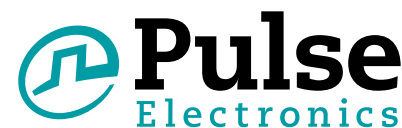
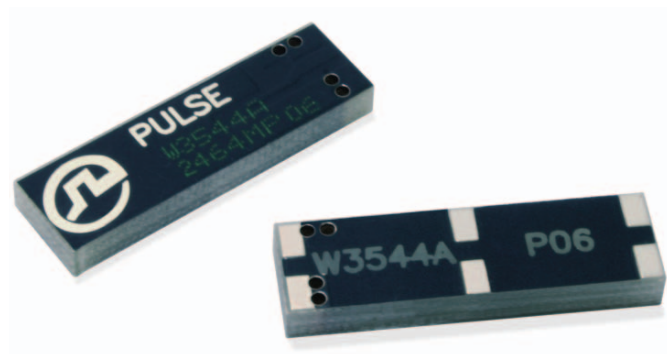


# GSM/3G Penta Band Hybrid PCB Antenna



Pulse Part Number W3544A / 3544B



Pulse introduces the small hybrid surface mount pick-and-place W3544X family of GSM/3G antennas. Board connection is via 6 SMD connection points underneath the antenna. Antennas are delivered in tape and reel packaging for use in automatic SMD pick-and-place. Each antenna measures 7.65 x 26 x 3 mm and requires ground clearance on the PCB. The W3544A is optimized for a corner board location while the W3544B is for use at the end of a narrow PCB. Frequency bands are 824-960 and 1710-2170 MHz with a target of minimum 50% efficiency in all bands offering a compact high performance solution for GSM/3G applications

## Features

- Frequency bands 824-960 and 1710-2170 MHz
- SMD solution
- Compact antenna size of 7.65 x 26 x 3 mm
- RoHS Compliant Product

## Applications

- GSM/3G routers
- Femto Cell modems
- Industrial wireless machine to machine
- Smart Grid devices
- Mobile Hotspots

Part Number	Positioning
W3544A	Vertically mounted at board edge
W3544B	Horizontally mounted at board edge

# GSM/3G Penta Band Hybrid PCB Antenna

Pulse Part Number W3544A / 3544B

## Electrical Specifications

		W3544A	W3544B
Frequency 1 [MHz]		824 - 960	824 - 960
Frequency 2 [MHz]		1710 - 1880	1710 - 1880
Frequency 3 [MHz]		1850 - 1990	1850 - 1990
Frequency 4 [MHz]		1920 - 2170	1920 - 2170
Nominal Impedance [ $\Omega$ ]		50	50
Gain	Freq 1 [dBi avg]	-1.9 65%	-1.5 70%
	Freq 2 [dBi avg]	-1.3 74%	-1.1 77%
	Freq 3 [dBi avg]	-1.3 74%	-1.1 77%
	Freq 4 [dBi avg]	-1.66 68%	-1.5 71%
Return Loss	Frequency 1 [dB]	-4.1	-6.5
	Frequency 2 [dB]	-4.6	-5.7
	Frequency 3 [dB]	-16.3	-18.5
	Frequency 4 [dB]	-12.3	-13

### Note:

**Gain:** Frequency detail above is all peak and given in dBi first, then efficiency.

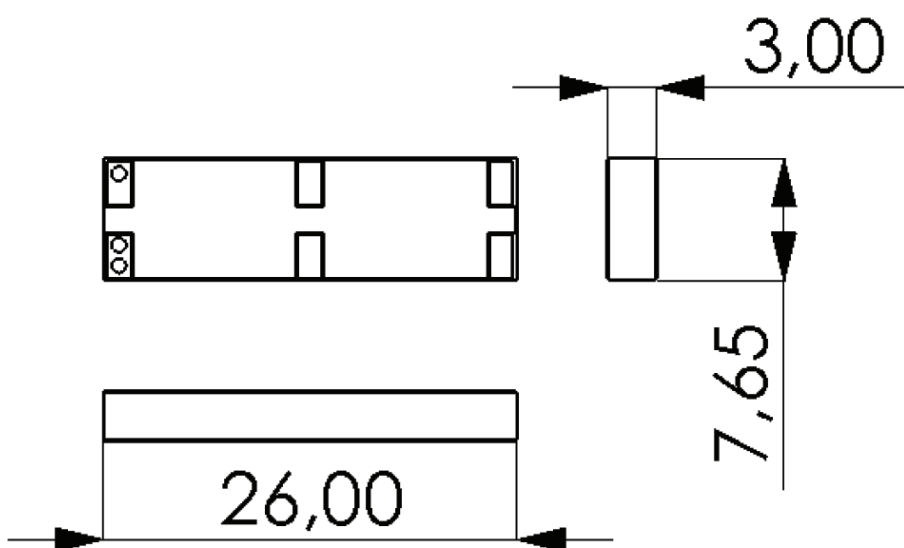
## Environmental Specifications

Operating Temperature [°C]	-45 to +85
Storage Temperature [°C]	-45 to +85

## Mechanical Specifications

Weight [oz/g]	.04 / 1.11
Dimensions [Inches/mm]	.38 x 1.02 x .12 / 9.65 x 26 x 3
Mounting	SMD

