

# SPECIFICATION FOR APPROVAL

CUSTOMER: Shenzhen Ai-Thinker Technology Co., Ltd

CUS PART NO: ESP-12F

PART NAME: 2.4G WLAN Antenna

Edition: 1.0

Editor	Ju Xiang	2019/05/13
Verifier	Guan Ning	2019/05/13
Approver	Xu Fuqiang	2019/05/13



**SHENZHEN B&T TECHNOLOGY Co., Ltd**

**ZHONGSHAN B&T TECHNOLOGY Co., Ltd**

Address: 3-4/F, Building A, Dongfang Industrial Park, Nanlang Town,  
Zhongshan City, Guangdong Province, China

## Directory

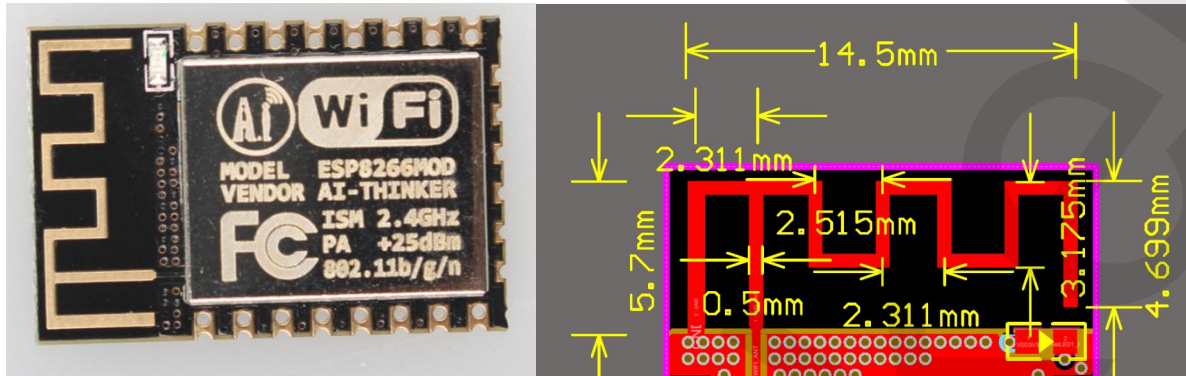
1、Performance parameter .....	3
2、VSWR .....	4
3、Passive test data.....	4
4、Radiation pattern .....	5

# Product specification

## 1、 Performance parameter

Name	2.4G WLAN Antenna
Model Type	PCB Print Antenna
ELECTRICAL SPECTFICATIONS	
Frenquency Range	2400-2500MHz
Band Width	100MHz
Impedance	50 $\Omega$
VSWR	< 2.0
Max Gain	1.97dBi
Polarization	Vertical/Horizontal
Radiation	Omnidirectional
Power	50 W
MECHANICAL SPECTFICATIONS	
Connector	Welding type
Working Temperature	-40°C - + 85°C
Limit Temperature	-40°C - + 125°C

## ESP-12F PCB Antenna



## Base Features

Product Model	ESP-12F PCB Antenna		
Package	2.4G PCB Antenna	Size	14.5*5.7mm
Frequency Range	2400 ~ 2500MHz	Bandwidth	100MHz
Input Impedence	50Ω	VSWR	≤ 2.5
Max Input Power	1W		
Operating Temperature	-20 °C ~ +85 °C	Operating Humidity	20~80%

## Antenna Gain

Frequency (MHz)	Horizontal			Vertical		
	2400	2450	2500	2400	2450	2500
Gain (dBi)	2.19	1.70	1.55	-1.09	-1.73	-2.32
Max Gain (dBi)	2.19					

