Inventek Systems
Embedding Connectivity Everywhere

Inventek Systems

Wi-Fi Dual Band Antennas
2.4 & 5 Ghz

P/N: W2.4-5P-U

Table of Contents

1 General Description

The Inventek 2400-2500 and 4900-5900 MHz Dual Band Wi-Fi PCB (40 x 6.0 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

2.1 Ordering Information

Device	Description	Ordering Number
W2.4-5P-U	2400-2500 & 4900-5900 MHz Dual Band Wi-Fi PCB antenna with U.FI connector and 90 mm cable length	W2.4-5P-U

3 General Features

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

4 Applications

- IEEE802.11 (b/g/n).
- Hand-held devices when WiFi (802.11 b/g/n) functions are needed.

5 Electrical Specifications

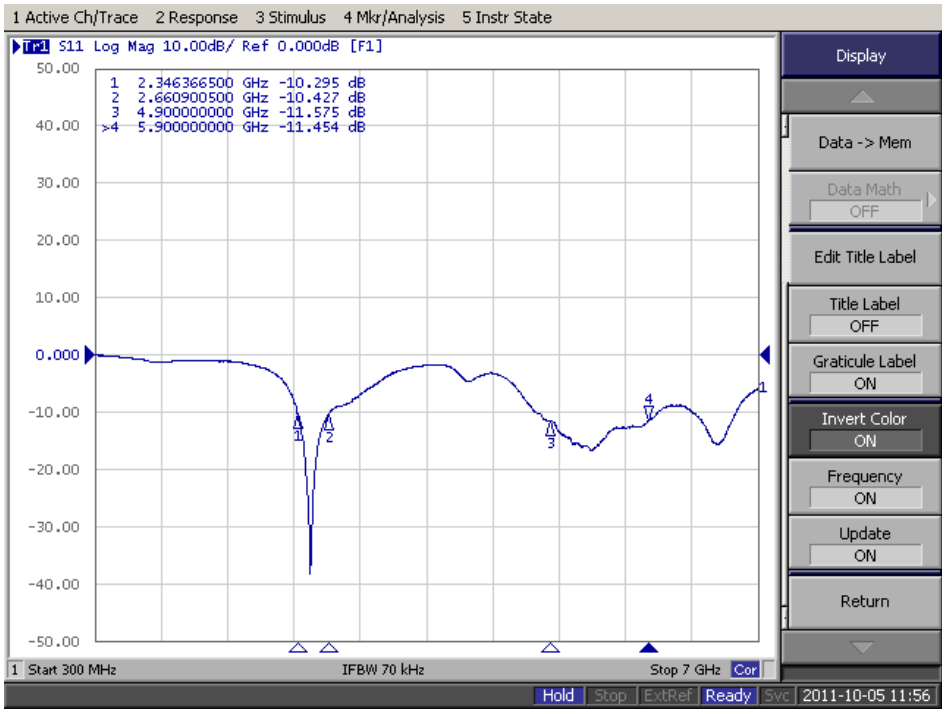
5.1 2400-2500 MHz Band

Characteristics		Specifications	Unit
Outline Dimensions		40 x 6.0 x 0.5	mm
Center Frequency		2442	MHz
Bandwidth		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	2.6 (typical)	dBi
	Efficiency	79 (typical)	%