## Antenna Dimensions



# GSM/3G Penta Band Hybrid PCB Antenna

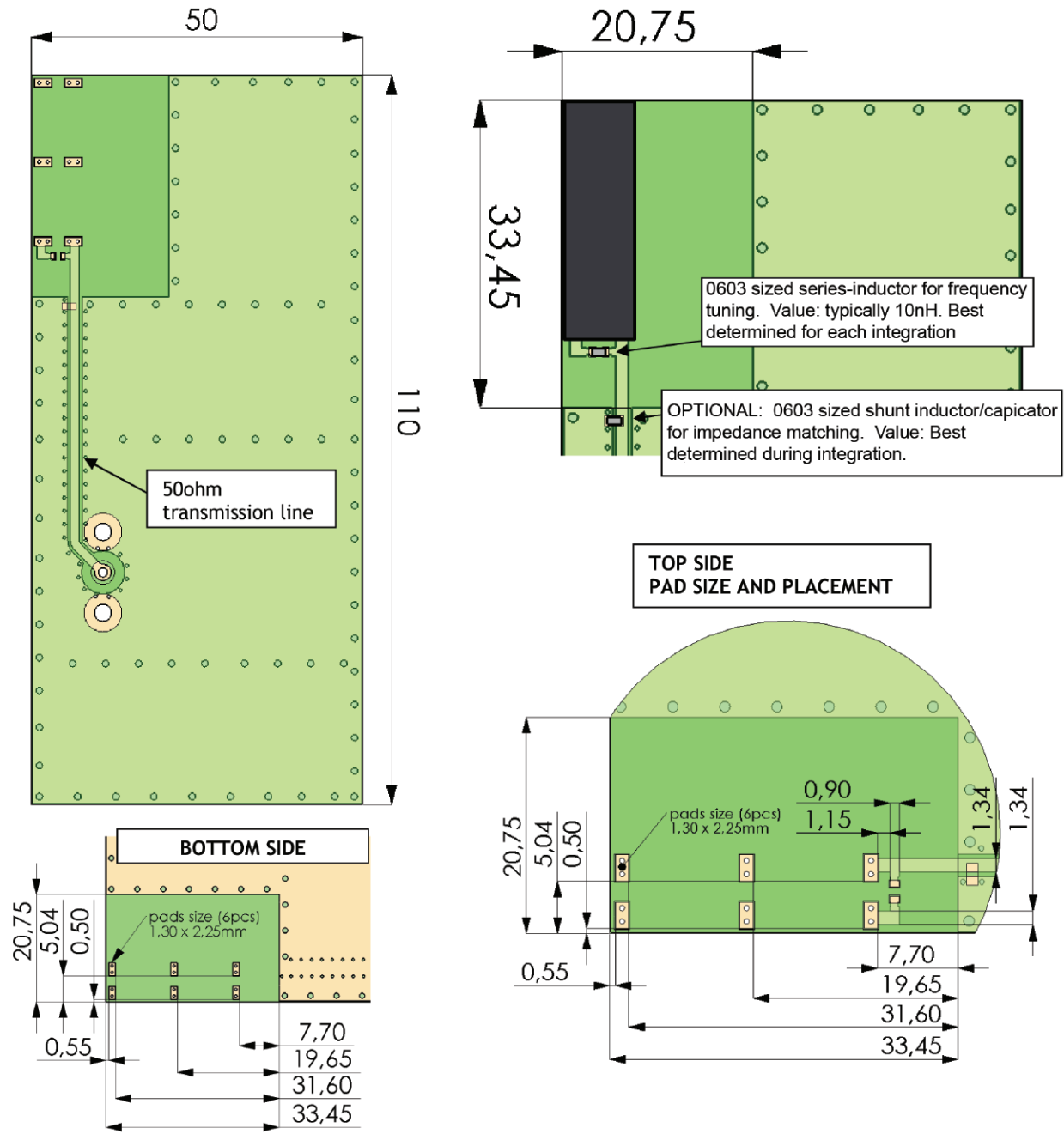
Pulse Part Number W3544A / 3544B

## Test Setup for Electrical Measurements

Recommended test board layout for electrical characteristic measurement. Test board outline size 110 mm x 50 mm. Ground cleared under antenna.

