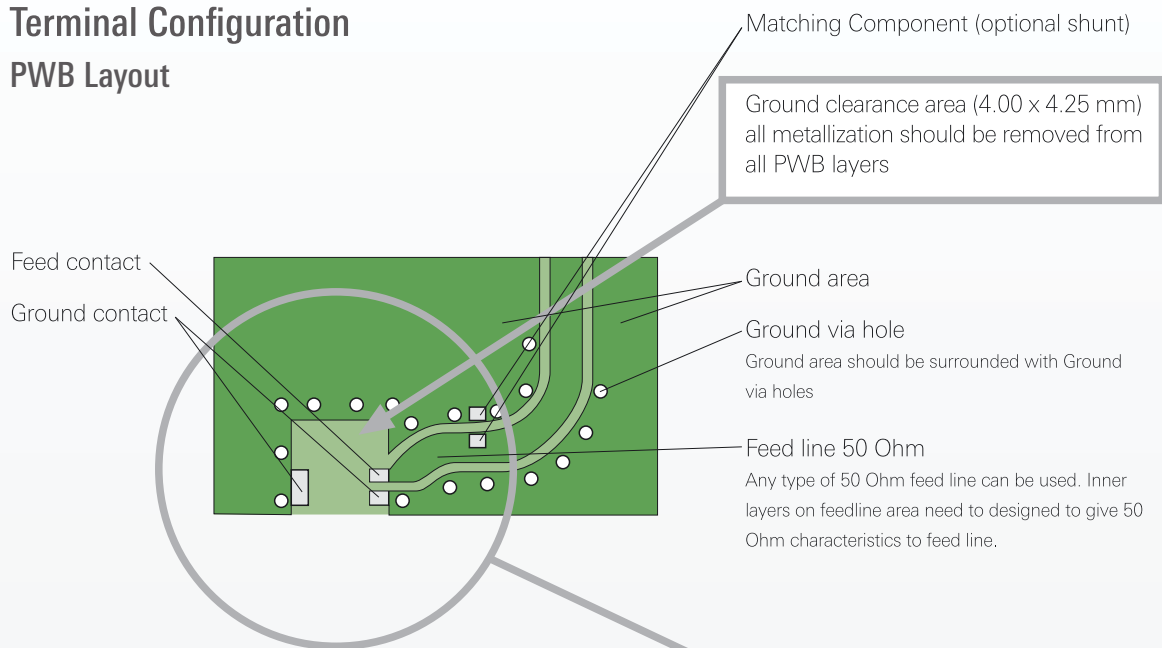
Takatie 6
90440 Kempele, Finland
Tel: +358 207 935 500
Fax: +358 207 935 501
www.pulseeng.com/antennas