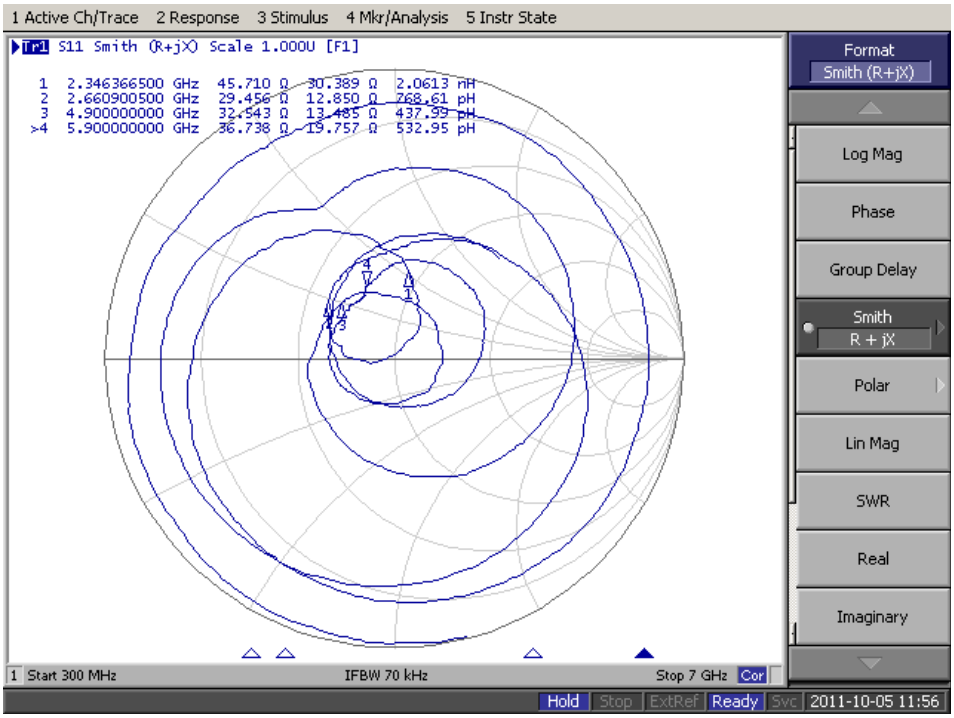
5.2 4900-5900 MHz Band

Characteristics		Specifications	Unit
Center Frequency		5400	MHz
Bandwidth		1000 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.3 (typical)	dBi
	Efficiency	79 (typical)	%

