

# Internal Quad Band PWB Antenna

(43 x 17 x 0.5 mm, PWB antenna) Pulse Part Number: W3502



## Features

- Small form factor
- Size W x L x H (43x 17 x 0.5 mm)
- Low weight (0.8 g)
- Cable feed with I-PEX connector (U.FL compatible)
- Cable length 20 mm (total 27.5mm)
- Lead free materials
- RoHS Compliant Product
- Mounting options:  
With adhesive tape (not included into antenna)  
Plastic pegs through holes in radiator, heat stacking

## 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	2.0	60 / -2.2	-6	50	-40 to +85

## Pulse Finland Oy

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## 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	1.3	55 / -2.6	-6	50	-40 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	1.0	40 / -4.0	-4	50	-40 to +85

## PCS : 1850 – 1990 MHz

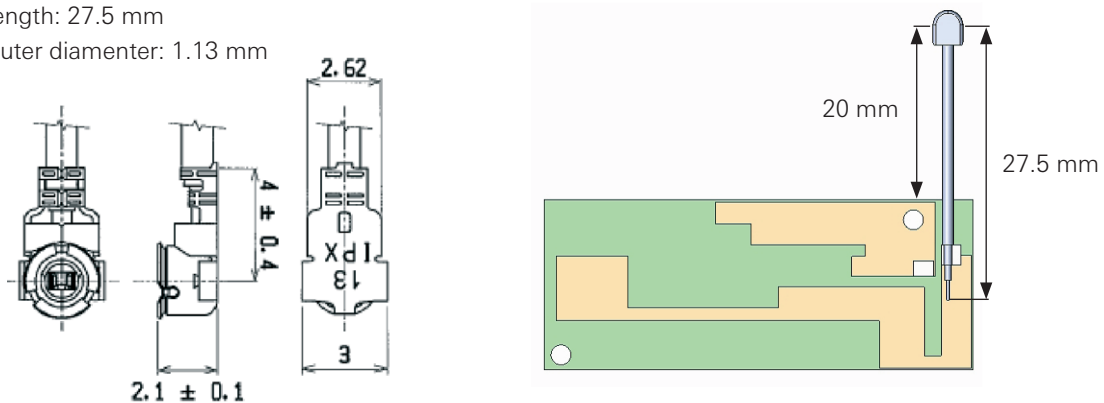
Typical free space performance, measured in test unit mechanics

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [ $\Omega$ ]	Operating Temperature [ $^{\circ}$ C]
1850 – 1990	2.0	50 / -3.0	-6	50	-45 to +85

## Cable and Connector Configuration

Cable length: 27.5 mm

Cable outer diameter: 1.13 mm



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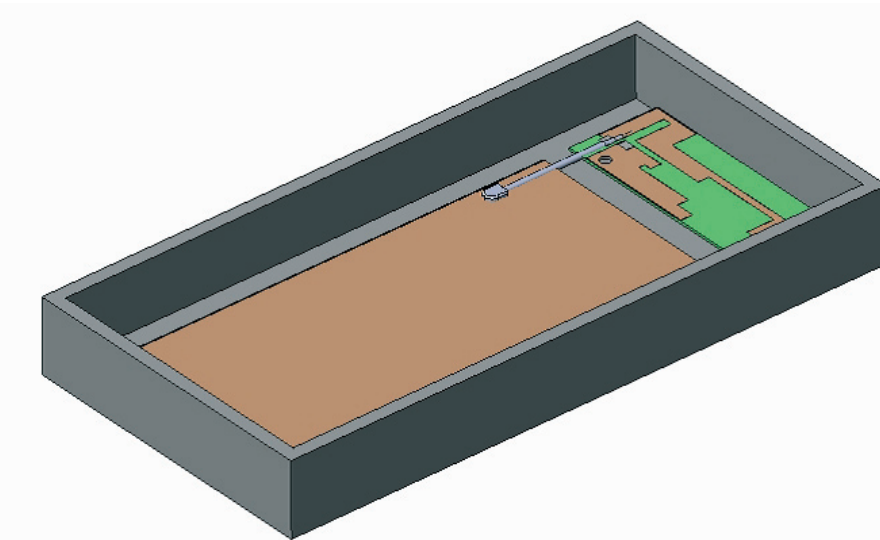
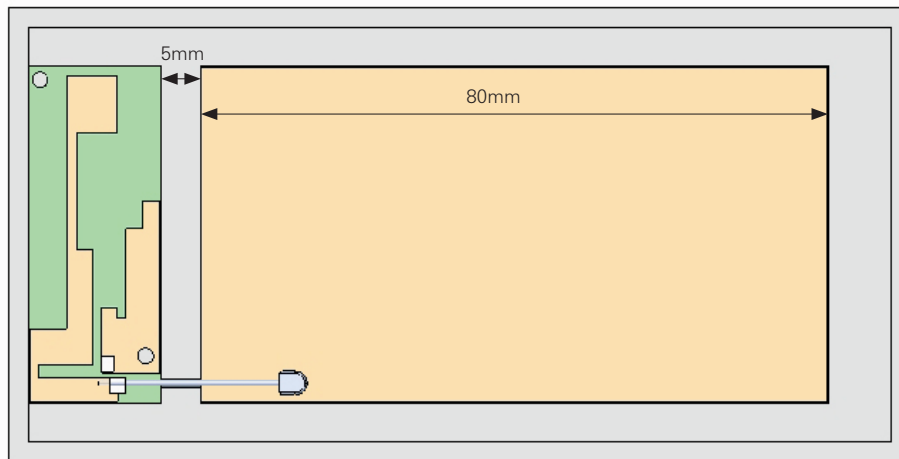
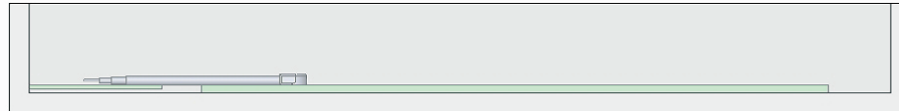
# Internal Quad Band PWB Antenna

