Antenna Datasheet
“WiFi WLAN Dual-Band PCB Antenna”

Revisions:

Rev	Effective date (dd-month-yyyy)	Description	Author	Revised by
0	11-07-2019	First release	Ahmed Handouk	Simone Minardi

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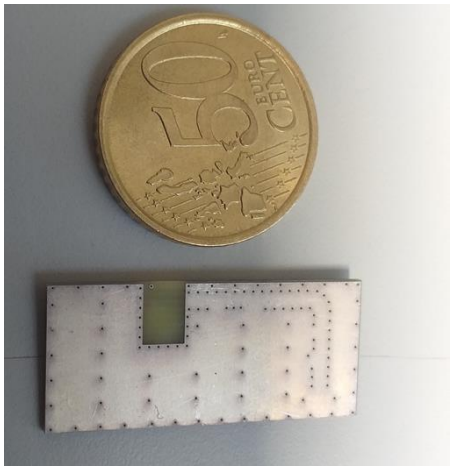
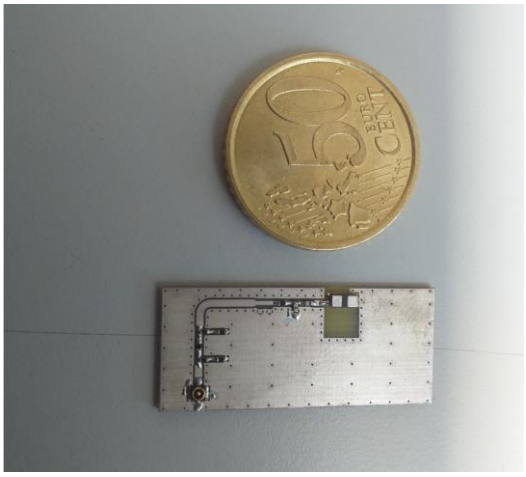
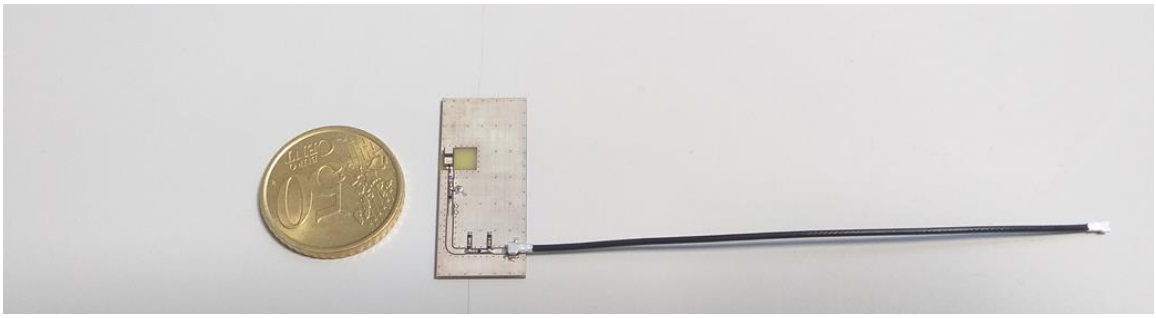
1 - OVERVIEW

The provided PCB antenna which is based on the main resonator part “chip resonator “are specially designed for WiFi/WLAN (802.11 b/g/n) applications. The suggested antenna design requires no more than 30mm x 15 mm of space and ensures a VSWR ratio of less than 2 across the dual bands of 2.4 GHz and 5 GHz band when connected to a 50 ohm source. This PCB antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

Features	Applications
*Stable and reliable in performances	*Hand-held, Laptops and Tablet devices when WiFi (802.11 b/g/n) functions are needed
*Compact size	*Internet of Things (IoT)
* Light weight	
*Wide Bandwidth	