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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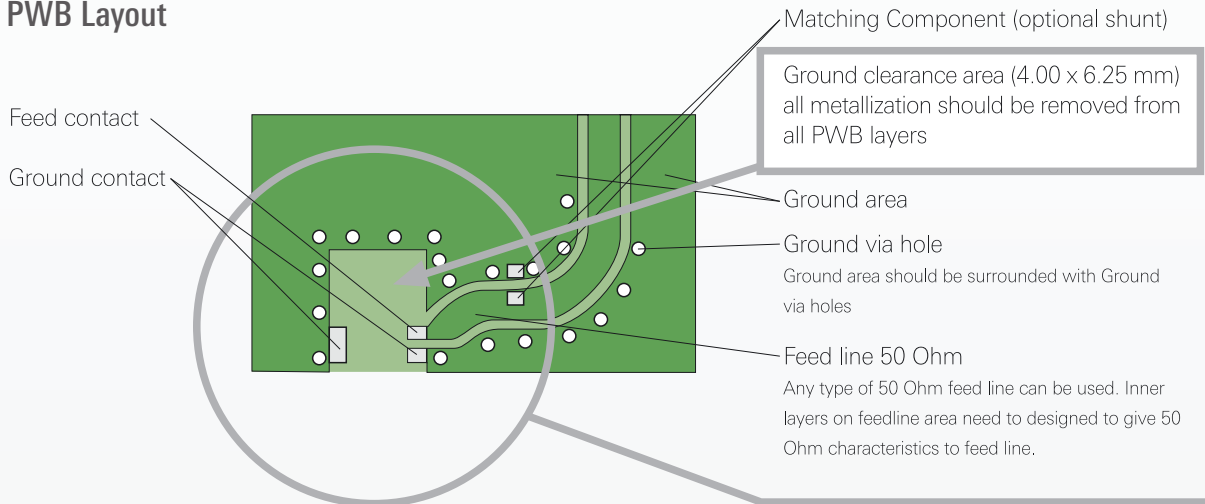
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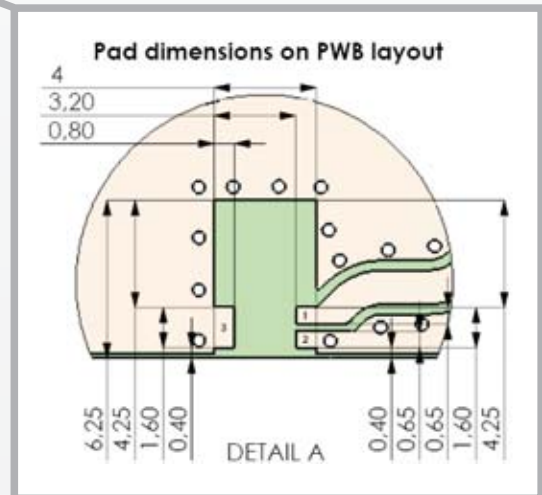
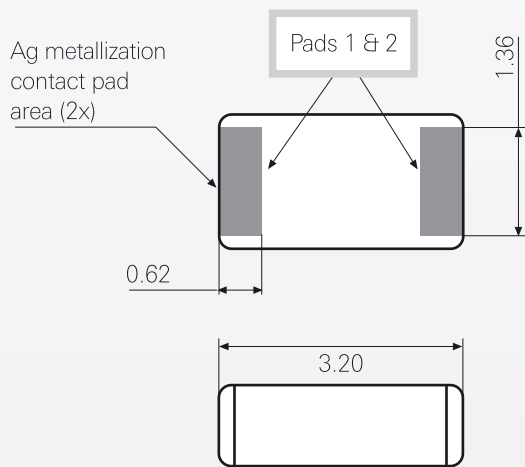
Bluetooth / WLAN / WiFi Ceramic Chip Antenna

