



**Inventek Systems**  
Embedding Connectivity Everywhere

# **Inventek Systems**

**OEM Wi-Fi Antennas  
P/N: W24P-U**



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## 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	$\Omega$
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

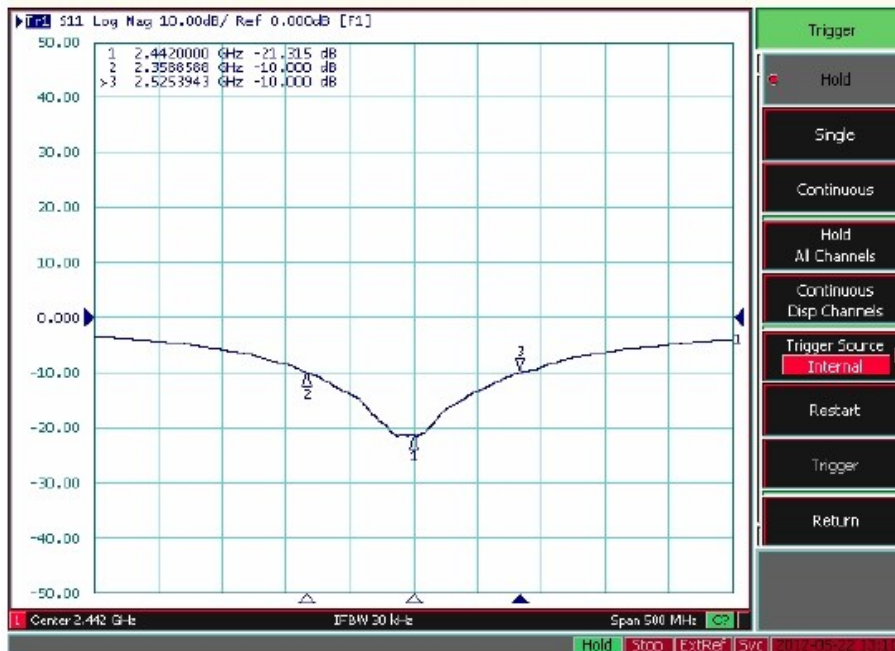
## 5 Applications

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

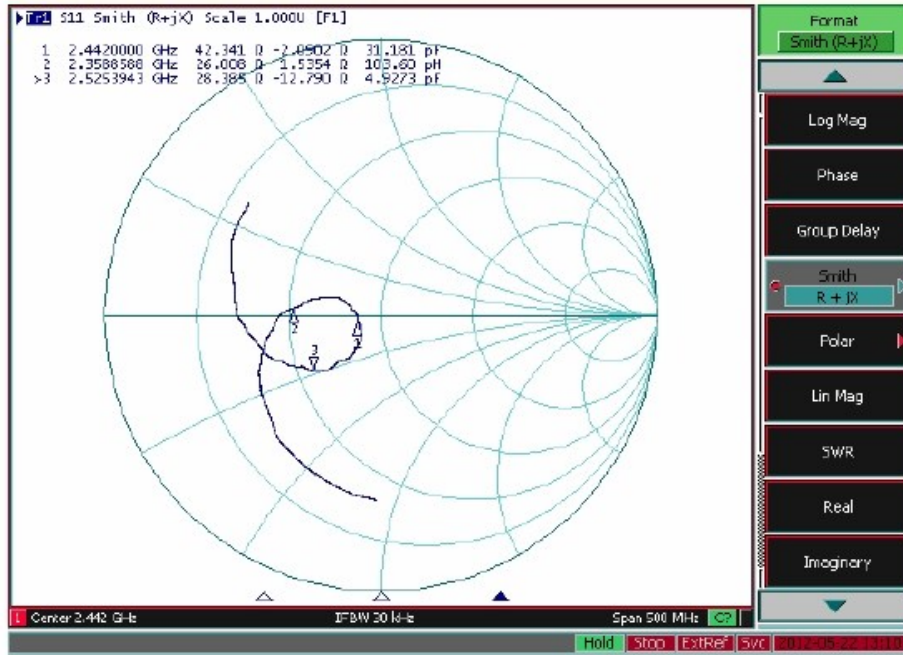
\*Hand-held devices when WiFi (802.11 b/g/n) functions are needed.