2 – SPECIFICATIONS

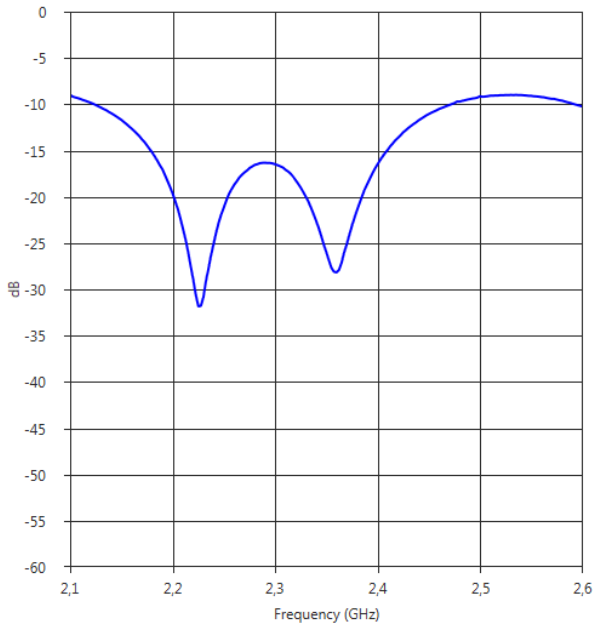
DESCRIPTION	VALUE
Product Family	Antennas
Component Type	Surface Mount Device Antenna
Working Frequency	2.4-2.5GHz/ 4.85-5.85GHz
VSWR	< 2
Max Peak Gain	-1.0 dBi (2.4-2.5GHz) -1.0 dBi (4.85-5.85GHz)
Return Loss*	< -10 dB for both bands
Polarization	Linear
Radiation Pattern**	Omnidirectional
Impedance	~ 50Ω
PCB Dimension	34 mm*15 mm*1 mm
Cable Diameter / Length/ Colour	1.13mm / 100,00mm/Black
Radio Connector	I-PEX
Connector Type	U.FL
Mounting	Biadesive Tape (HF-DS)
Maximum Power (W)	1

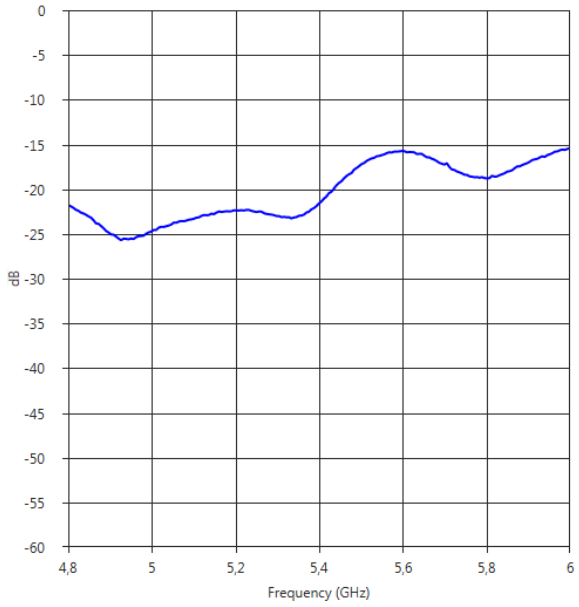
*Working frequency will be offset to another frequency according to the conditions of user's ground plane and radome.

