



Inventek Systems

Embedding Connectivity Everywhere

Inventek Systems

OEM Wi-Fi Antennas

P/N: W24P-U



Table of Contents

1	GENERAL DESCRIPTION.....	3
2	PART NUMBER DETAIL DESCRIPTION.....	3
	Ordering Information.....	3
3	GENERAL FEATURES.....	3
3.1	Environmental Specifications.....	3
4	Features.....	4
5	Applications.....	4
6	Electrical Specifications.....	4
6.1	Return Loss(S^{11}).....	4
6.2	Smith Chart(S^{11}).....	5
7	Antenna Dimensions (unit: mm).....	5
8	Radiation Pattern.....	6
8.1	3D Gain Pattern (Radiation Pattern at 2442 MHz).....	6
8.2	9-2 Efficiency Table.....	7
8.3	9-3 Efficiency vs. Frequency.....	7
9	Electrical Specifications.....	7
10	REVISION CONTROL.....	8
11	CONTACT INFORMATION.....	8

1 GENERAL DESCRIPTION

The [Inventek](#) 2400-2500 Mhz Wi-Fi PCB (30 x 5 mm) antennas let you integrate Wi-Fi functionality into your product quickly and easily. It's suitable for a wide range of applications and recommended for use with Inventek eS-Wi-Fi modules.

2 PART NUMBER DETAIL DESCRIPTION

Ordering Information

Device	Description	Ordering Number
W24P-U	2400-2500 Mhz Wi-Fi PCB antenna with U.FI connector and 90 mm cable length	W24P-U

3 GENERAL FEATURES

Characteristics		Specifications	Unit
Outline Dimensions		30 x 5.0 x .05	mm
Center Frequency		2442	MHz
Bandwith		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.2 (typical)	dBi
	Efficiency	79 (typical)	%

3.1 Environmental Specifications

Item	Description
Operating temperature rang	-40 deg. C to +80 deg. C
Storage temperature range	-55 deg. C to +100 deg. C
Humidity	95% max non-condensing

4 Features

- Stable and reliable in performances
- PCB antenna has excellent sensitivity to consistently provide high signal reception efficiency
- Compact size
- RoHS compliance

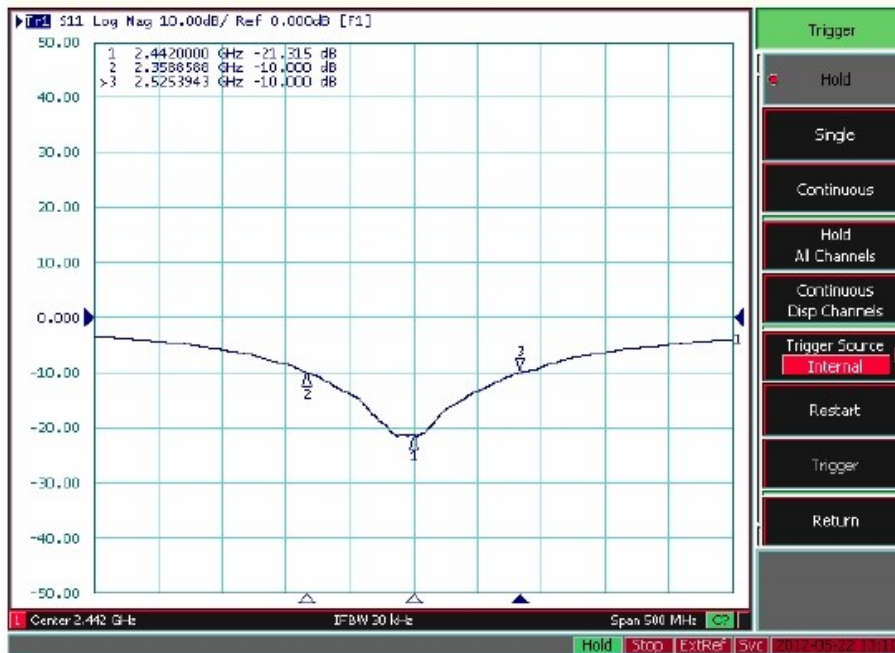
5 Applications

*IEEE802.11 (b/g/n).

