

## Antenna Description

<b>Factory Internal Model</b>	V1350-053-A-1	
<b>Category</b>	WIFI	
<b>Frequency Band</b>	2400-2500	MHz
<b>Form</b>	Steel insert antenna	
<b>Gain</b>	$\geq 2.0$ & $\leq 2.84$	DBi
<b>Antenna Efficiency</b>	$\geq 52.72$ & $\leq 58.58$	%
<b>VSWR</b>	<2	
<b>Polarization</b>	Linear polarization	
<b>Radiation Pattern</b>	Omnidirectional	
<b>Impedance</b>	50	ohm
<b>Power Handling</b>	33	dBm
<b>Interface</b>	/	
<b>Connector Properties</b>	None	
<b>Overall Dimensions</b>	See the picture section	
<b>Feeder Type And Size</b>	/	mm
<b>Feeder Loss</b>	/	
<b>Operating Temperature</b>	-30 ----- 70	°C
<b>High and Low Temperature</b>	See the test report section	
<b>Remarks</b>	/	

# 0337 (A12 Project) WIFI Antenna Specification

## 1、 Indication

The report mainly provides the test status of various electrical performance parameters of the 0337 (A12 Project) WIFI Antenna. (As shown in Figure 1 below)



Figure 1 0337 (A12 Project) WIFI Antenna

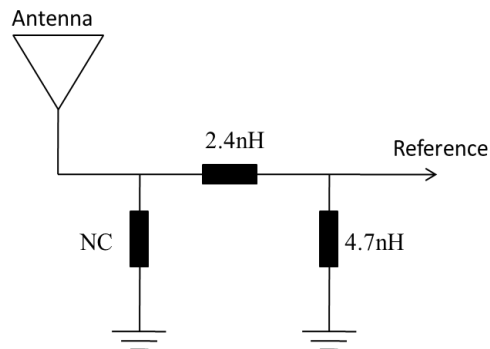
## 2、 Electrical Performance

### 2.1 Specification standard

0337 (A12 Project) WIFI Antenna working band is at 2400-2500Mhz.

### 2.2 Antenna matching circuit

0337 (A12 Project) WIFI Antenna matching for the motherboard is a series 2.4nH inductor, parallel 4.7nH inductor.



2.4nH: Laminated common inductor 0402- $\pm 0.3$ nH-400mA-85°C-0.15R, manufacturer: CHILISIN

4.7nH: Laminated common inductor 0402- $\pm 0.3$ nH-300mA-125°C-0.2R, manufacturer: Shenzhen Sunlord Electronics Co., Ltd.

## 2.3 VSWR Test

### A. Test setup

VSWR measurements (S11) were performed using Agilent E5071B Network Analyzer and the previously described test fixture. A ferrite-loaded coaxial cable was used to mitigate surface currents on the outside of the cabling. The testing was performed in free space ETS AMP8500S chamber..



### B. VSWR

The table below shows the standing wave ratio value of the edge frequency of the working band of 0337 (A12 Project) WIFI Antenna.