**Place the antenna as far away as possible from radiating or jamming signals

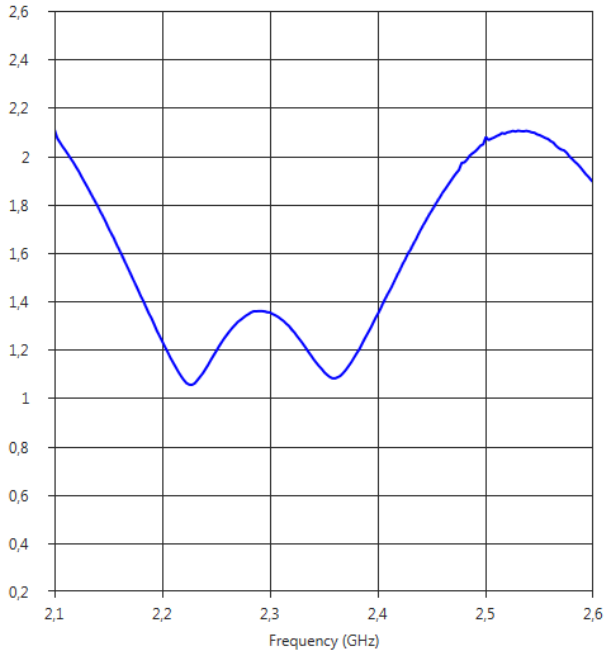
3 – ELECTRICAL PERFORMANCE

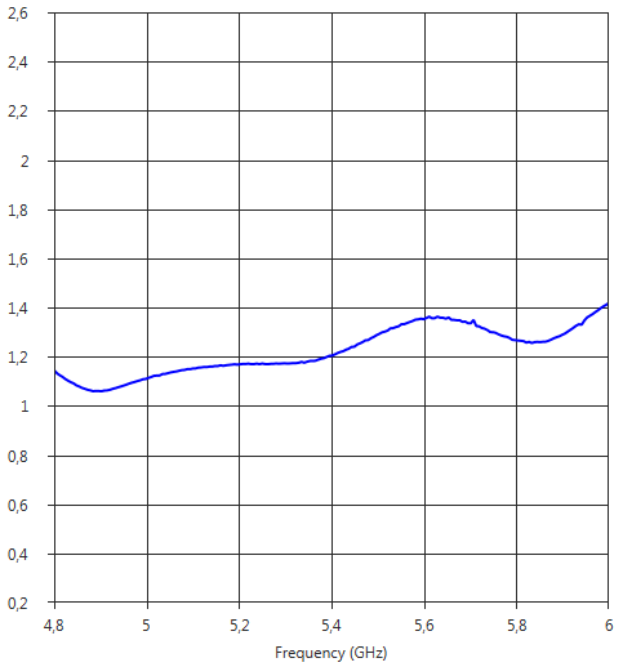
- The measured Return loss of the PCB antenna



