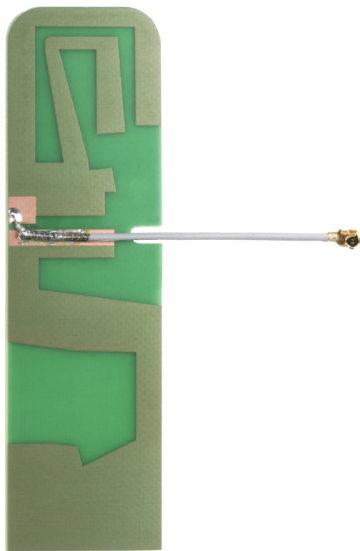


# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501



## Features

- Very Low profile
- Compact size W x L x H (25 x 87 x 0.2 mm)
- Low weight (1.35 g)
- Cable feed with I-PEX connector (U.FL compatible)
- Lead free materials
- Lead free soldering compatible
- RoHS Compliant Product

## Applications

- Frequency range (GSM 850 / GSM 900 / DCS / PCS)

## Electrical specifications @ +25 °C

*Note: Electrical characteristics depend on device mechanics*

### GSM 850: 824 – 894 MHz

Typical free space performance, measured in test unit mechanics

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [° C]
824 – 894	1.33	50 / -3.0	-7	50	-45 to +85

## Pulse Finland Oy

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



# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

## GSM 900 : 880 – 960 MHz

Typical free space performance, measured in test unit mechanics

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [ $^{\circ}$ C]
880 – 960	1.50	55 / -2.6	-6.5	50	-45 to +85

## DCS : 1710 – 1880 MHz

Typical free space performance, measured in test unit mechanics

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [ $^{\circ}$ C]
1710 – 1880	3.75	50 / -3.0	-8	50	-45 to +85

## PCS : 1850 – 1990 MHz

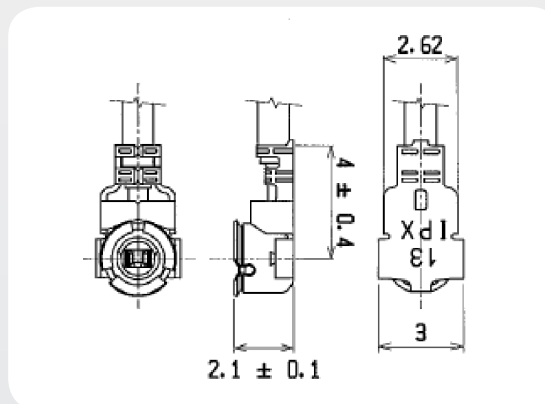
Typical free space performance, measured in test unit mechanics

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [ $^{\circ}$ C]
1850 – 1990	3.45	50 / -3.0	-8	50	-45 to +85

## Cable and Connector Configuration

Cable length: 56 mm

Cable outer diameter: 1.13 mm



Pulse Finland Oy

Takatie 6  
90440 Kempele, Finland

Tel: +358 207 935 500

Fax: +358 207 935 501

[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)

