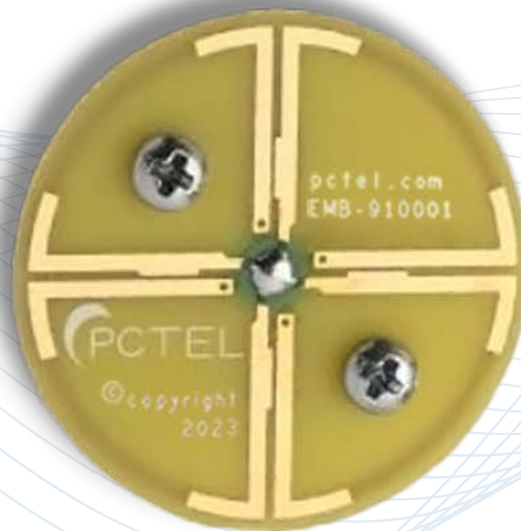


Horizontally-Polarized Monopole Antenna for 5 GHz Wi-Fi

Wi-Fi Antennas

EMB-910001



Description

Compact, horizontally-polarized antenna that covers the 5 GHz Wi-Fi band

Technologies

- Wi-Fi

Features

- Compact and low-profile: easy to integrate into tight spaces or onto multi-antenna platforms
- Straightforward to deploy using nylon or metal hardware and comes with two nylon spacers for mounting
- Highly omnidirectional radiation patterns are suitable for a variety of deployment scenarios
- Horizontal polarization can be exploited to increase MIMO diversity or enable dual-concurrent radios
- Approved for use with the PCTEL RM-WIFI-AC-2X2-HP 5 GHz radio module



Horizontally-Polarized Monopole Antenna for 5 GHz Wi-Fi

Wi-Fi Antennas

The EMB-910001 antenna element is a horizontally-polarized monopole antenna that covers the 5 GHz Wi-Fi band. It is designed for use on multi-antenna platforms where polarization diversity and element-to-element isolation are key objectives. (We note that the combination of EMB-910001 and EMB-910003 realizes such a cross-polarized antenna scheme.) The omnidirectional radiation patterns are well-suited to ceiling-mount and high-density deployments such as office spaces and airports.

The antenna element is terminated in a micro-coaxial cable having a U.FL-style connector and comes with two unthreaded nylon spacers. The antenna may be mounted to a flat surface (ground plane) using two screws and two nuts. Additionally, the EMB-910001 antenna is approved for use with the PCTEL RM-WIFI-AC-2X2-HP 5 GHz radio module.

Features

- Compact and low-profile: easy to integrate into tight spaces or onto multi-antenna platforms
- Straightforward to deploy using nylon or metal hardware and comes with two nylon spacers for mounting
- Highly omnidirectional radiation patterns are suitable for a variety of deployment scenarios
- Horizontal polarization can be exploited to increase MIMO diversity or enable dual-concurrent radios
- Approved for use with the PCTEL RM-WIFI-AC-2X2-HP 5 GHz radio module