## 6 Electrical Specifications

### 6.1 Return Loss( $S^{11}$ )

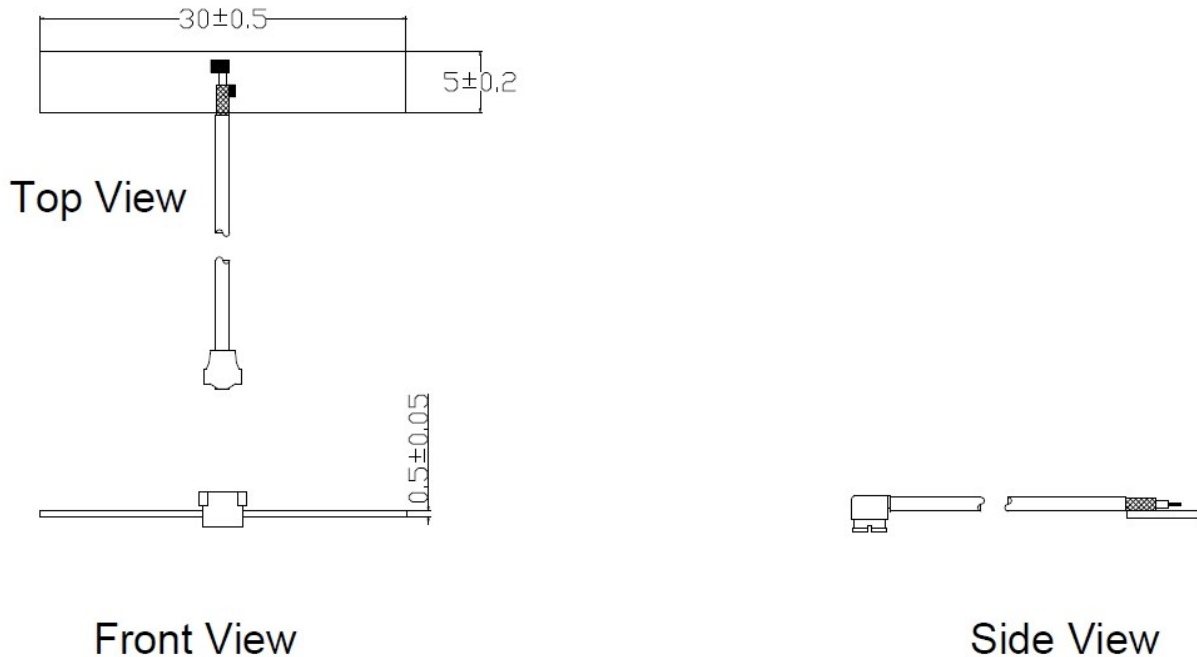


## 6.2 Smith Chart(S<sup>11</sup>)



## 7 Antenna Dimensions (unit: mm)

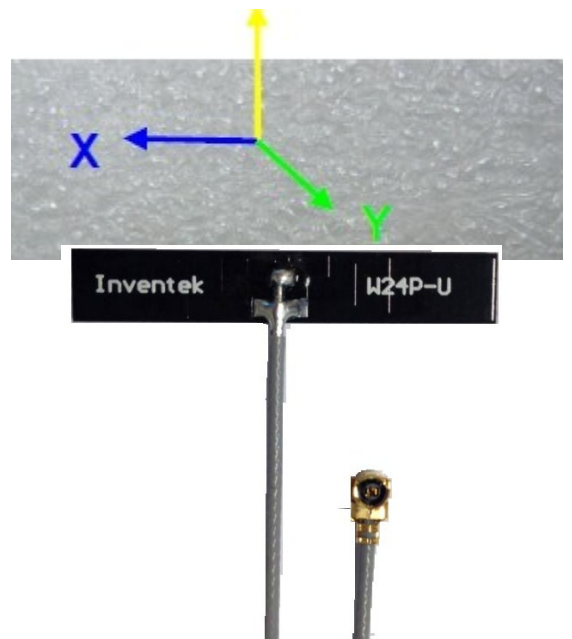
