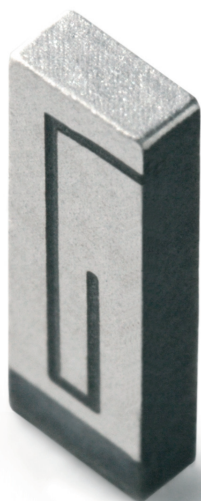


# Dualband WLAN Ceramic Chip Antenna

Ground cleared under antenna 11.60 x 6.00 mm. Pulse Part Number: W3006



## Features

- Omnidirectional radiation
- Low profile
- Compact size WxLxH (10.0 x 3.2 x 1.5 mm)
- Low weight (240 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product
- Single feed point

## Applications

- IEEE 802.11a/b/g
- 5 GHz WLAN
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems
- ZigBee IEEE 802.15.4

## Electrical specifications @ +25 °C

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

## Dualband WLAN

Typical performance (testboard size 80 x 37 mm, PWB ground clearance area 11.60 x 6.00 mm)

1.5nH shunt inductor used for impedance matching.

| Frequency Range [MHz] | Max Gain [dBi]                 | Efficiency [%] / [dB]                        | Return loss min. [dB] | Impedance [Ω] | Operating Temperature [°C] |
|-----------------------|--------------------------------|--|-----------------------|---------------|----------------------------|
| 2400–2483.5           | 3.2 (peak)<br>2.7 (band edges) | 70 / -1.55 (peak)<br>65 / -1.85 (band edges) | -8                    | 50            | -40 to +85                 |
| 5150–5850             | 4.2 (peak)<br>3.0 (band edges) | 80 / -0.95 (peak)<br>70 / -1.55 (band edges) | -10                   | 50            | -40 to +85                 |

## Pulse Finland Oy

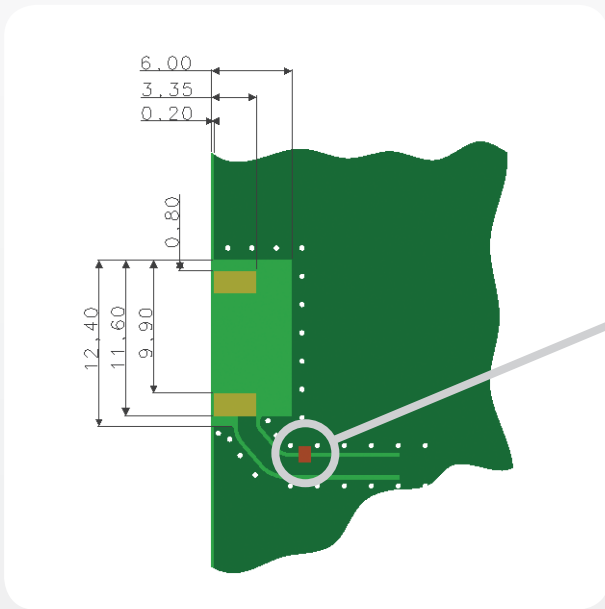
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**Recommended test board layout for electrical characteristic measurement,  
test board outline size 80 x 37mm**



Shunt matching inductor,  
1.5nH with presented setup.  
Exact inductor value depends  
on specific application.

Feed line should be designed to match 50  $\Omega$  characteristic impedance, depending on PWB material and thickness.

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

2,4 GHz Typical Return Loss S11/ impedance, measured on the test board

### Dualband WLAN

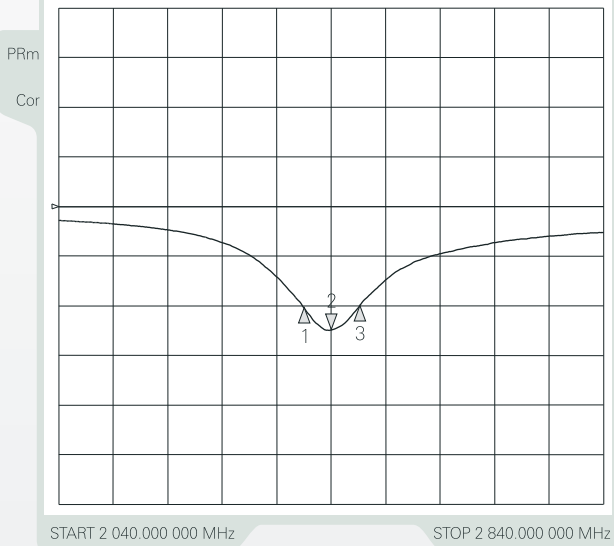
6 Nov 2006 15:08:00

CH1Markers

- 1. -10.222 dB 2.40000 GHz
- 2. -12.440 dB 2.440.000 MHz
- 3. -9.9001 dB 2.48300 GHz