5.3 Return Loss (S_{11})

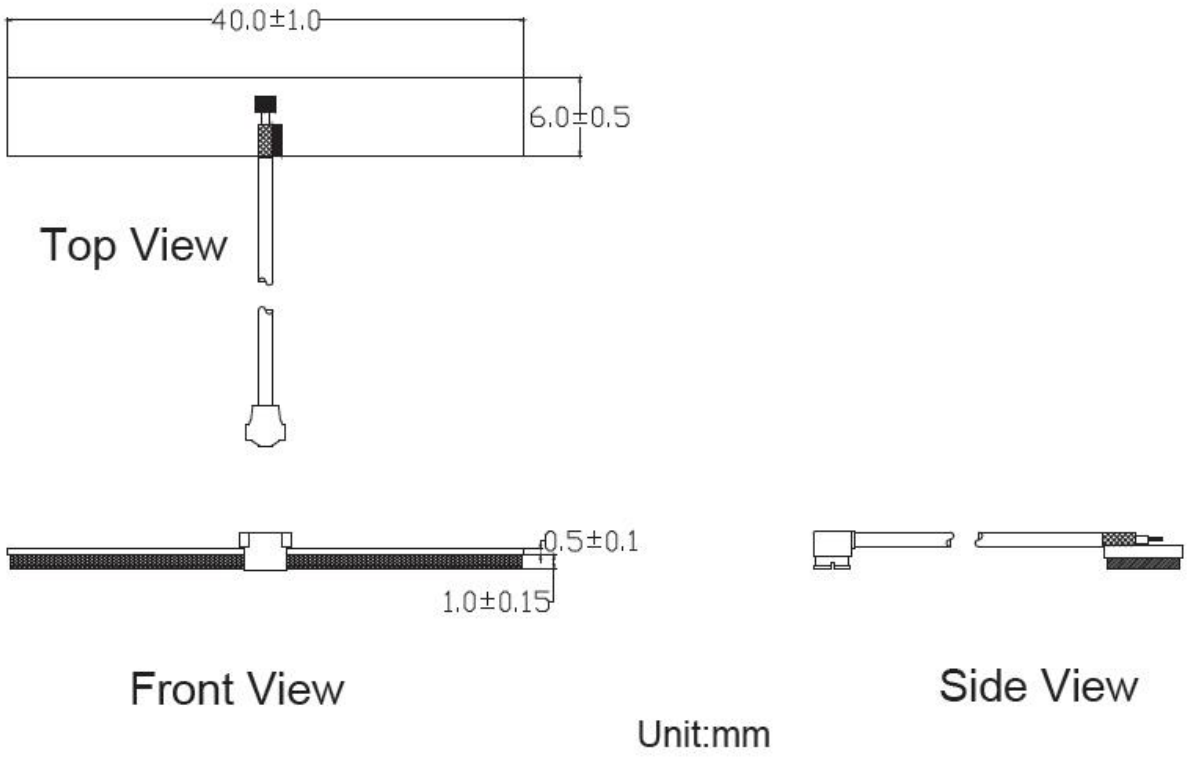


5.4 Smith Chart (S_{11})



6 Antenna Dimensions (unit: mm)

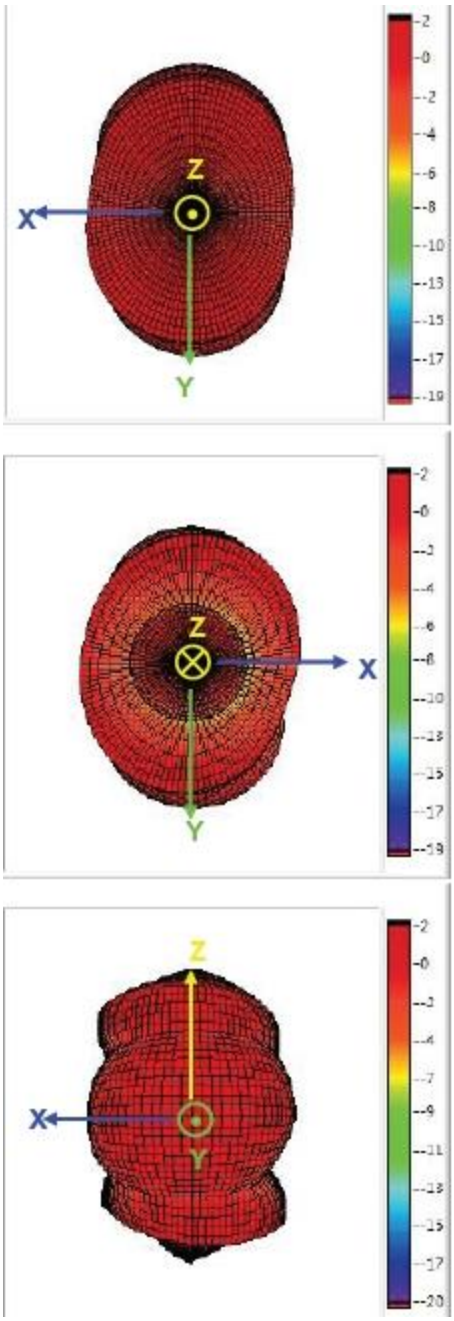
Our standard cable length is 90mm long. Custom cable lengths can be special order by request.