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## Test Unit and Antenna Location

Test unit size 110 x 58 x 28mm

Ground plane length 80mm



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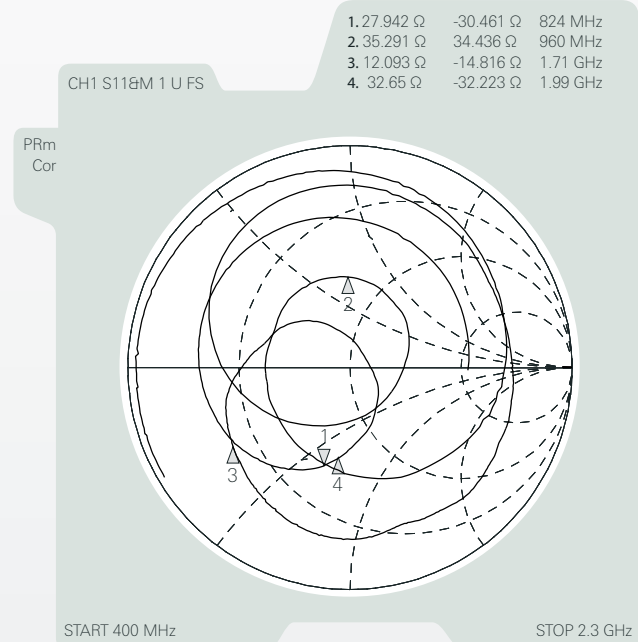
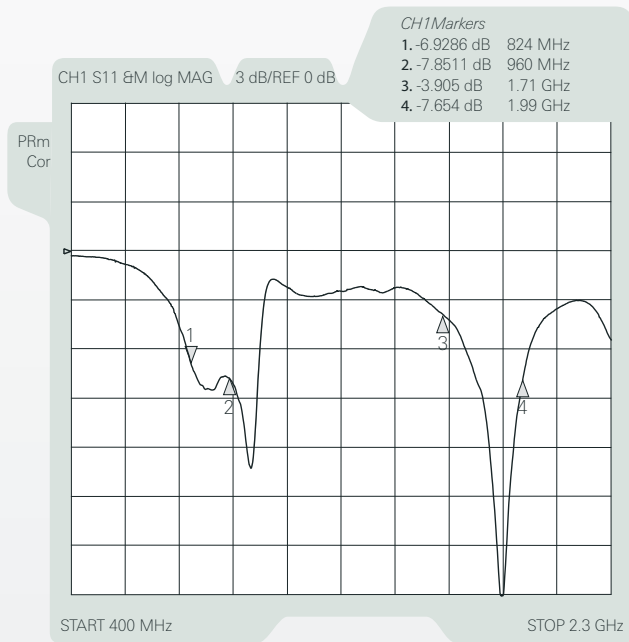
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## Typical Electrical Characteristics (T=25 °C)

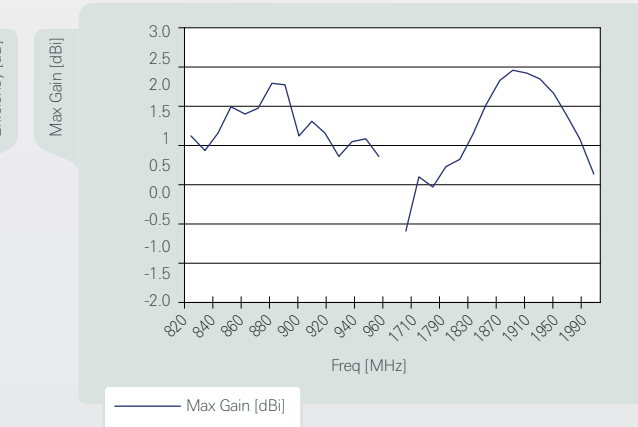
Measured on the 80mm test board, Typical Return Loss S11/ impedance



### W3502 Total Radiation Efficiency free space



### W3502 Maximum Radiation Gain free space



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