CH1 S11 LOG

5 dB/REF 0 dB

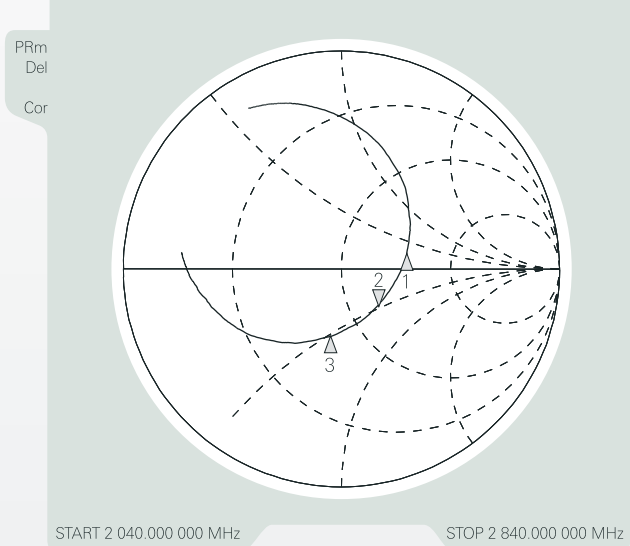


### Dualband WLAN

6 Nov 2006 15:10:39

- 1. 91.352 Ω 14.160 Ω 2.40000 GHz
- 2. 66.293 Ω -22.988 Ω 2.8374 pF 2440.000 MHz
- 3. 37.697 Ω -25.881 Ω 2.48300 GHz