 **Pulse**  
A TECHNITROL COMPANY

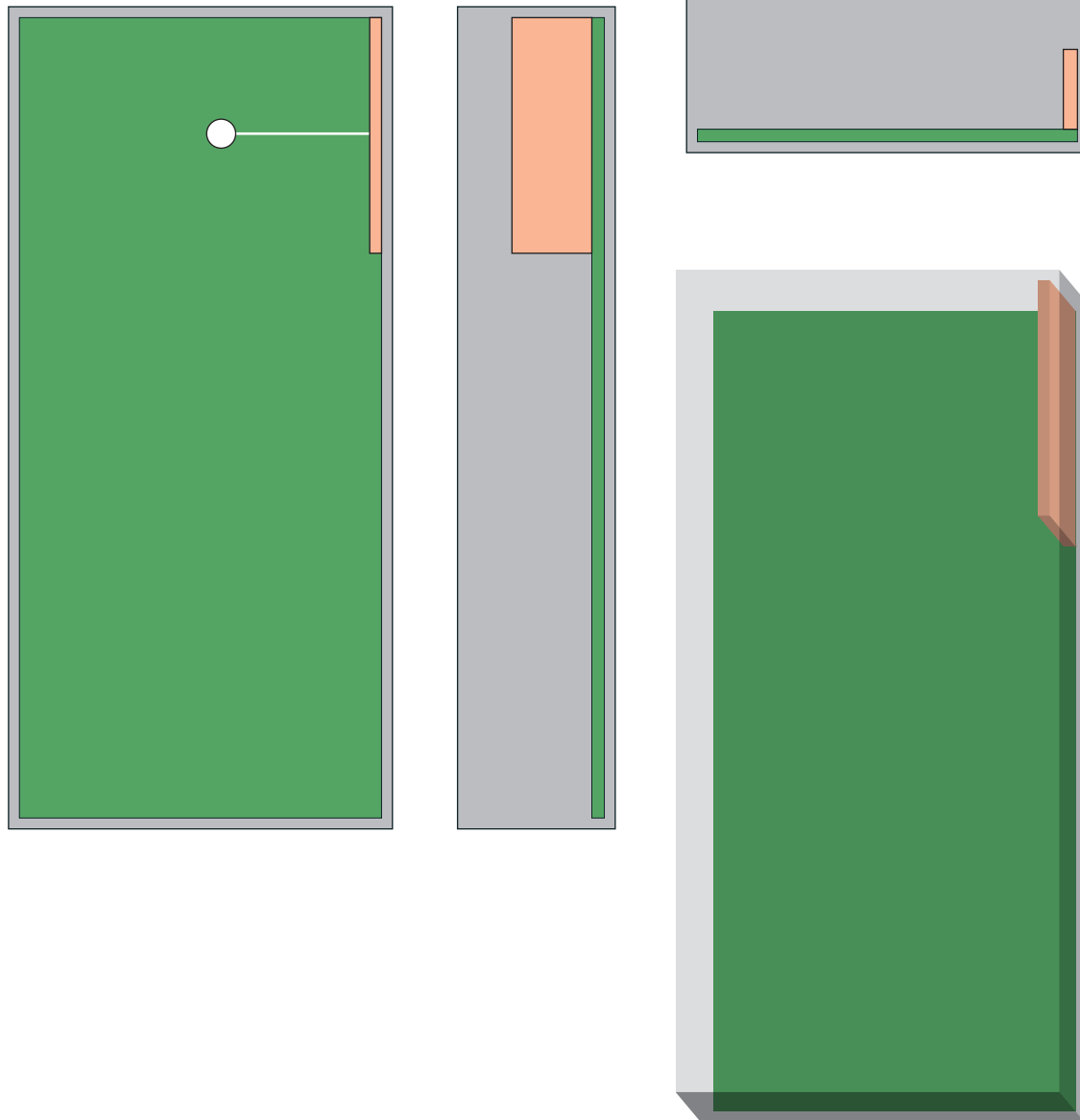
© 2008. All Rights Reserved.

# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

## Test Unit and Antenna Location

Test unit size 150 x 100 x 40mm



### Pulse Finland Oy

Takatie 6  
90440 Kempele, Finland

Tel: +358 207 935 500

Fax: +358 207 935 501

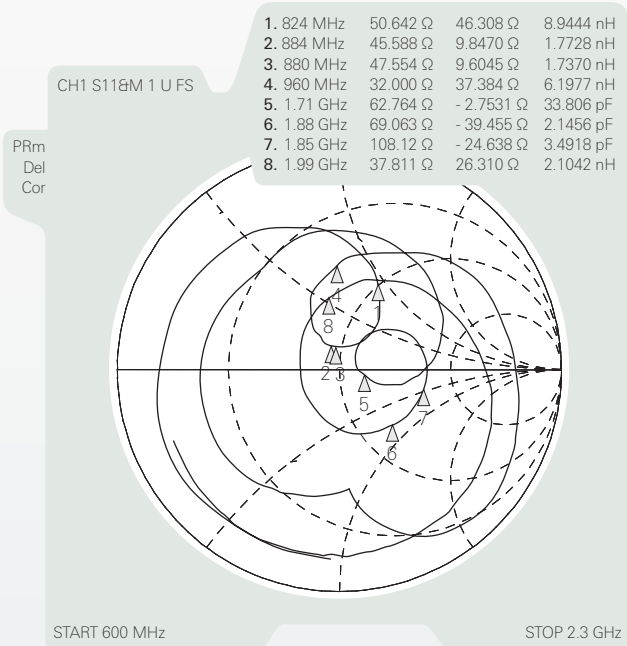
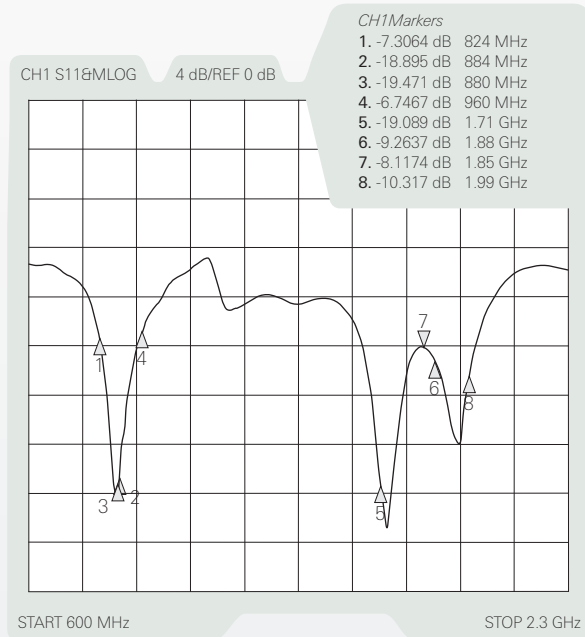
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)

# Internal Quad Band PWB Antenna

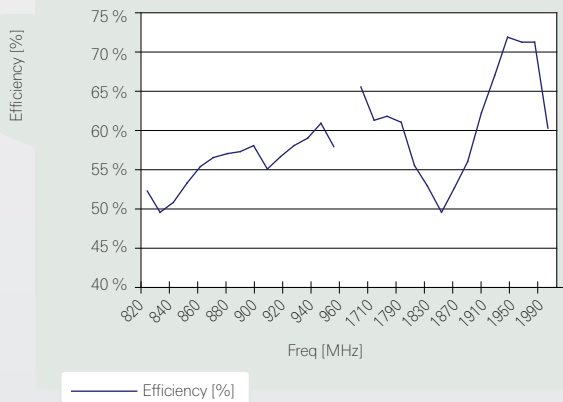
(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