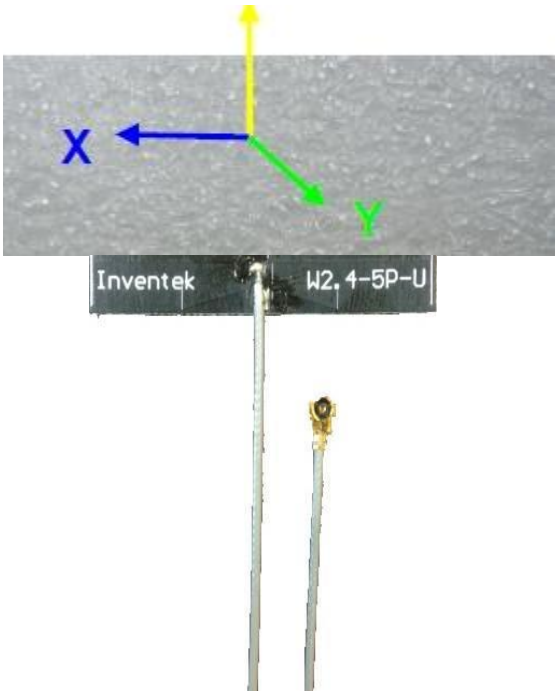


7 Radiation Pattern

7.1 2400-2500 MHz Band

7.1.1 3D Gain Pattern at 2442 MHz

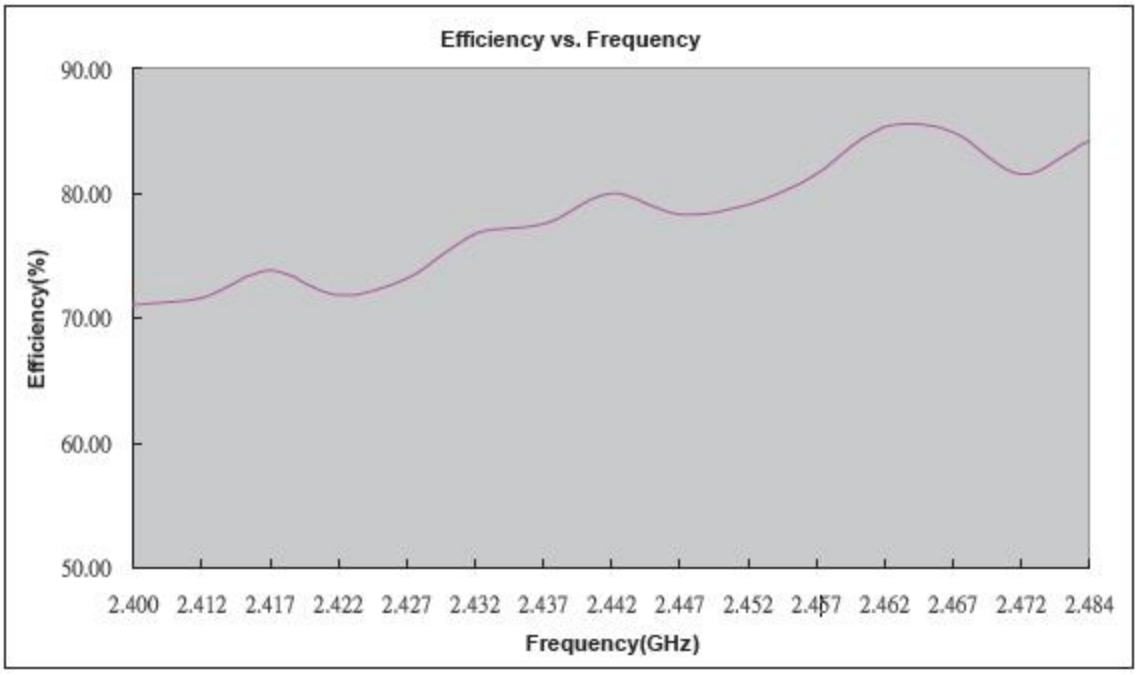




7.1.2 Efficiency Table

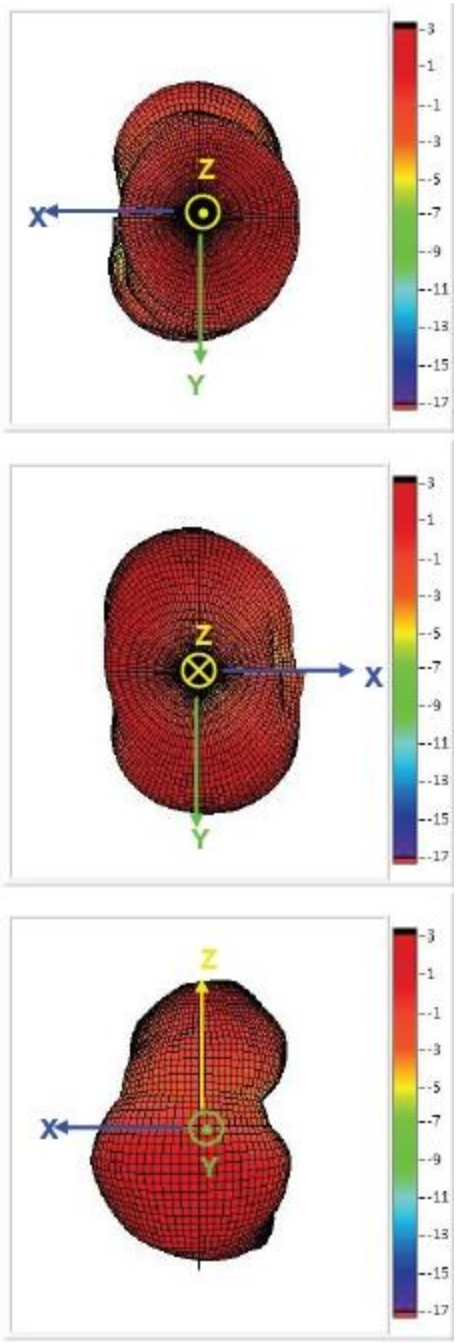
Frequency(GHz)	2.400	2.412	2.417	2.422	2.427	2.432	2.437	2.442	2.447	2.452	2.457	2.462	2.467	2.472	2.484
Efficiency(dB)	-1.49	-1.45	-1.32	-1.44	-1.36	-1.15	-1.11	-0.97	-1.06	-1.02	-0.89	-0.69	-0.71	-0.89	-0.75
Efficiency (%)	70.96	71.61	73.79	71.78	73.11	76.74	77.45	79.98	78.31	79.10	81.51	85.26	84.83	81.51	84.20
Gain(dBi)	2.11	2.21	2.34	2.26	2.33	2.49	2.52	2.68	3.07	3.21	3.50	3.73	3.69	3.39	3.42