Horizontally-Polarized Monopole Antenna for 5 GHz Wi-Fi

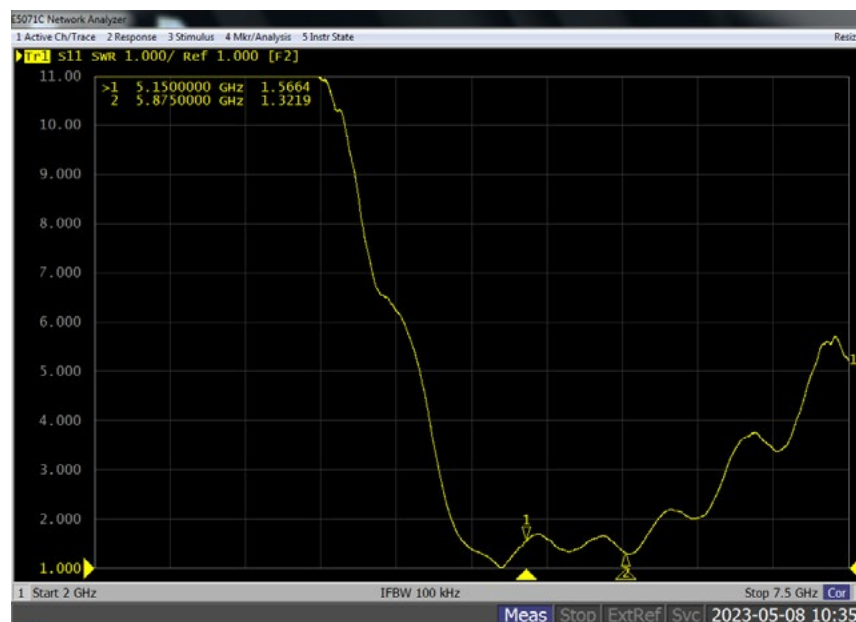
Wi-Fi Antennas

Specifications

Antenna Type	Horizontally-Polarized Monopole Antenna
Frequency Range	5150 - 5875 MHz
VSWR	1.5:1 nominal, 2:1 maximum (integration-dependent)
Peak Gain	4.3 dBi
Antenna Dimensions	32.2 [mm] Ø, 0.9 [mm] thick
Recommended Radome Separation	> 2.5 [mm]
Fastening Method	#4-40 pan head machine screws (metal or nylon)
Included Hardware	8 [mm] length nylon spacers; 3.2 [mm] ID, 7 [mm] OD
Material	FR-4 (UL-94 V-0)
Cable	1.37 [mm] Ø microcoax; 6" length
Connector	U.FL-style plug
Ground Plane Clearance Hole	4 [mm] Ø
Operating Temperature	-40°C to +85°C

All performance parameters were measured with the antenna mounted on a 4"x4" ground plane loaded by a 100 mil-thick polycarbonate radome spaced 15 [mm] above the ground plane.

VSWR – EMB-910001



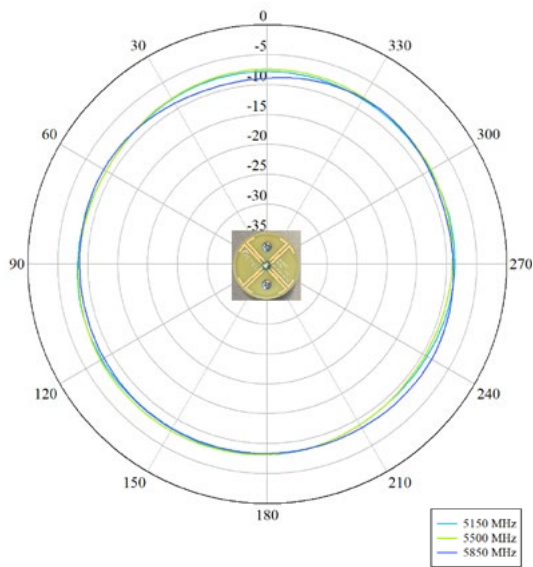
The VSWR of the antenna measured from 2 - 7.5 GHz.