frequency	frequency (MHz)	Log
	2400	-20.03
	2500	-18.34

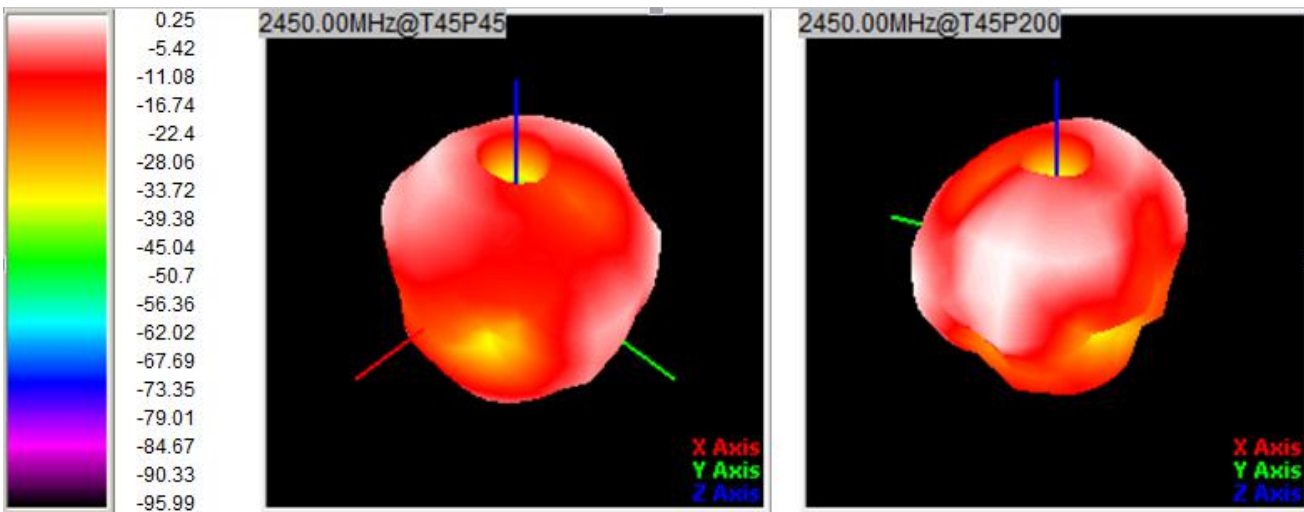
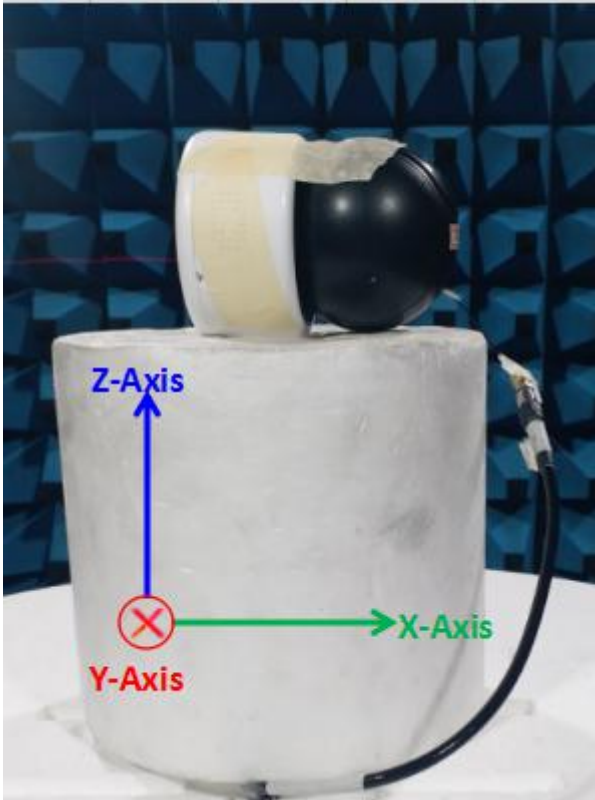
### 2.3.1 SWR parameter



**2.3.2 antenna passive efficiency**

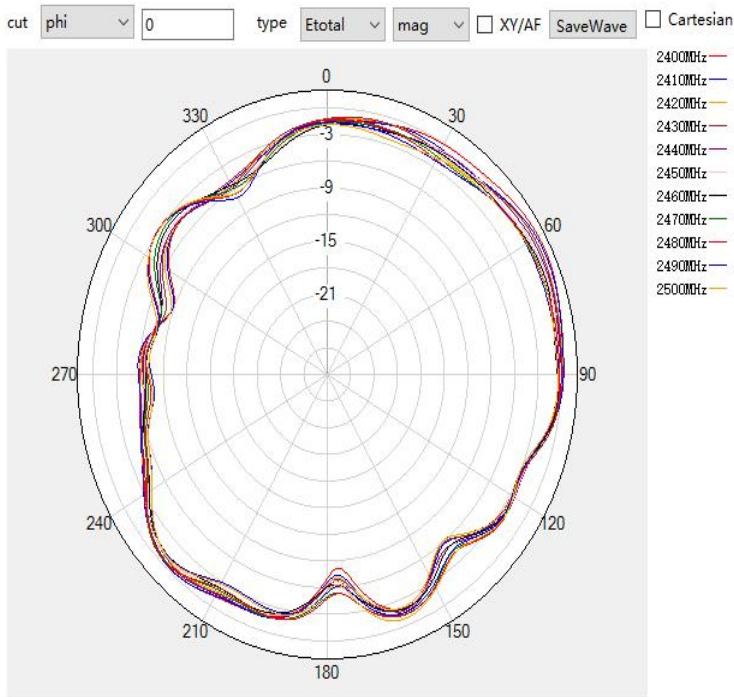
<b>Gain&amp;Efficiency</b>			
<b>frequency (MHz)</b>	<b>gain (dB)</b>	<b>efficiency (dB)</b>	<b>efficiency (%)</b>
2400	2.41	-2.32	58.58%
2410	2.59	-2.33	58.54%
2420	2.25	-2.55	55.64%
2430	2.57	-2.51	56.15%
2440	2.84	-2.47	56.65%
2450	2.46	-2.55	55.59%
2460	2.35	-2.66	54.15%
2470	2.72	-2.51	56.07%
2480	2.55	-2.48	56.49%
2490	2	-2.78	52.72%
2500	2.19	-2.67	54.04%
<b>Average</b>	<b>2.45</b>	<b>-2.53</b>	<b>55.87%</b>