**NOTE:** All measurements are in mm.

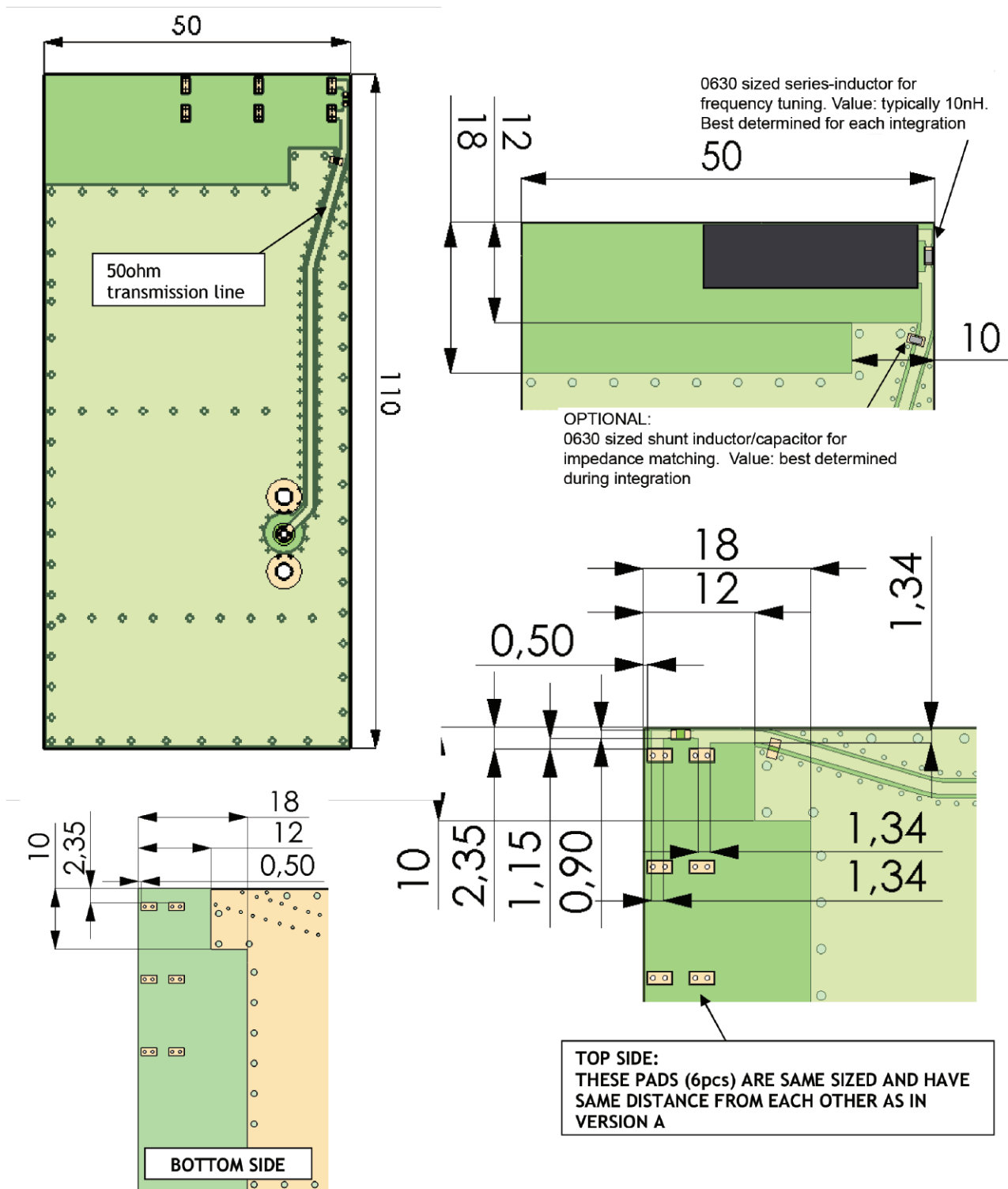
**W3544A** - Antenna positioned vertically on PWB corner