CH1 S11 1 U FS



5GHz Typical Return Loss S11/ impedance, measured on the test board

### Dualband WLAN

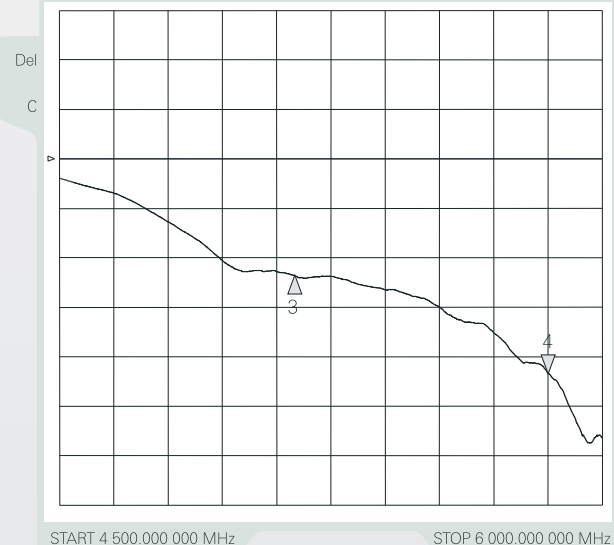
6 Nov 2006 14:47:27

CH1Markers

- 3. -11.876 dB 5.15000 GHz
- 4. 21.610 dB 5.850.000 MHz

CH1 S11 LOG

5 dB/REF 0 dB

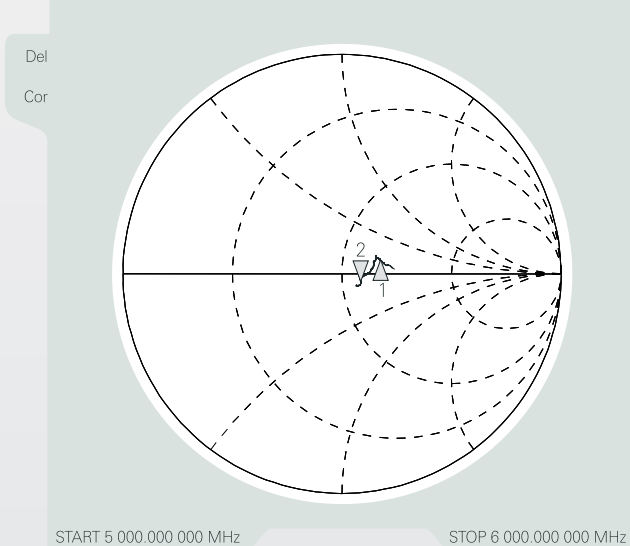


### Dualband WLAN

7 Nov 2006 10:55:26

- 1. 70.812 Ω 8.9375 Ω 5.15000 GHz
- 2. 59.072 Ω -3.6074 Ω 7.5417 pF 5 850.000 MHz

CH1 S11 1 U FS



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# Dualband WLAN Ceramic Chip Antenna

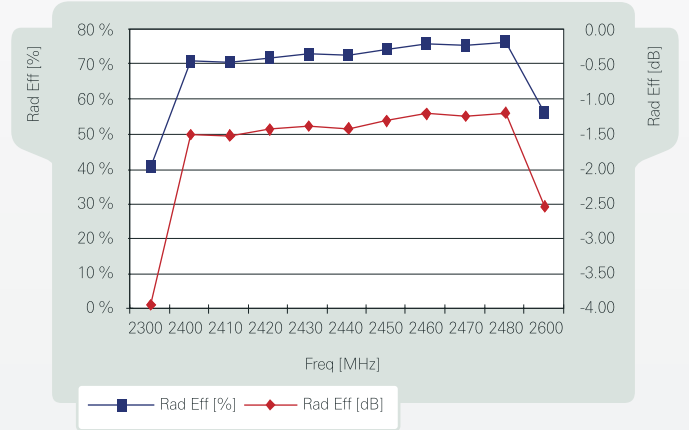
Ground cleared under antenna 11.60 x 6.00 mm. Pulse Part Number: W3006