### 2.3.3 3D pattern

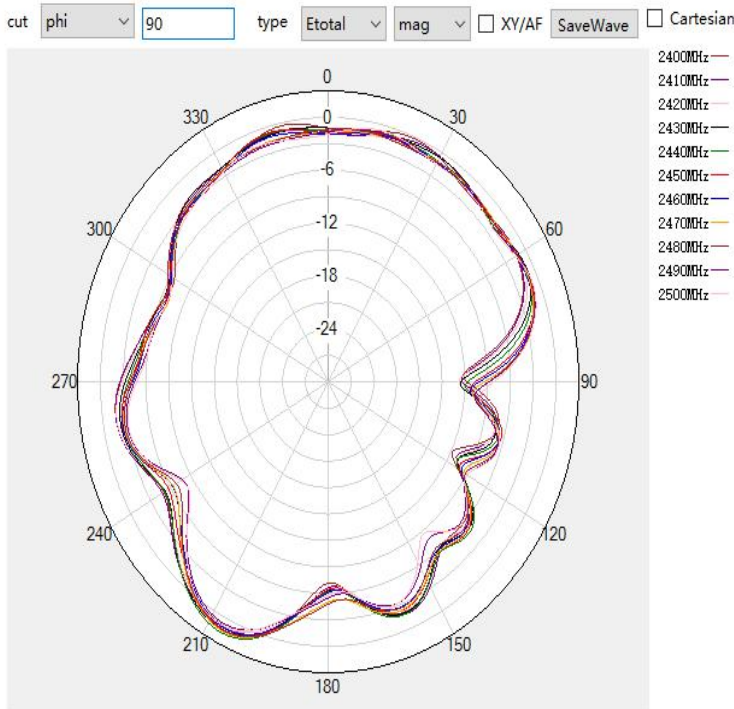


### 2.3.4 2D pattern

#### E1-Plane (Phi=0° )



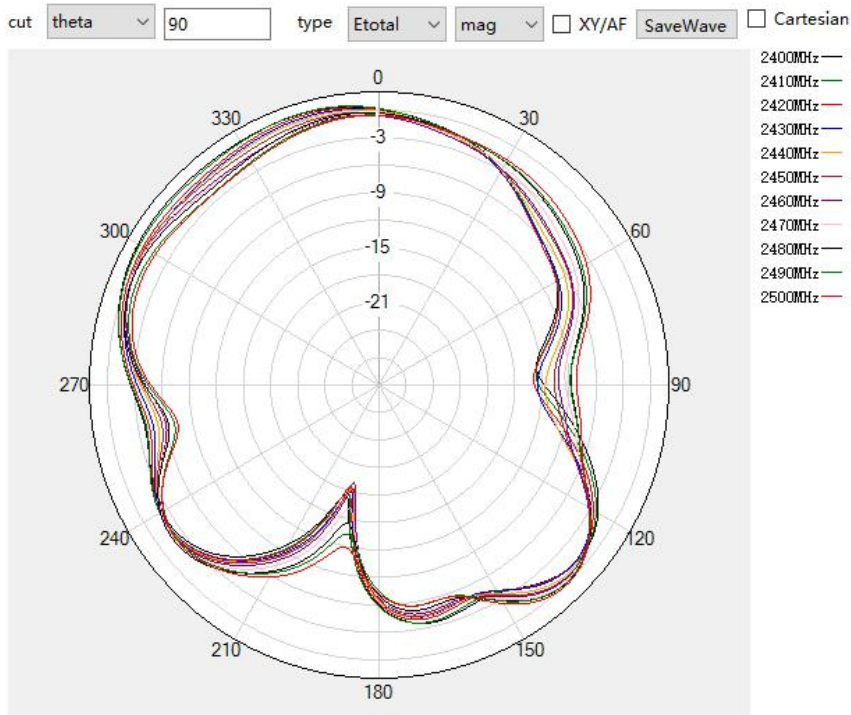
#### E2-Plane (Phi=90° )