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

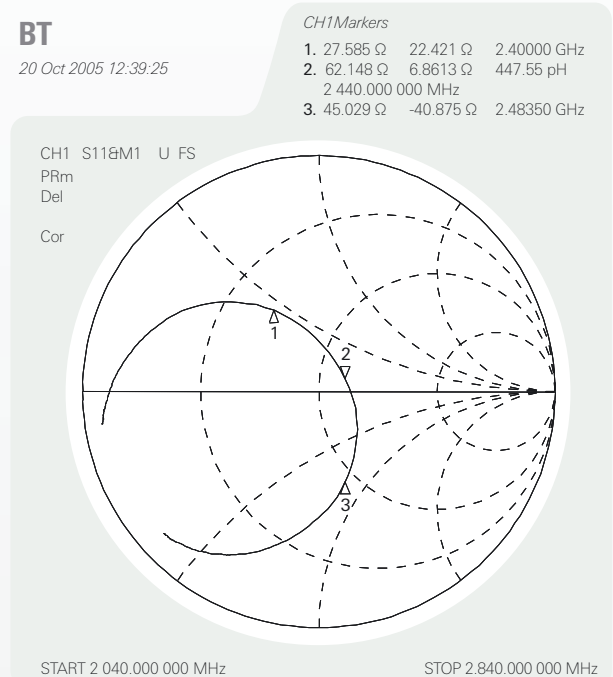
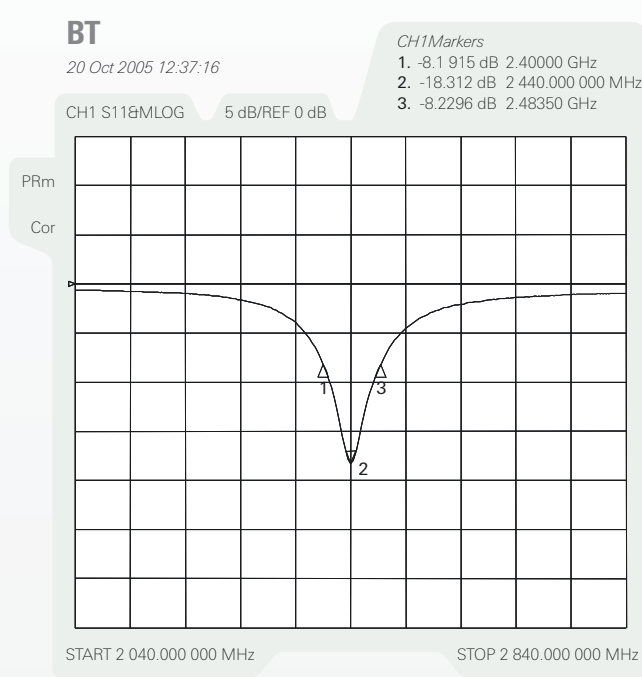
PWB features

| 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 |

Bluetooth / WLAN / WiFi Ceramic Chip Antenna

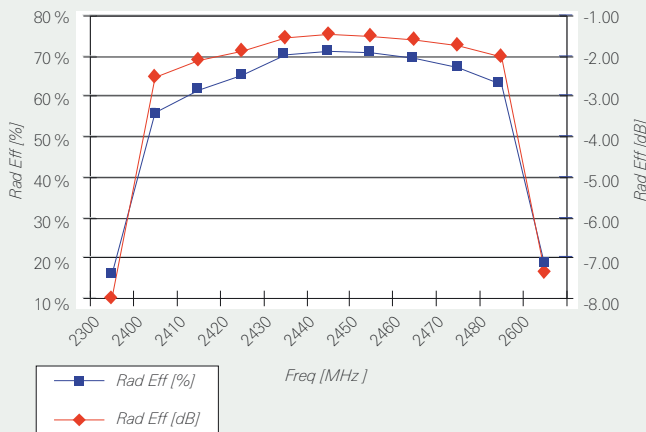
Typical Electrical Characteristics (T=25 °C), W3008

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

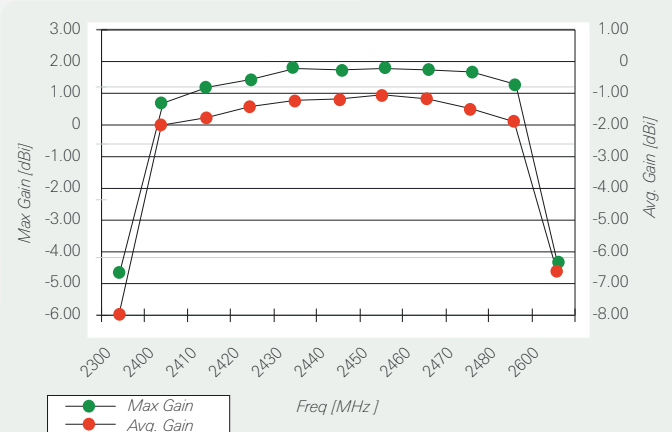


Free space efficiency and maximum gain / PWB ground clearance area 4.00 x 4.25 mm