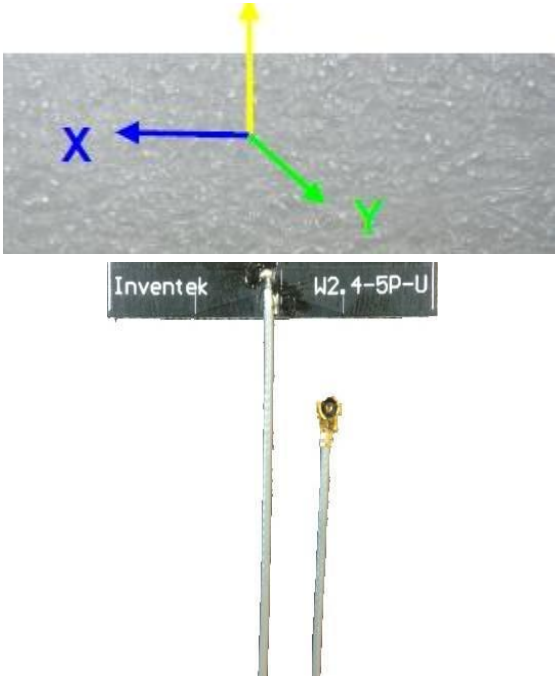
7.1.3 Efficiency vs. Frequency



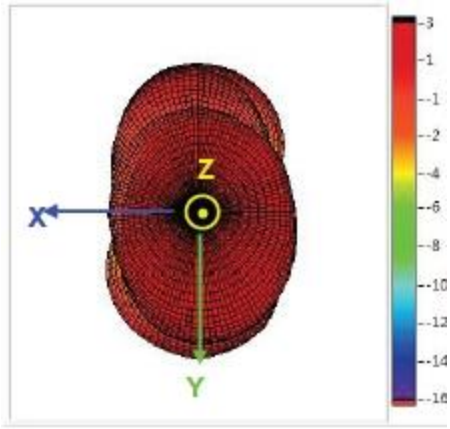
7.2 4900-5900 MHz Band

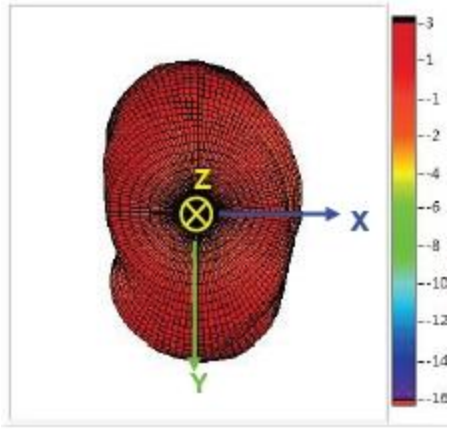
7.2.1 3D Gain Pattern at 5150 MHz

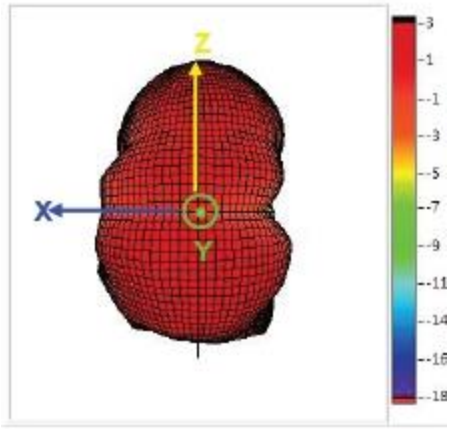


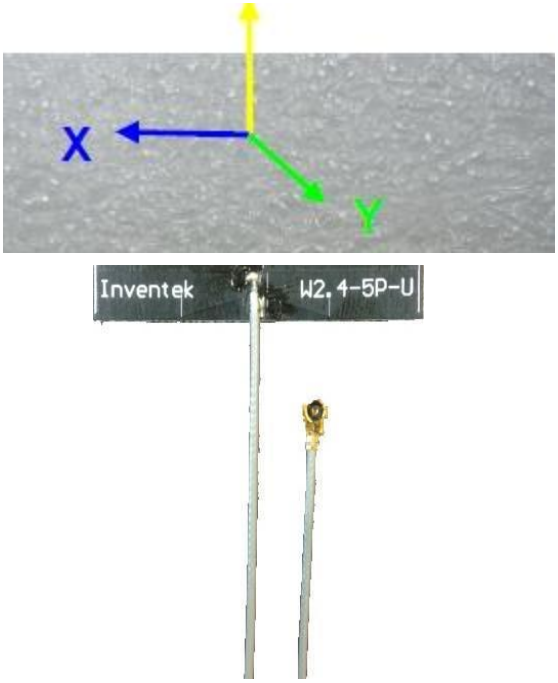


7.2.2 3D Gain Pattern at 5350 MHz

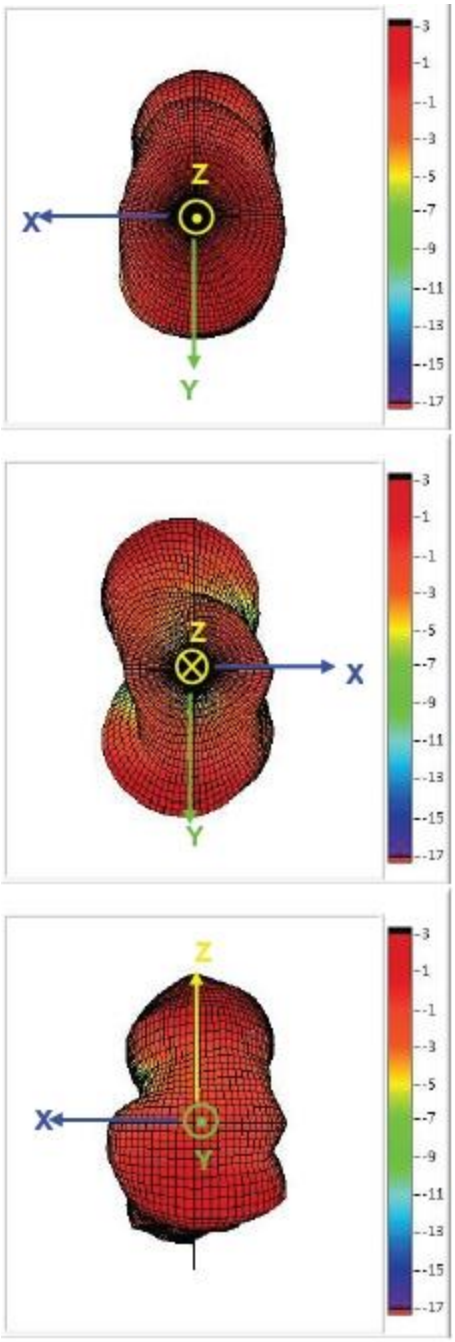


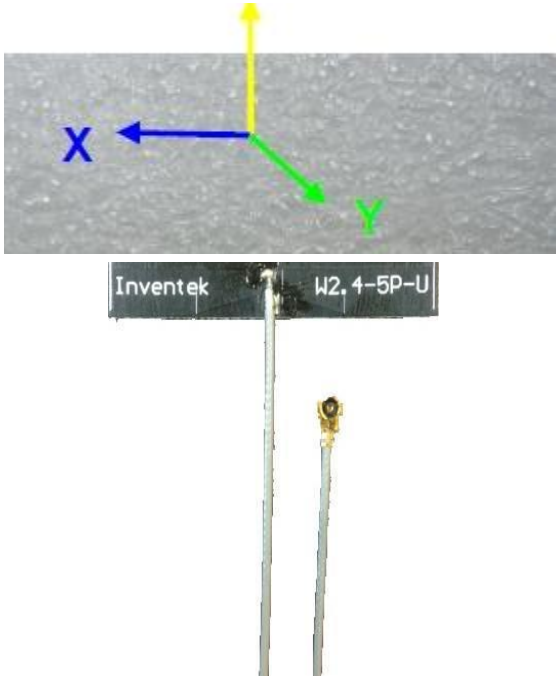




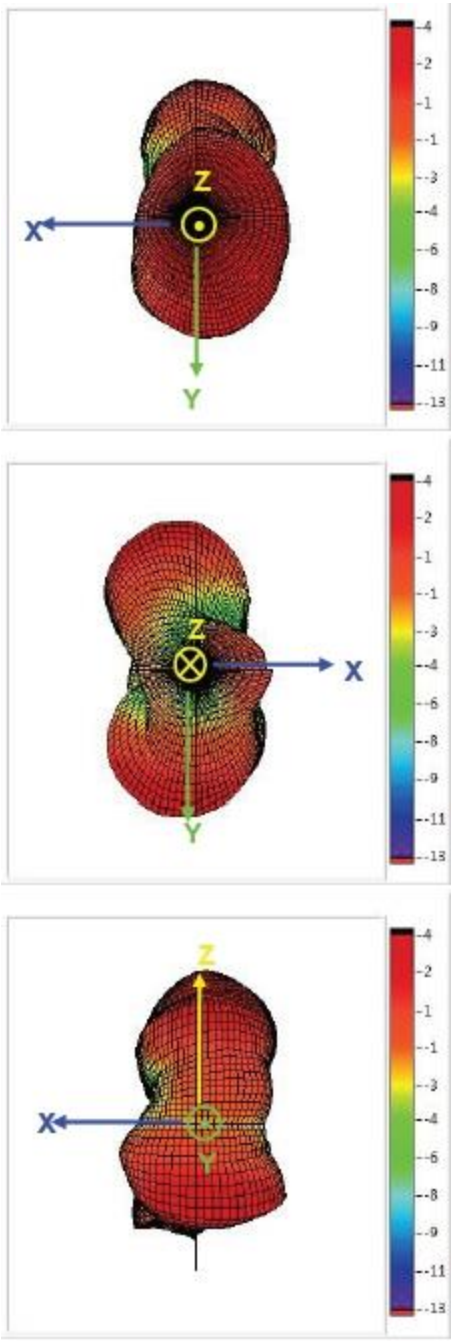


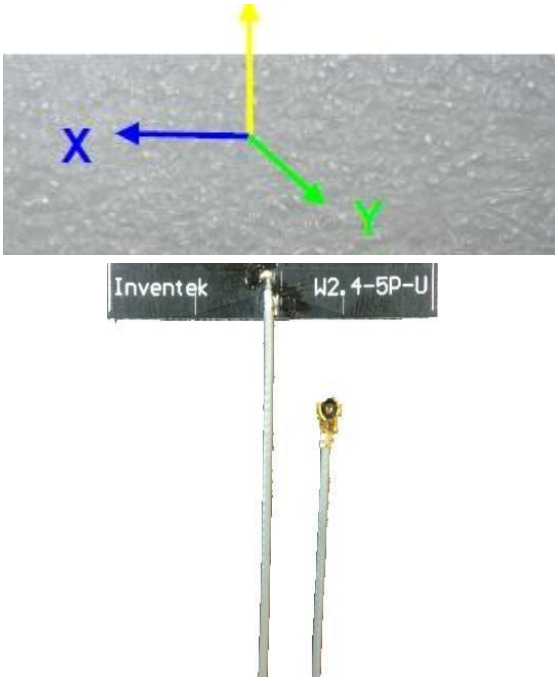
7.2.3 3D Gain Pattern at 5700 MHz





7.2.4 3D Gain Pattern at 5850 MHz