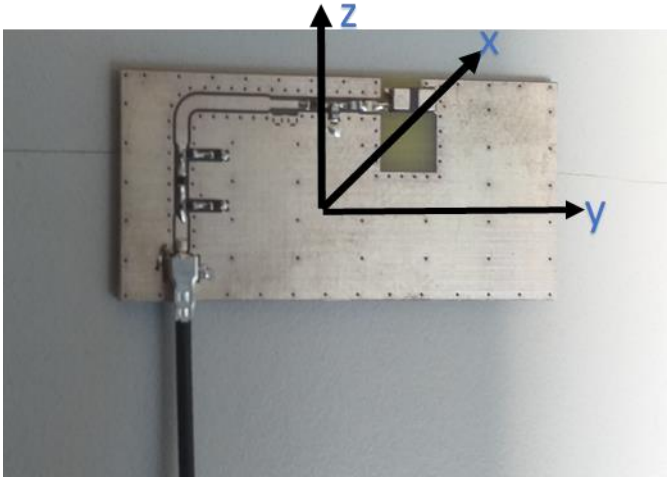


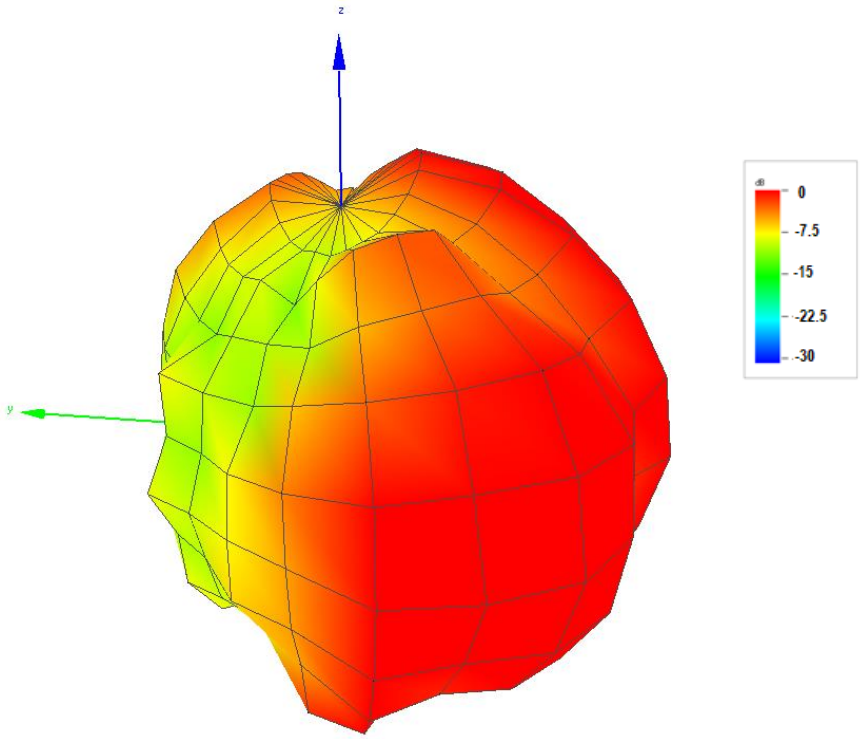
- The measured VSWR for both operating bands



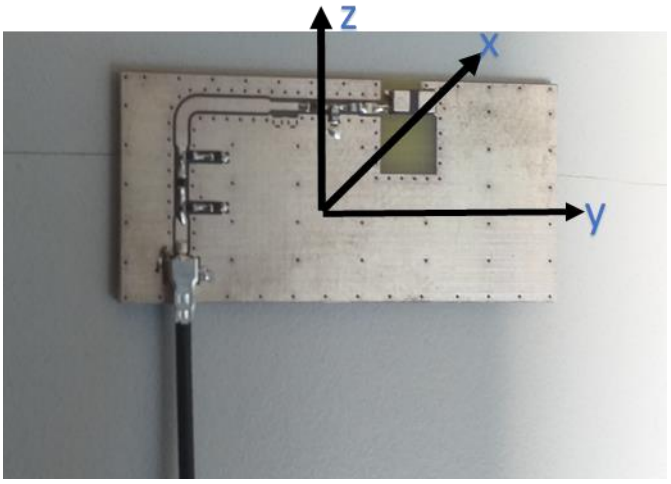


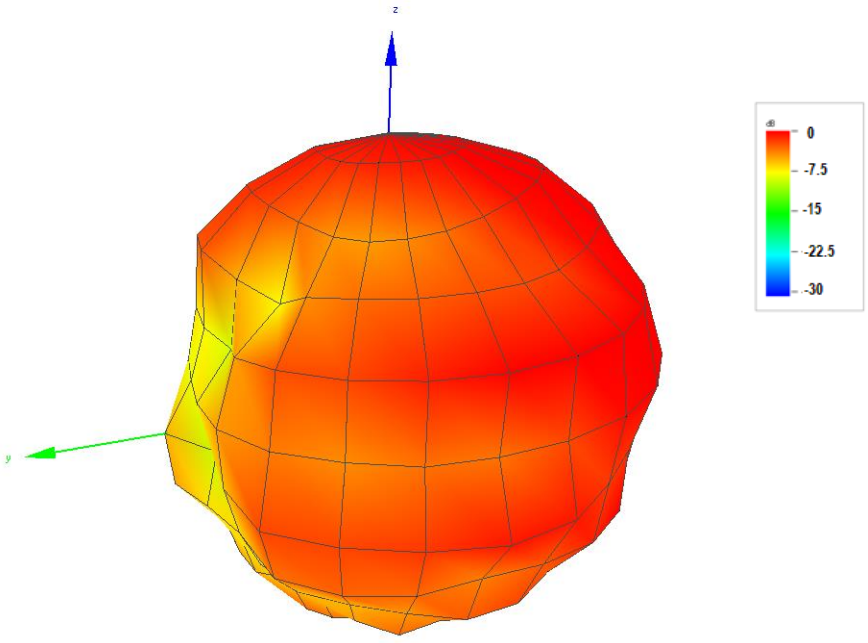
- 3-D Antenna Radiation Patterns @ 2.45 GHz