## Typical Electrical Characteristics 600 – 2300 MHz (T=25 °C)

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



### 3501 Internal Quad Band Antenna Efficiency



### 3501 Internal Quad Band Antenna Max Gain



Pulse Finland Oy

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

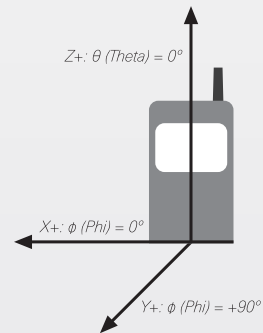
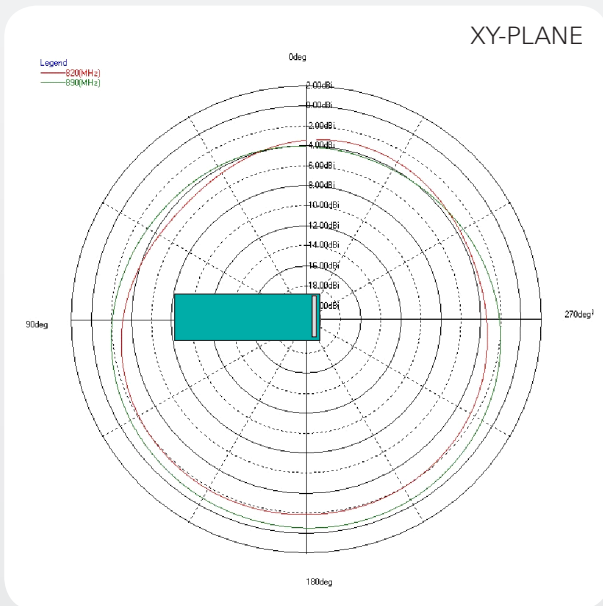
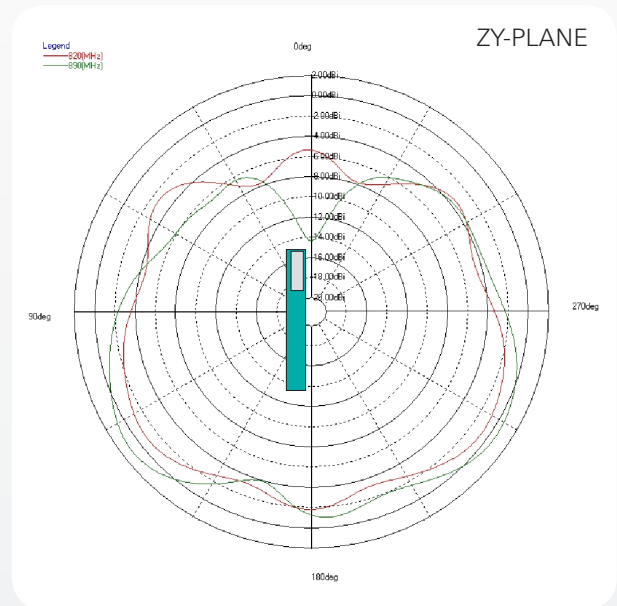
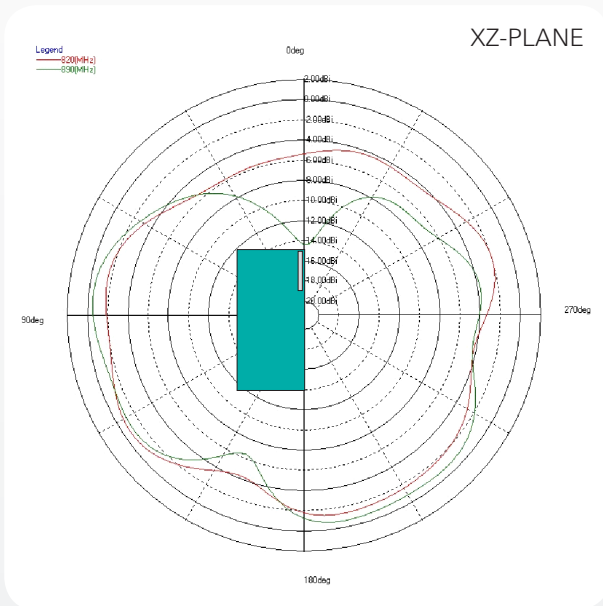
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