## Antenna Specifications

### H-Plane (Theta=90°)



### 3、 suggestion and solution

This report is according to the customer provide 0337 (A12 Project) WIFI Antenna the final version of the electrical performance of antenna.

As can be seen from the above test data, this antenna provides better electrical performance.

We are looking forward to your confirmation. Thank you for your cooperation!

### 4、 Appearance drawin



### SAMPLE SIZE TEST REPORT

Customer		ZHEJIANG DAHUA TECHNOLOGY CO.,LTD	Product name		0337 (A12 Project) WIFI Antenna			Product type		Shrapnel antenna		
Supplier		ShenZhen VLG Wireless Technology Co.,Ltd	P/N		V1350-053-A-1			Inspector		shengyong.xu		
Drawing edition		R: A	UNIT		mm			Inspection date		March 20, 2019		
S/N	Test item	Test standard	Actual measurement size					judge	Test instrument	DIE No.	Remark	
			1	2	3	4	5					
1	Appearance	Cosmetic defect phenomenon briefly	OK	OK	OK	OK	OK	OK	Visual			
		★ 14.00 ± 0.15	14.08	14.10	14.05	14.09	14.12	OK	PM			
		★ 13.10 ± 0.20	13.15	13.17	13.12	13.12	13.16	OK	PM			
		★ 8.00 ± 0.15	8.05	8.02	8.02	8.04	8.03	OK	PM			
		★ 3.00 ± 0.10	3.03	3.05	3.02	3.05	3.06	OK	PM			
		★ 1.00 ± 0.10	1.02	1.05	1.03	1.02	1.02	OK	PM			
		★ 4.45 ± 0.10	4.48	4.50	4.47	4.52	4.49	OK	PM			
		★ 4.75 ± 0.10	4.78	4.79	4.75	4.76	4.79	OK	PM			
		★ 1.50 ± 0.10	1.52	1.52	1.55	1.50	1.53	OK	PM			
		★ 3.10 ± 0.20	3.16	3.18	3.12	3.15	3.15	OK	PM			
		★ 3.60 ± 0.10	3.62	3.65	3.65	3.63	3.66	OK	PM			
		★ 1.00 ± 0.10	1.02	1.01	1.00	1.00	1.03	OK	PM			
		★ 1.00 ± 0.10	1.02	1.00	1.00	1.03	1.01	OK	PM			
		★ 1.50 ± 0.10	1.52	1.53	1.55	1.50	1.52	OK	PM			
		★ 1.00 ± 0.10	1.02	1.01	1.02	1.01	1.00	OK	PM			
		★ 9.10 ± 0.10	9.12	9.10	9.12	9.11	9.13	OK	PM			
		★ 2.50 ± 0.10	2.53	2.56	2.52	2.53	2.55	OK	PM			
		★ 2.80 ± 0.10	2.79	2.81	2.80	2.78	2.80	OK	PM			
		★ 2.00 ± 0.10	2.02	2.01	2.02	2.00	1.99	OK	PM			

Final conclusion:      OK       NG

Cosmetic defect phenomenon briefly : A—Exposed copper, B—Deformation, C—Scratch, D—Mixed color, E—back glue , F—Color difference, G—Virtual welding , H—Dirty, I—skewed hole, J—Burr, K—Press mark, L—Deformation, L—Shrink, N—Broken pillars , O—Dot, P—Rusty, Q—Electroplating bad, R—No bumps

Detecting instrument: PG—Plug(circular hole)gauge, RG—R gauge, SG—Block gauge, LG—ring gauge, DC—Digital caliper, PM—Two dimensional coordinates projector

Editon:A.0

Form NO. :VLG/QRFS. 2-28/A.0

Check: chuanwei.zhuo

Review: shengyong.xu