Horizontally-Polarized Monopole Antenna for 5 GHz Wi-Fi

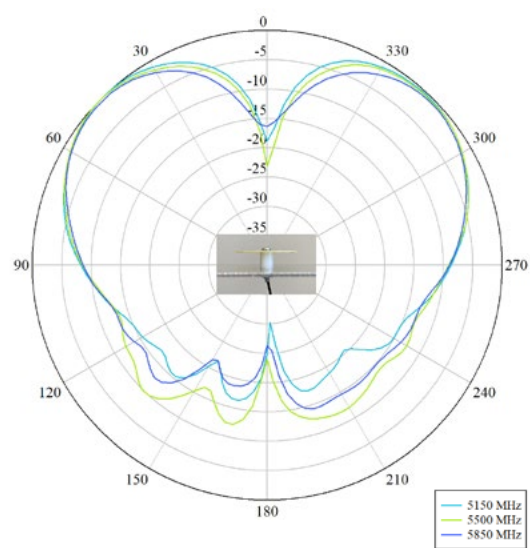
Wi-Fi Antennas

5 GHz Radiation Patterns

Azimuth Plane



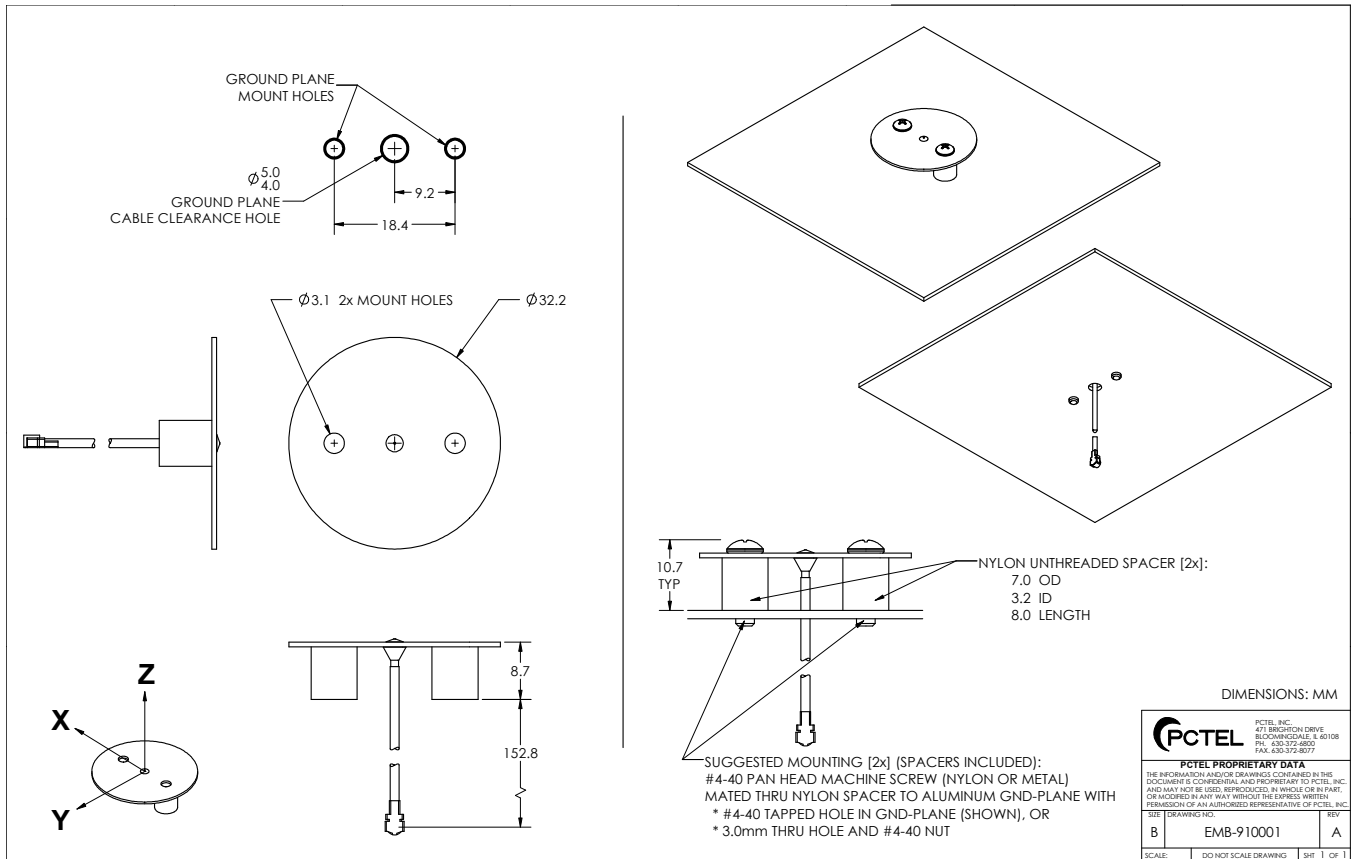
Elevation Plane



Horizontally-Polarized Monopole Antenna for 5 GHz Wi-Fi

Wi-Fi Antennas

Mechanical Drawing



CONTACT US

**For more information about
this product contact us**

> pctel.com/contact

WHERE TO BUY

To order the EMB-910001, please contact
your local PCTEL distributor:

> pctel.com/contact/distributors/

Solving Complex Wireless Challenges

PCTEL is a leading global provider of wireless technology solutions, including purpose-built Industrial IoT devices, antenna systems, and test and measurement products. Trusted by our customers for 29 years, we solve complex wireless challenges to help organizations stay connected, transform, and grow.



PCTEL, Inc.

T: +1 630 372 6800 | pctel.com

Specifications subject to change without notice. ©2023 PCTEL, Inc. All rights reserved. (September 2023)