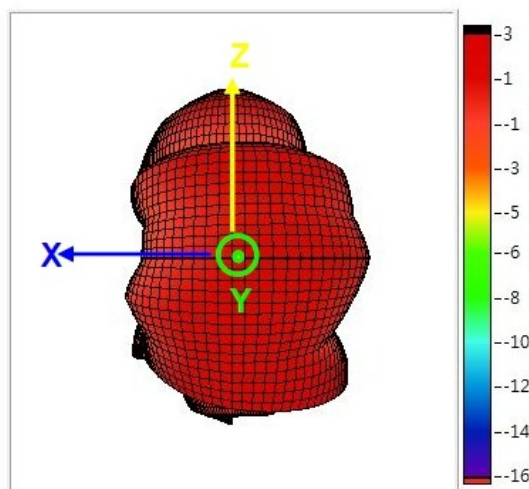
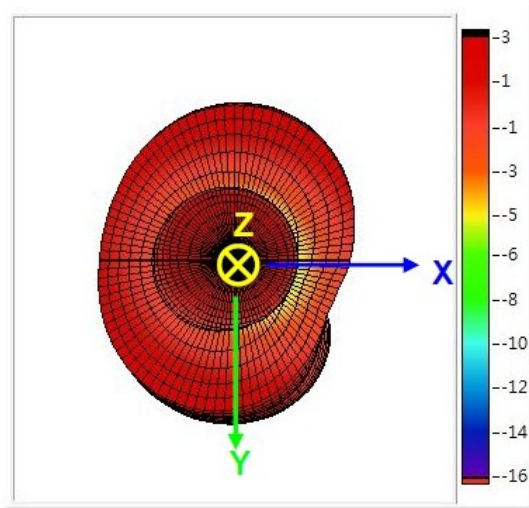
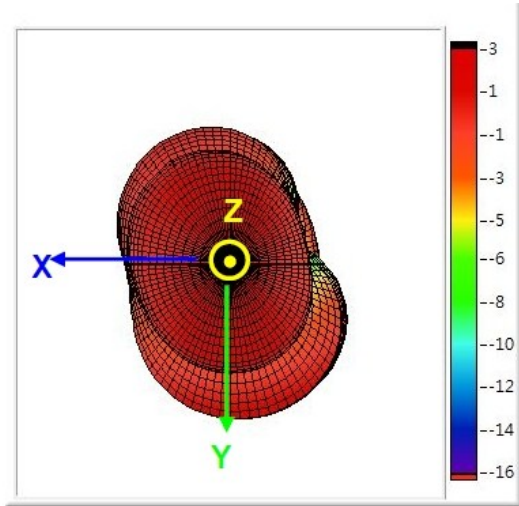
Our standard cable length is 90mm long. Minimum order custom cable lengths can be special order by request.