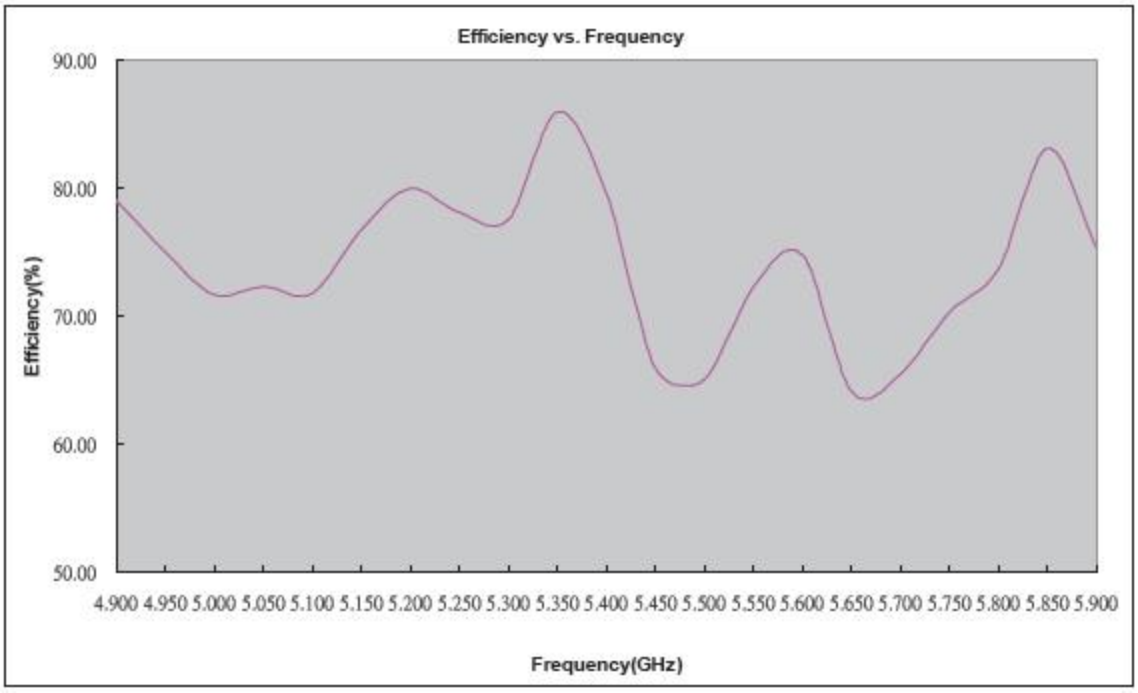


7.2.5 Efficiency Table

Frequency(GHz)	4.900	4.950	5.000	5.050	5.100	5.150	5.200	5.250	5.300	5.350	5.400
Efficiency(dB)	-1.02	-1.25	-1.45	-1.41	-1.44	-1.15	-0.97	-1.07	-1.11	-0.66	-0.99
Efficiency (%)	79.07	74.99	71.61	72.28	71.78	76.74	79.98	78.10	77.50	85.95	76.62
Gain(dBi)	3.23	2.74	2.30	2.56	2.83	3.20	3.46	3.72	3.30	3.39	3.36

Frequency(GHz)	5.450	5.500	5.550	5.600	5.650	5.700	5.750	5.800	5.850	5.900
Efficiency(dB)	-1.81	-1.87	-1.41	-1.26	-1.93	-1.85	-1.53	-1.33	-0.80	-1.23
Efficiency (%)	65.92	65.01	72.28	74.82	64.09	65.37	70.31	73.62	83.11	75.34