## 2,4 GHz free space efficiency and maximum gain

DualBand WiFi 2.4G 10 x 3.2 x 1.5 mm

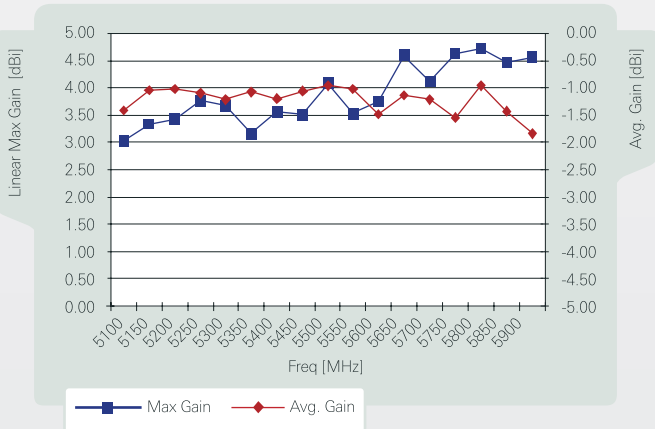


DualBand WiFi 2.4G 10 x 3.2 x 1.5 mm

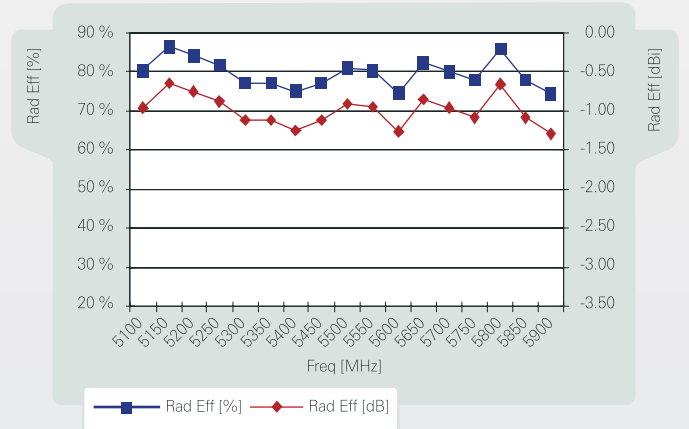


## 5 GHz free space efficiency and maximum gain

DualBand WiFi 5G 10 x 3.2 x 1.5 mm



DualBand WiFi 5G 10 x 3.2 x 1.5 mm



Pulse Finland Oy

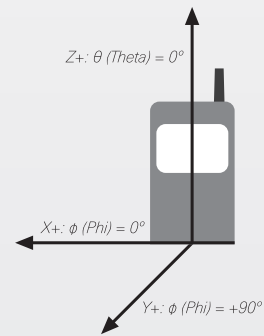
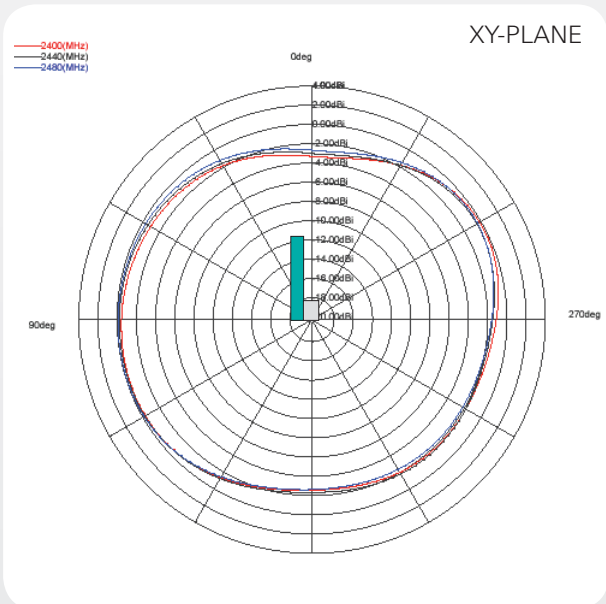
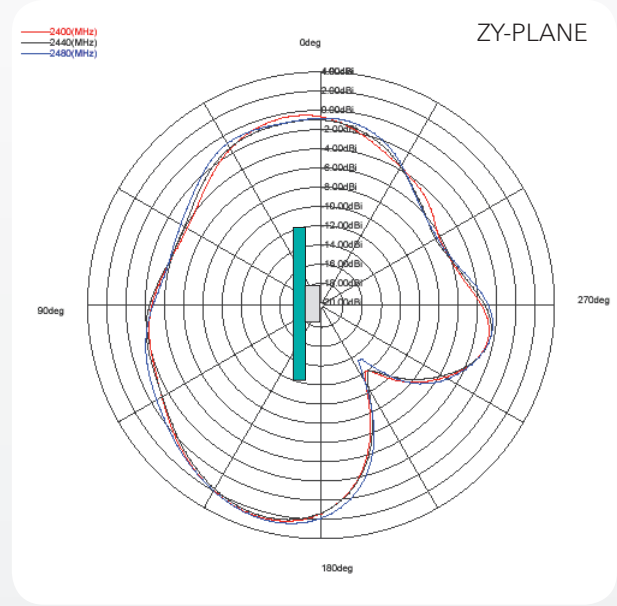
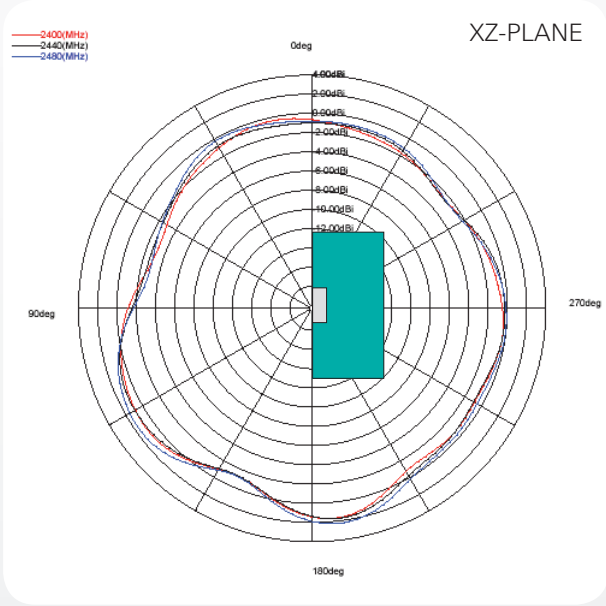
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# Dualband WLAN Ceramic Chip Antenna