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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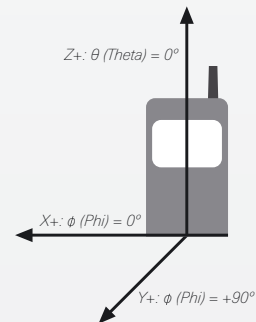
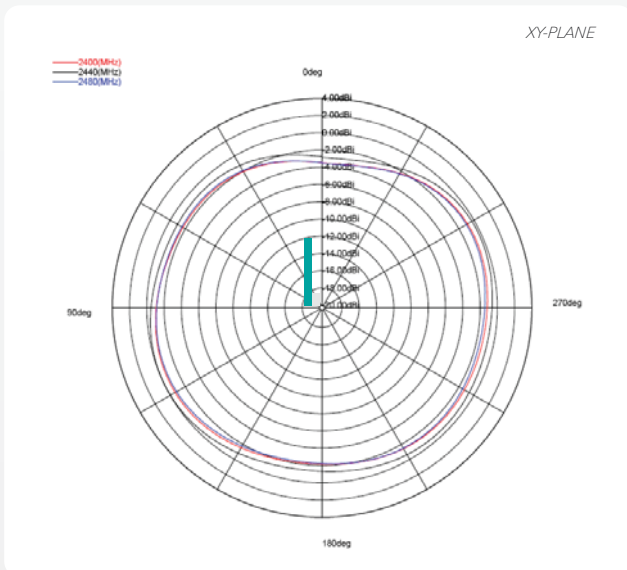
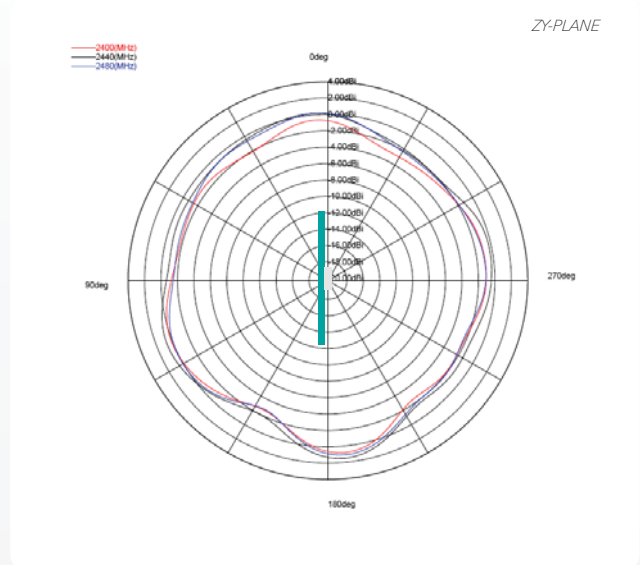
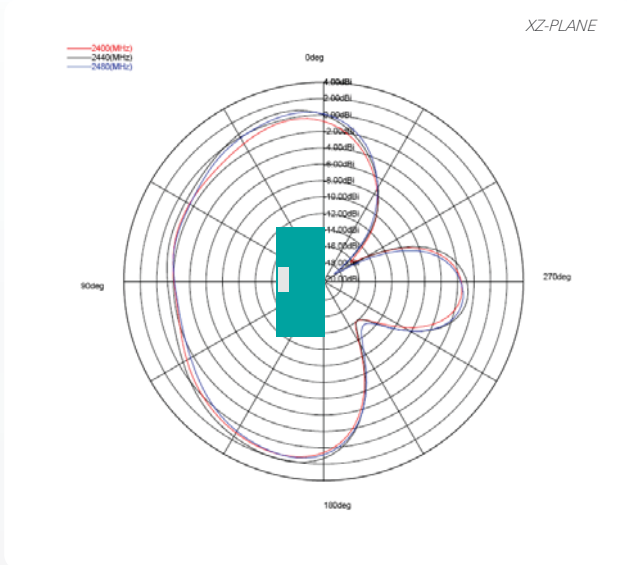
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Typical Free Space Radiation Patterns, W3008



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Typical Electrical Characteristics (T=25 °C), W3008C