824 – 894 MHz Typical Free Space Radiation Patterns



Pulse Finland Oy

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

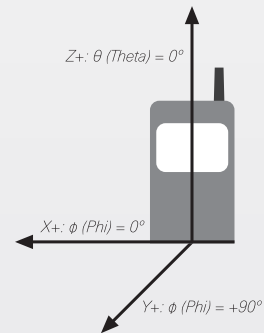
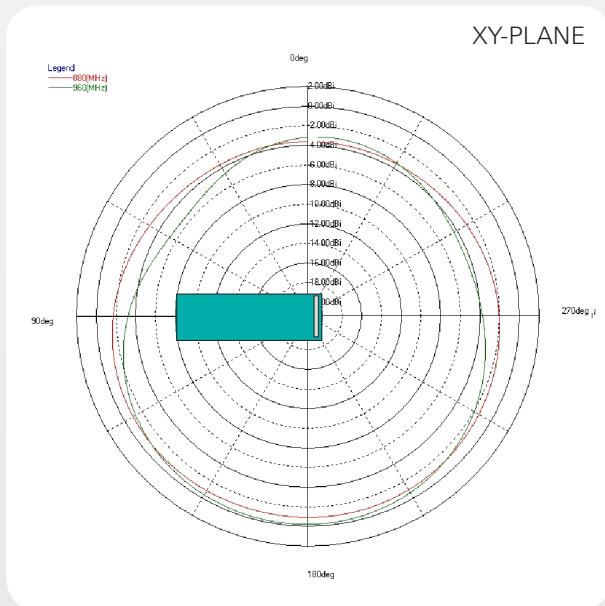
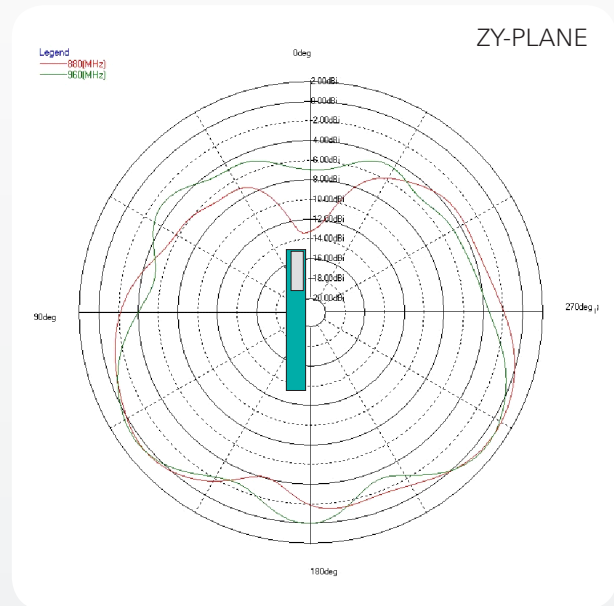
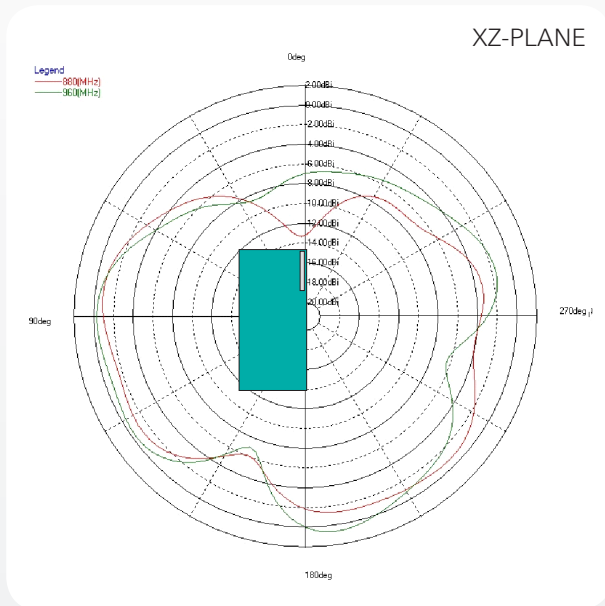
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