Gain(dBi)	2.47	2.97	3.49	3.79	2.60	3.06	3.74	3.91	5.18	3.98

7.2.6 Efficiency vs. Frequency



8 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.

9 Revision Control

Document : W2.4-5P-U	2.4_5GHz Dual Band Wi-Fi antenna
Internal Release	DOC-DS-20080

Date	Author	Revision	Comment
7/16/2014	KMT	1.0	Preliminary

10 Contact Information

Inventek Systems
2 Republic Road
Billerica Ma, 01862
Tel: 978-667-1962
Sales@inventeksys.com

www.inventeksys.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Antennas ***category:***

Click to view products by Inventek ***manufacturer:***

Other Similar products are found below :

GAN30084EU 930-033-R GW17.07.0250E 1513563-1 EXE902SM APAMPG-117 MAF94383 W3908B0100 W6102B0100 YE572113-30RSMM 108-00014-50 66089-2406 SPDA17RP918 A09-F8NF-M A09-F5NF-M RGFRA1903041A1T W3593B0100 W3921B0100 SIMNA-868 SIMNA-915 SIMNA-433 W1044 W1049B090 A75-001 WTL2449CQ1-FRSMM CPL9C EXB148BN 0600-00060 TRA9020S3PBN-001 Y4503 GD5W-28P-NF MA9-7N GD53-25 GD5W-21P-NF C37 MAF94051 MA9-5N EXD420PL B1322NR QWFTB120 MAF94271 MAF94300 GPSMB301 FG4403 AO-AGSM-OM54 5200232 MIKROE-2349 WCM.01.0111 MIKROE-2393 MIKROE-2352