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

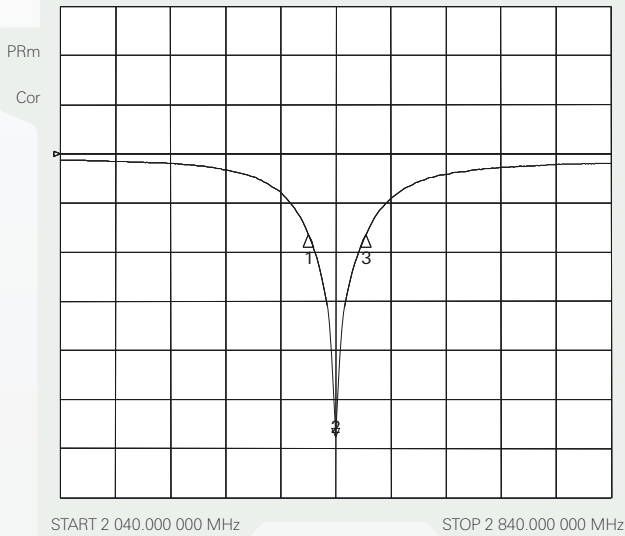
BT/WLAN

20 Oct 2005 12:36:03

CH1 S11&MLOG 5 dB/REF 0 dB

CH1 Markers

1. -11.415 dB 2.40000 GHz
2. -11.464 dB 2.440.000 000 MHz
3. -27.875 dB 2.48350 GHz



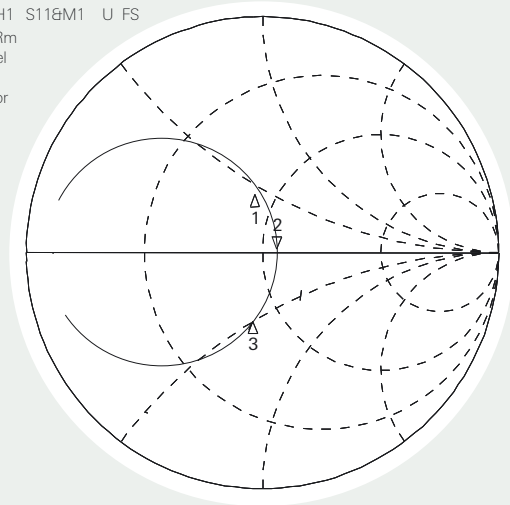
BT/WLAN

20 Oct 2005 12:39:25

CH1 Markers

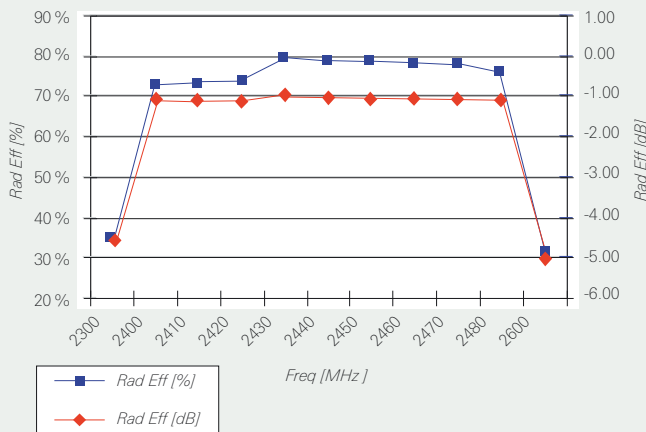
- | | | |
|-------------|-----------|-------------|
| 1. 40.141 Ω | 24.354 Ω | 2.40000 GHz |
| 2. 55.264 Ω | 1.3613 Ω | 88.796 pH |
| 3. 40.658 Ω | -25.082 Ω | 2.48350 GHz |