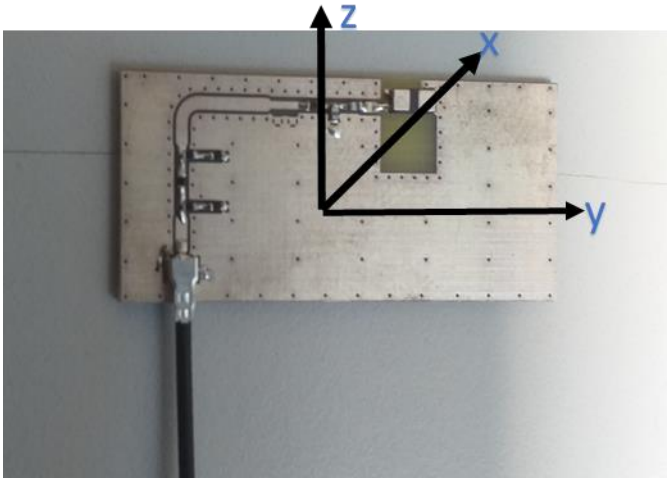


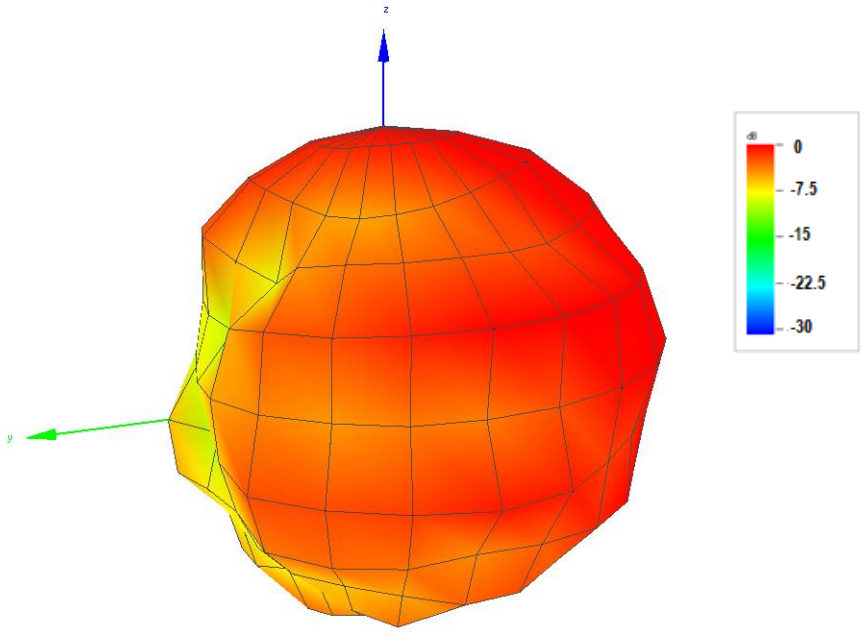
- 3-D Antenna Radiation Patterns @ 5.15 GHz





- 3-D Antenna Radiation Patterns @ 5.50 GHz





*all the radiation patterns are normalized

4 – NOTES

The actual performance of the antenna will depend on the environment of the device where antenna is placed into. For the optimal performance avoid placing the resonator part of the PCB antenna near metal parts like metal housing, display, battery and metal buttons. Antenna element should be placed at the edge of device as the suggested placement .