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## 2,4 GHz Typical Free space Radiation Patterns



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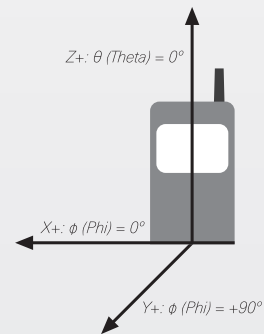
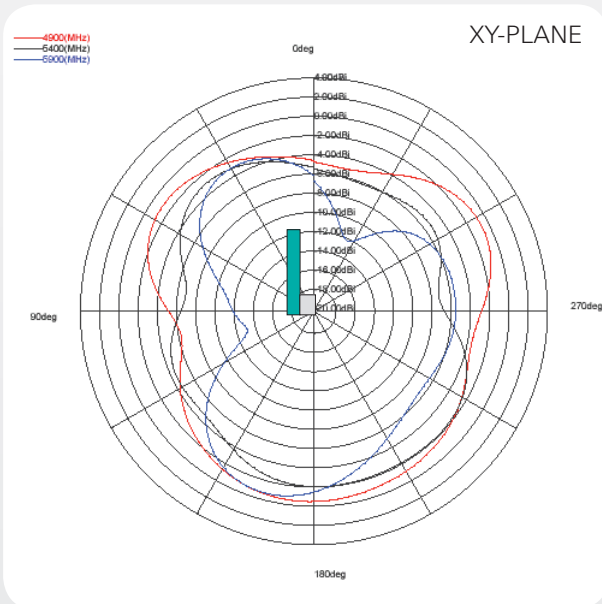
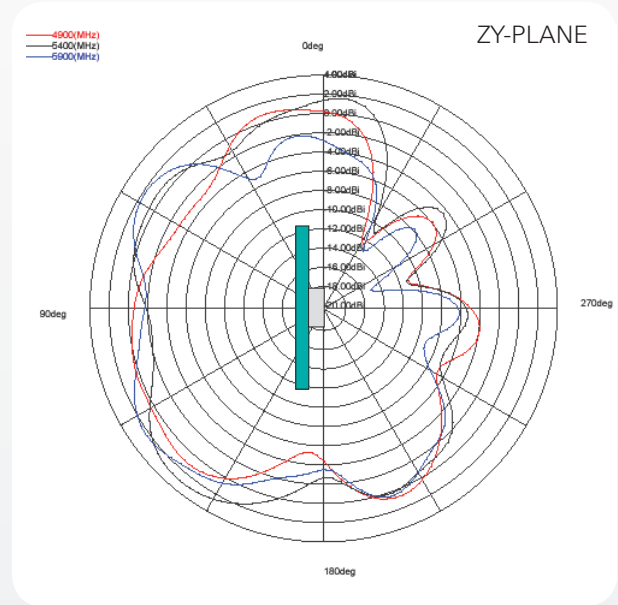
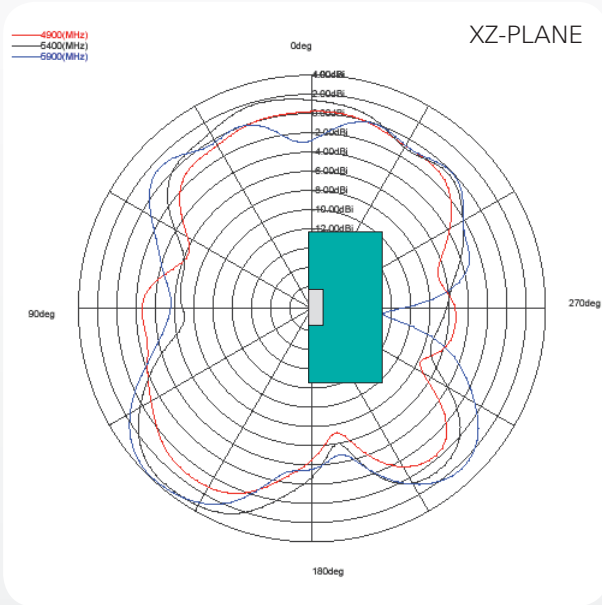
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# Dualband WLAN Ceramic Chip Antenna

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## 5 GHz Typical Free space Radiation Patterns



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