CH1 S11&M1 U FS
PRm
Del
Cor

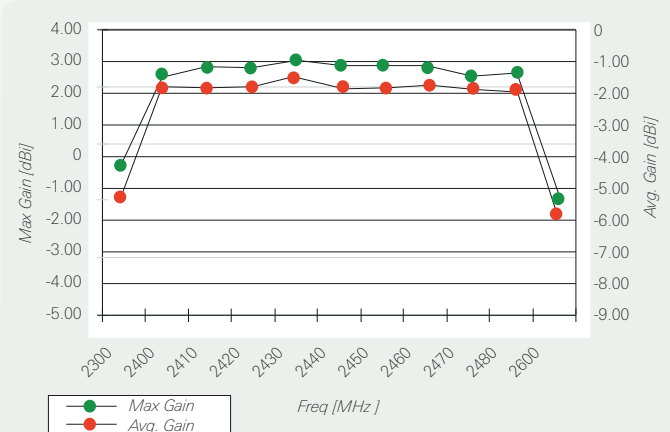


Free space efficiency and maximum gain / PWB ground clearance area 4.00 x 6.25 mm

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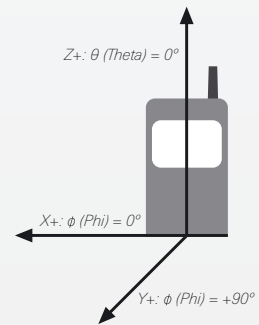
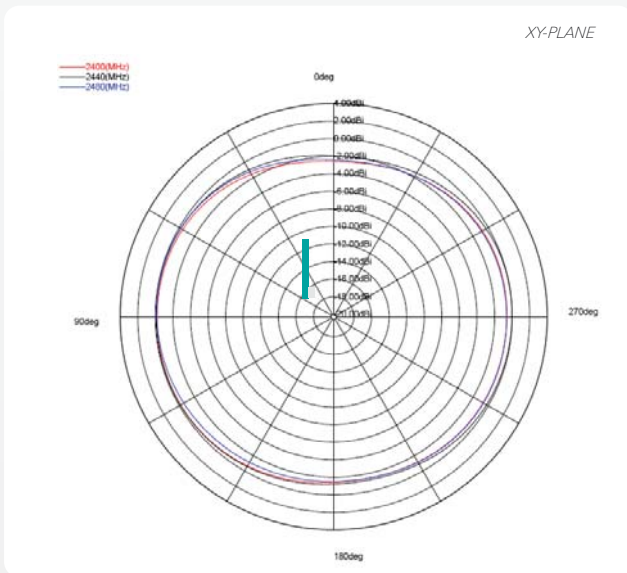
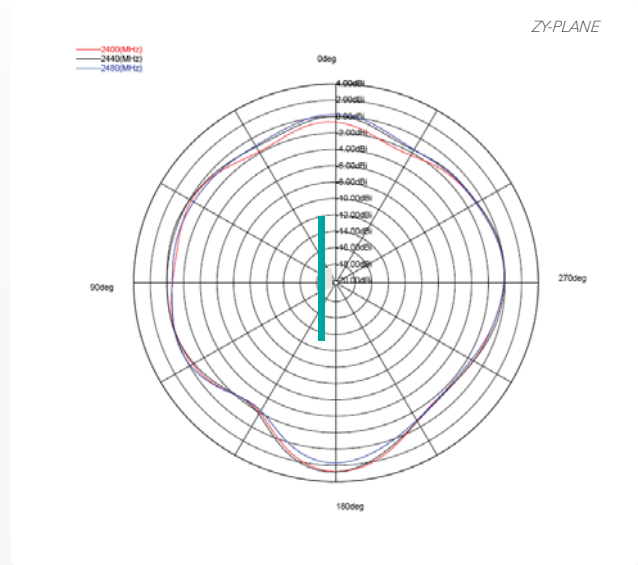
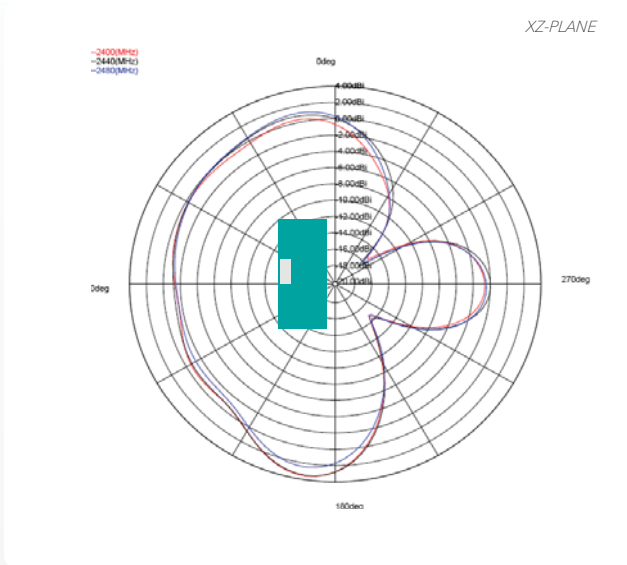
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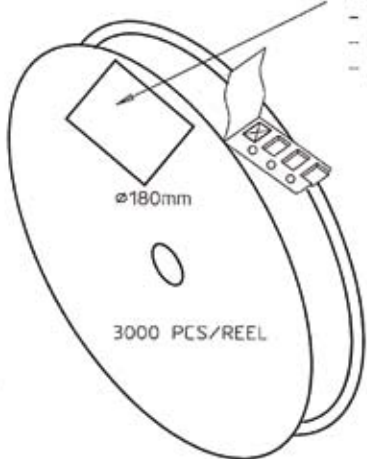
Bluetooth / WLAN / WiFi Ceramic Chip Antenna