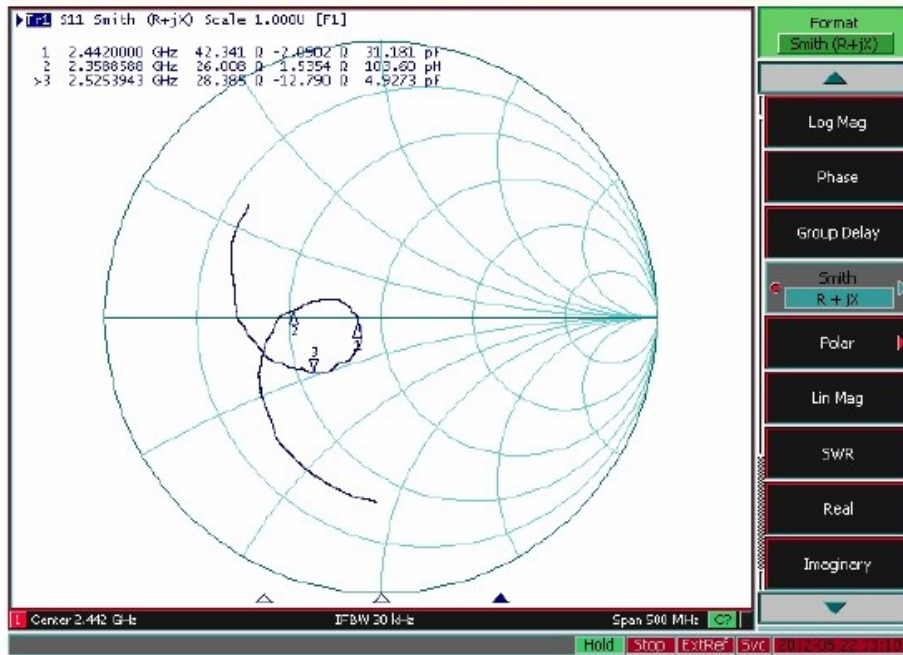
*Hand-held devices when WiFi (802.11 b/g/n) functions are needed.