## 880 – 960 MHz Typical Free Space Radiation Patterns



### Pulse Finland Oy

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

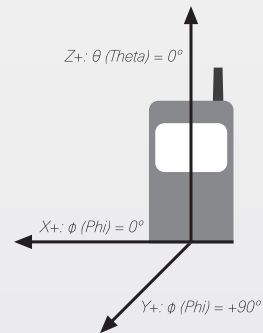
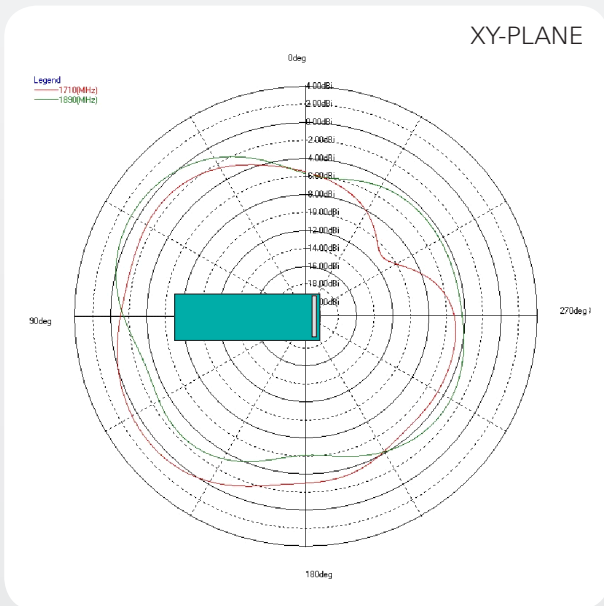
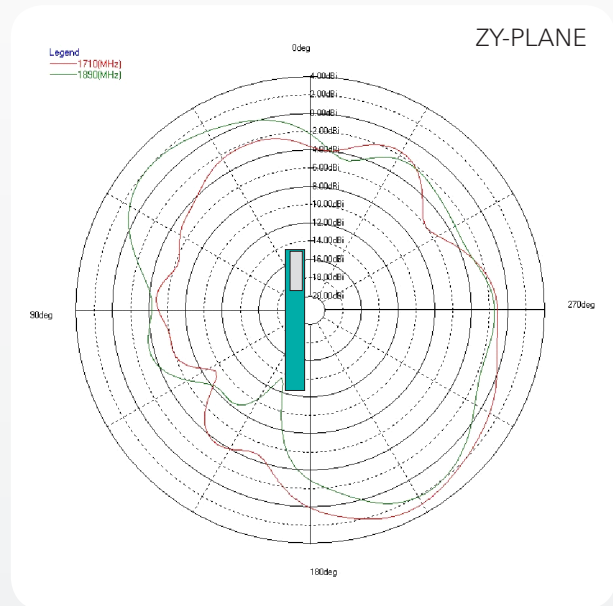
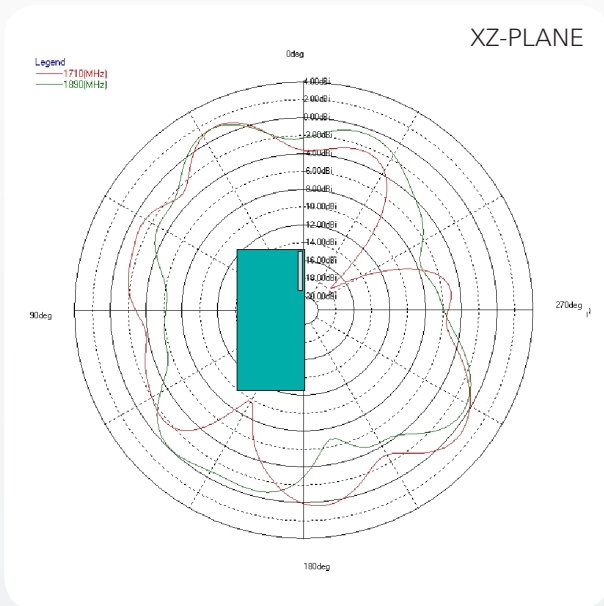
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