Typical Free Space Radiation Patterns , W3008C



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Packing Form



ø180mm
3000 PCS/REEL

REEL LABEL INFORMATION:

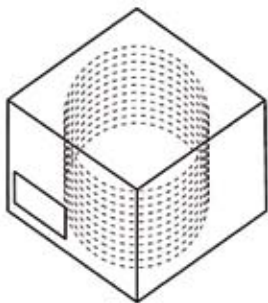
- TRACEABILITY
- QUANTITY
- PRODUCT CODE

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

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|------------------|--|------|--------|------|---|-------|--|--|---|------|--|--|---|-------|--|--|---|----------|--|--|---|--|--|--|---|--|--|--|---|--|--|--|---|---------|---------------|--|--|
| MATERIAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HANDLINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| |  | RATIO | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRWN</td> <td>010305</td> <td>PeHa</td> <td>H</td> </tr> <tr> <td>DGNER</td> <td></td> <td></td> <td>G</td> </tr> <tr> <td>CHKD</td> <td></td> <td></td> <td>F</td> </tr> <tr> <td>APPRD</td> <td></td> <td></td> <td>E</td> </tr> <tr> <td>APPRD BY</td> <td></td> <td></td> <td>D</td> </tr> <tr> <td></td> <td></td> <td></td> <td>C</td> </tr> <tr> <td></td> <td></td> <td></td> <td>B</td> </tr> <tr> <td></td> <td></td> <td></td> <td>A</td> </tr> <tr> <td>VERSION</td> <td colspan="3">MOD/DATE/NAME</td> </tr> </table> | DRWN | 010305 | PeHa | H | DGNER | | | G | CHKD | | | F | APPRD | | | E | APPRD BY | | | D | | | | C | | | | B | | | | A | VERSION | MOD/DATE/NAME | | |
| DRWN | 010305 | PeHa | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DGNER | | | G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHKD | | | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPRD | | | E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPRD BY | | | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VERSION | MOD/DATE/NAME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRODUCT | | H90-OY116-F01P01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DENOMINATION | | PACKING FORM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Mouser Electronics

Authorized Distributor

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Pulse:

[W3008](#) [W3008C](#) [W3008-K](#)