6 Electrical Specifications

6.1 Return Loss(S^{11})

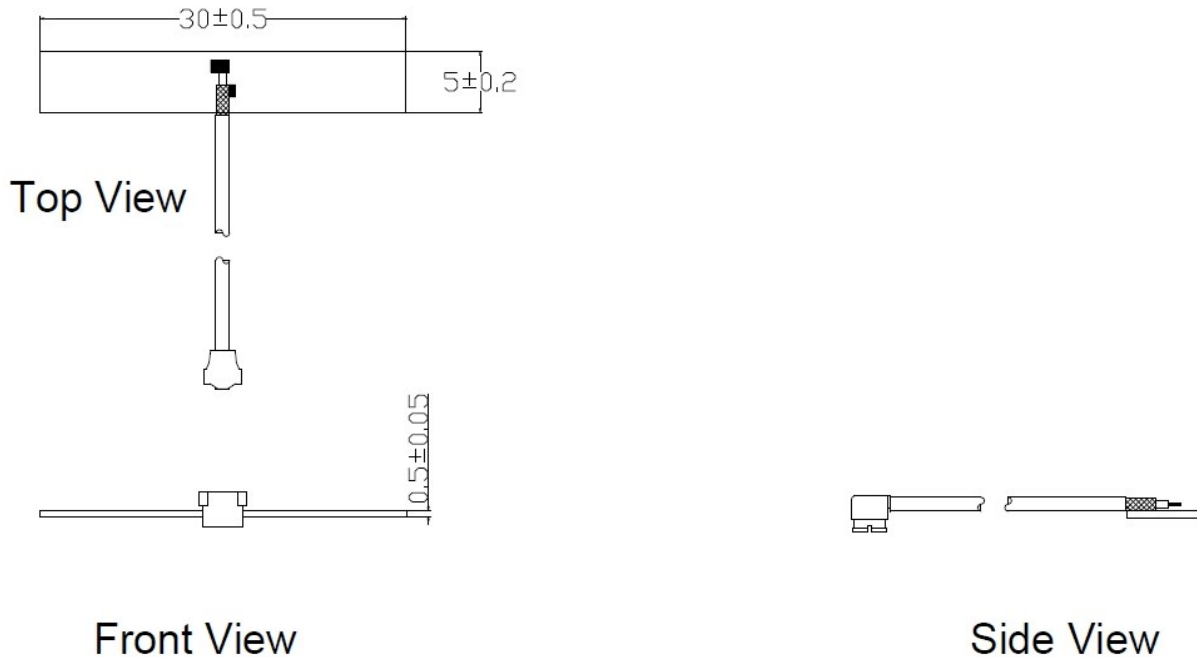


6.2 Smith Chart(S¹¹)



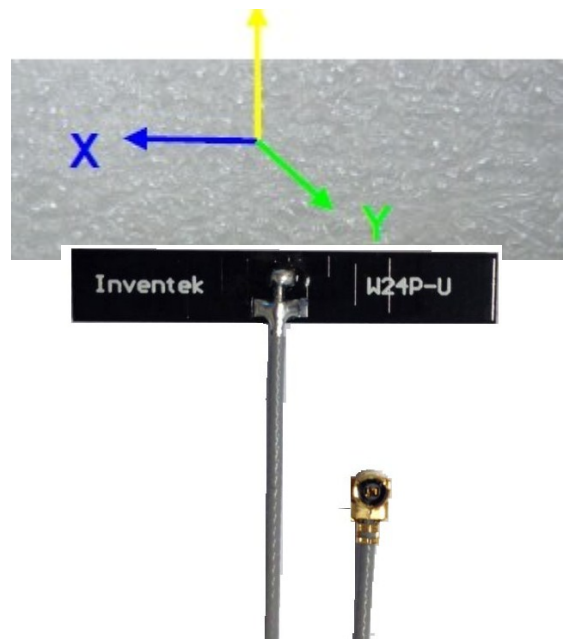
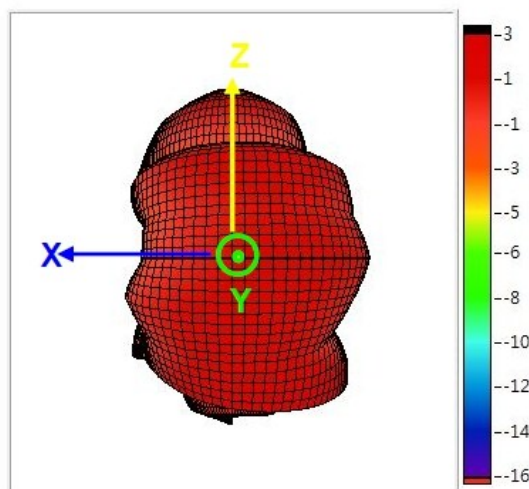
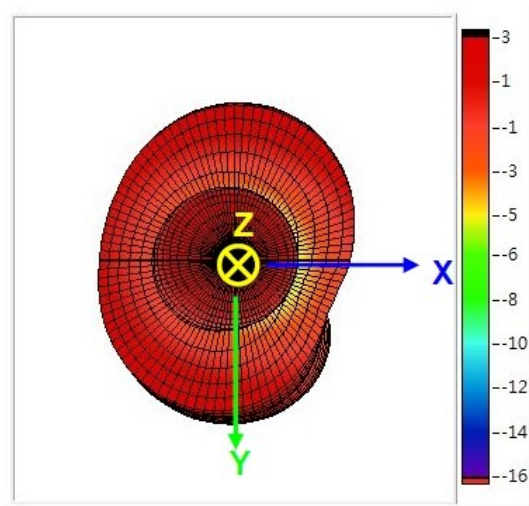
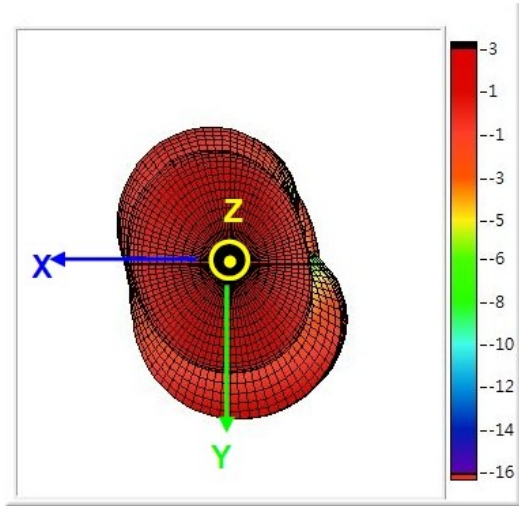
7 Antenna Dimensions (unit: mm)

Our standard cable length is 90mm long. Minimum order custom cable lengths can be special order by request.



8 Radiation Pattern

8.1 3D Gain Pattern (Radiation Pattern at 2442 MHz)



8.2 9-2 Efficiency Table

Frequency(GHz)	2.400	2.412	2.417	2.422	2.427	2.432	2.437	2.442	2.447	2.452	2.457	2.462	2.467	2.472	2.484
Efficiency(dB)	-1.51	-1.26	-1.21	-1.13	-1.09	-0.99	-0.90	-1.01	-1.06	-1.04	-0.87	-0.79	-0.82	-0.86	-0.98
Efficiency (%)	70.63	74.82	75.68	77.09	77.80	79.62	81.28	79.25	78.34	78.70	81.85	83.37	82.79	82.04	79.80
Gain(dBi)	2.76	2.96	3.02	3.05	3.15	3.24	3.32	3.26	3.23	3.26	3.42	3.55	3.56	3.58	3.48

8.3 9-3 Efficiency vs. Frequency