## Voltage Standing Wave Ratio & Return Loss

Frequency (MHz)	2400	2450	2500
VSWR	1.59	1.79	2.18
RL (dB)	-29.57	-29.78	-29.7

## Contact US

Shenzhen Ai-Thinker Technology Co., Ltd

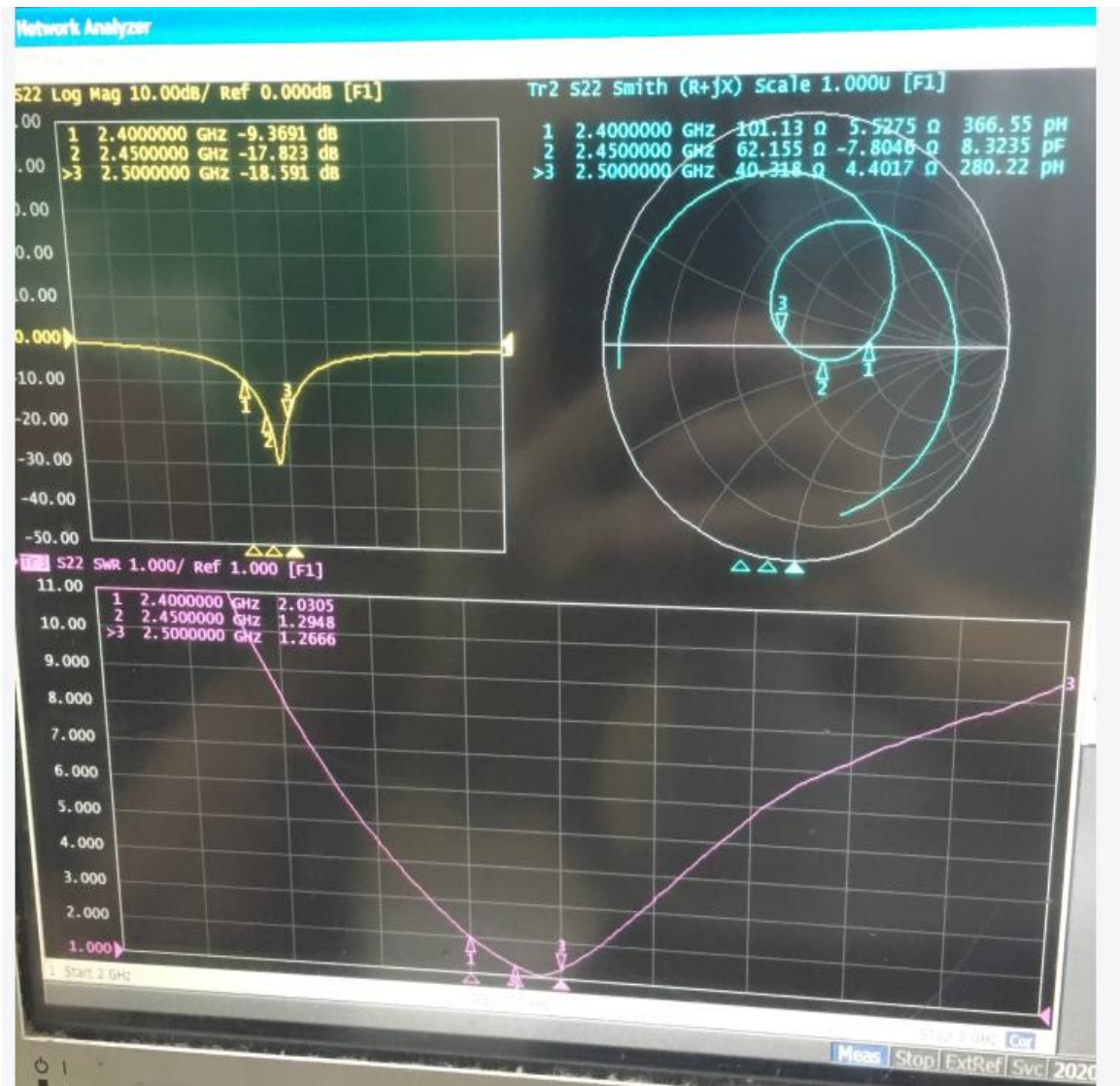
Address: 6/F, Block C2, Huafeng Industrial Park, Hangcheng Road, Baoan district, Shenzhen, China.

Website: [www.ai-thinker.com](http://www.ai-thinker.com)

Tel: 0755-29162996

Mail: [support@aithinker.com](mailto:support@aithinker.com)

2、VSWR

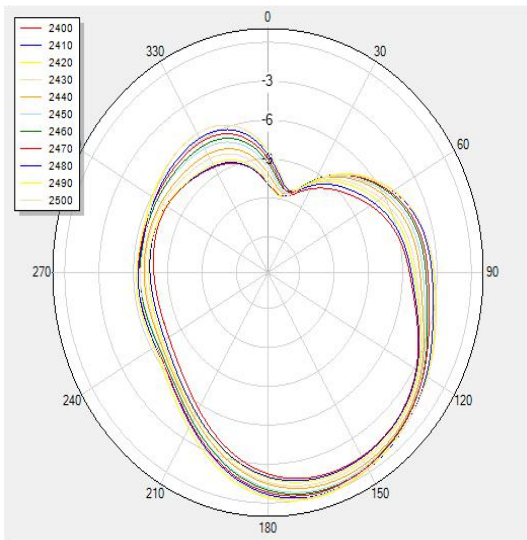


3、Passive test data:

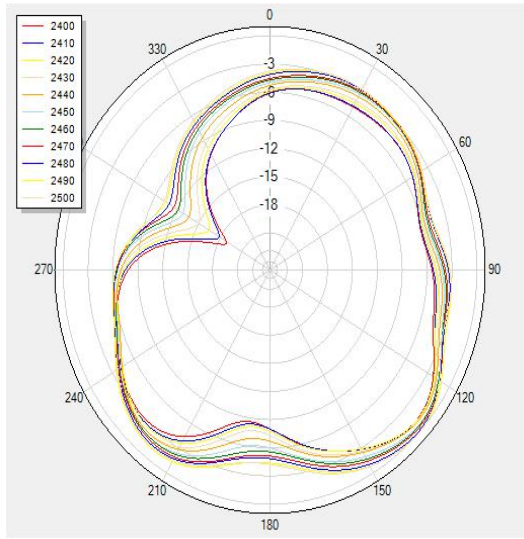
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	1.27	1.26	1.62	1.35	1.39	1.64	1.89	1.97	1.96	1.84	1.71
Efficiency (%)	48.62	48.84	51.31	49.07	49.85	53.47	54.63	55.12	55.21	55.09	53.65

#### 4、Radiation pattern

### H Theta=90



### V Phi=90



### V Phi=0