## 1710 – 1880 MHz Typical Free Space Radiation Patterns



Pulse Finland Oy

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

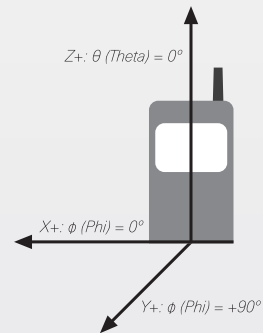
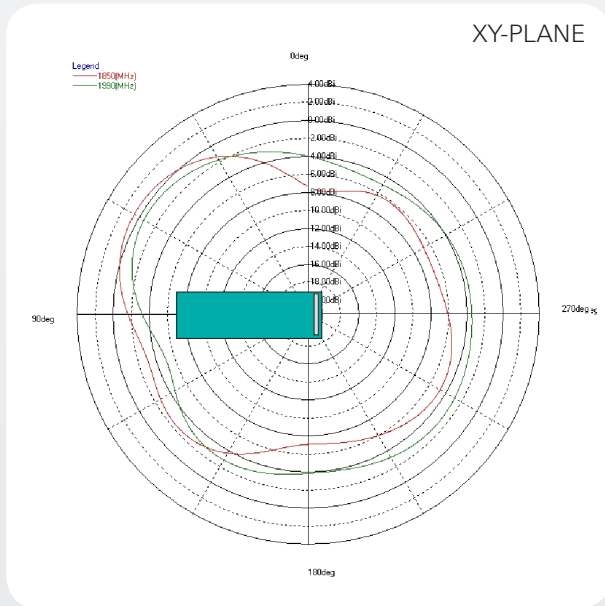
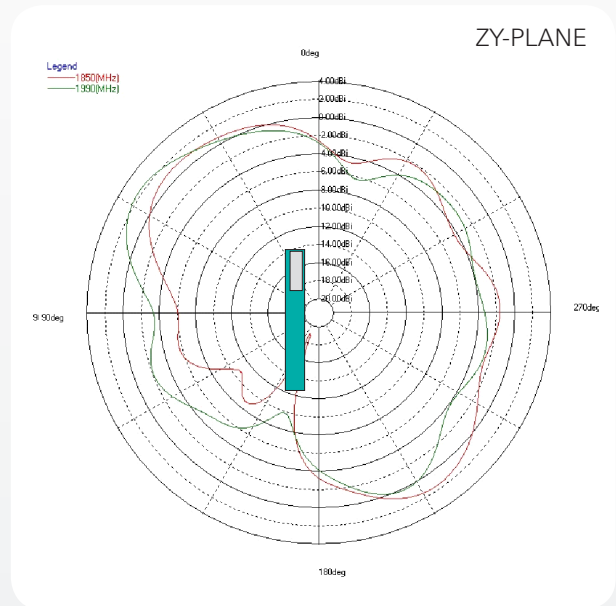
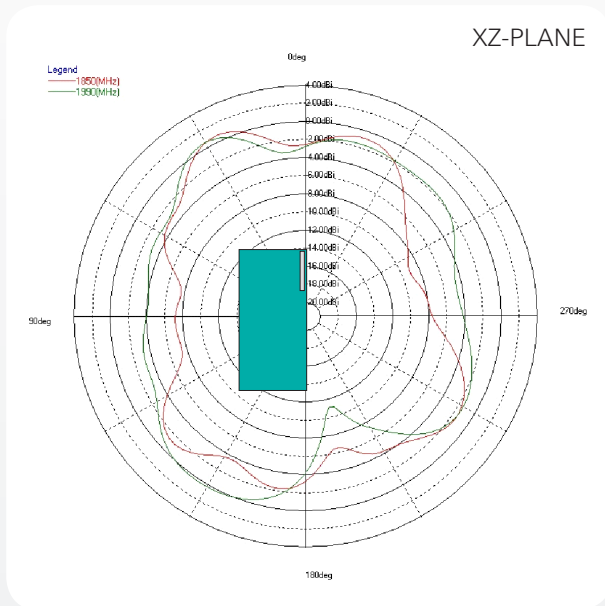
[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)



# Internal Quad Band PWB Antenna

(25 x 87 x 0.2 mm, PWB antenna) Pulse Part Number: W3501

1850 – 1990 MHz Typical Free Space Radiation Patterns



Pulse Finland Oy

Takatie 6  
90440 Kempele, Finland

Tel: +358 207 935 500

Fax: +358 207 935 501

[www.pulseeng.com/antennas](http://www.pulseeng.com/antennas)