# GSM/3G Penta Band Hybrid PCB Antenna

Pulse Part Number W3544A / 3544B

**W3544B** - Antenna positioned horizontally on PWB corner

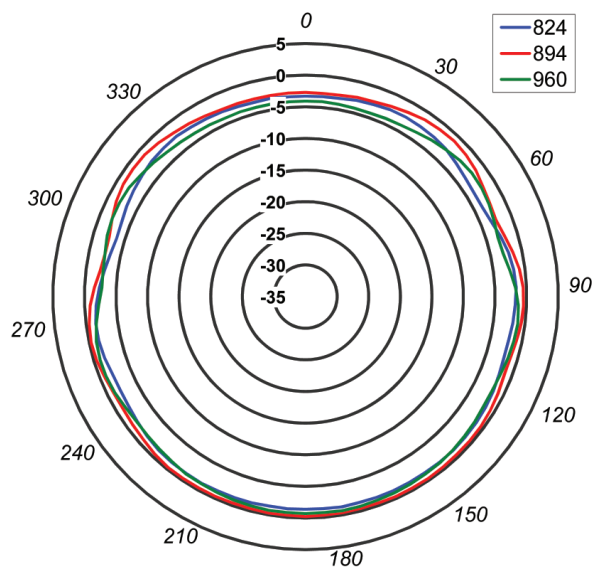


# GSM/3G Penta Band Hybrid PCB Antenna

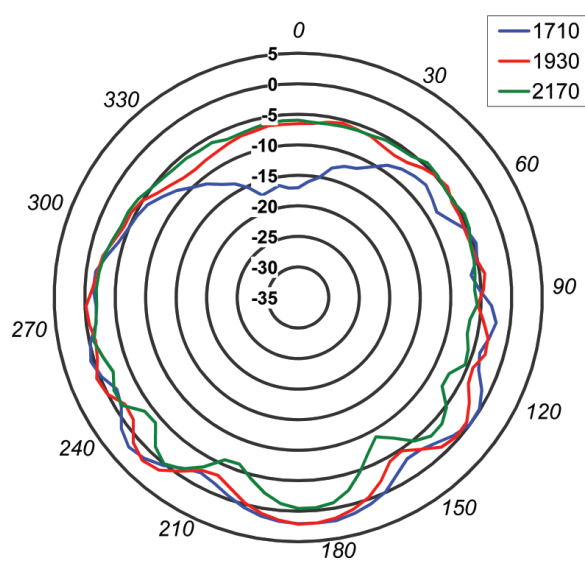
Pulse Part Number W3544A / 3544B

## Radiation Patterns

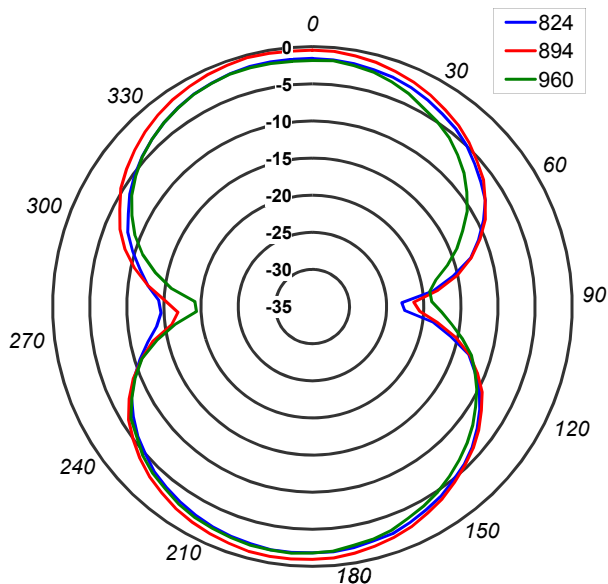
**H Plane**



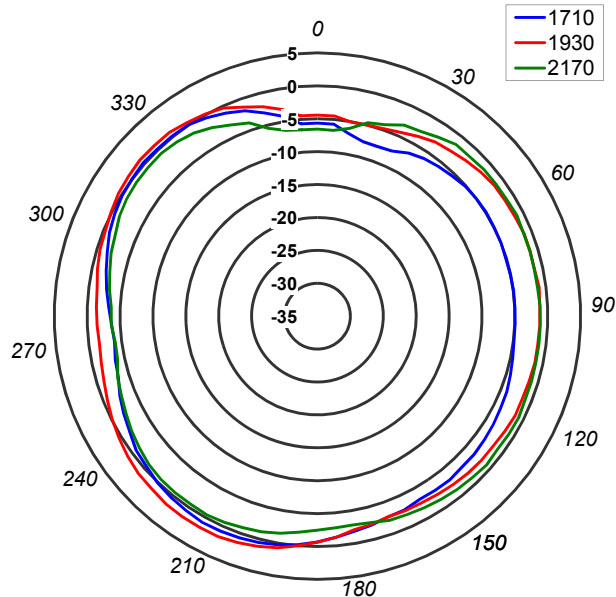
**H Plane**



**E Plane**



**E Plane**



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