Unit:mm  
 1 agc 5 01 0

## 8 Radiation Pattern

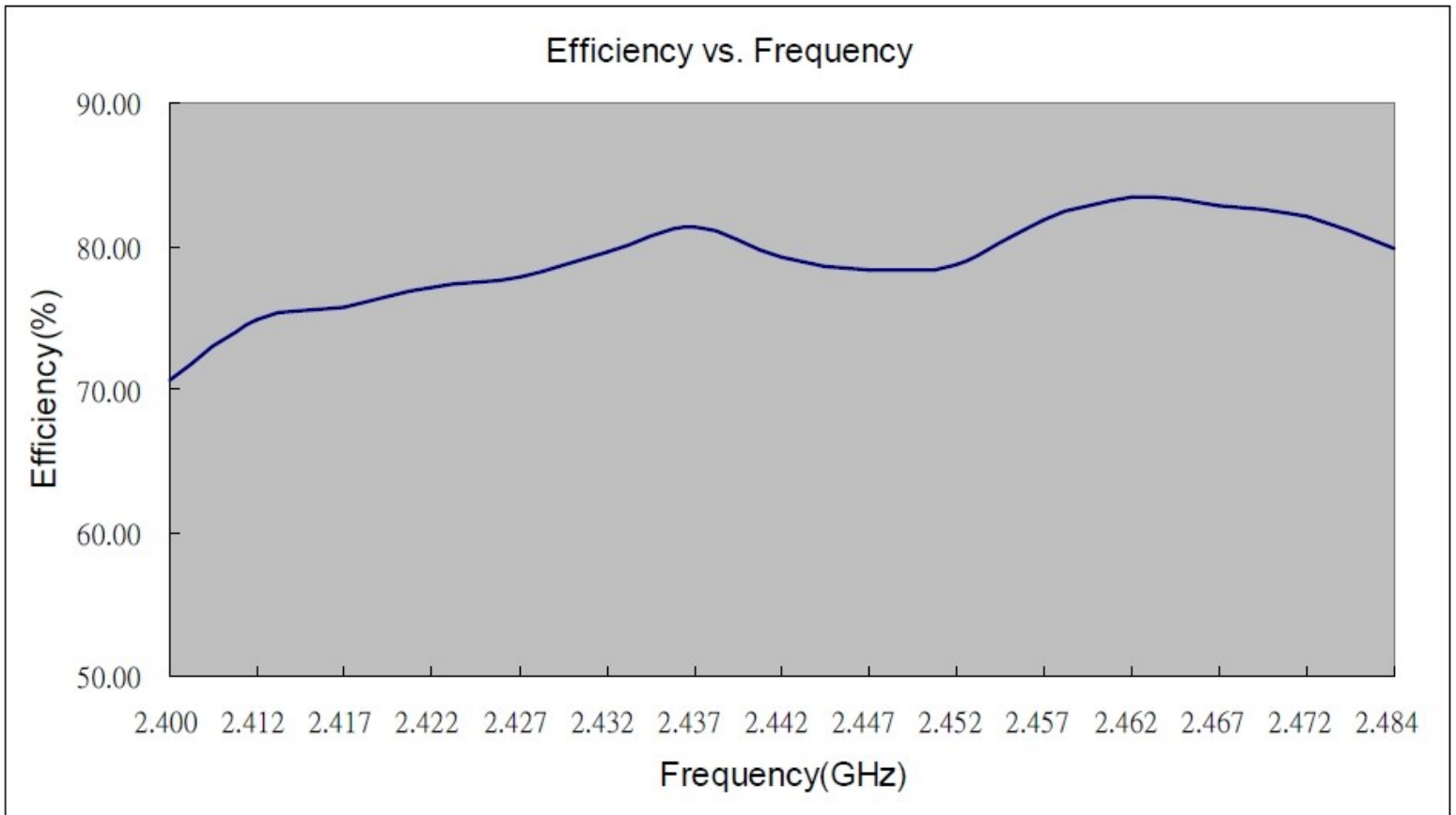
### 8.1 3D Gain Pattern (Radiation Pattern at 2442 MHz)



### 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



**RoHS:** Restriction of Hazardous Substances (RoHS) directive has come into force since 1st July 2006 all electronic products sold in the EU must be free of hazardous materials, such as lead.

## 10 REVISION CONTROL

Document : W24P-U	2.4 Ghz PCB antenna
Internal Release	DOC-DS-20075

Date	Author	Revision	Comment
10/1/2013	FMT	1.0	Preliminary

## 11 CONTACT INFORMATION

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