规 格 承 认 书
Specification For Approval

客户名称：Zhaochi
Customer

规格描述：IPEX-2.4G/5.8G ironwork antenna-113 black-L300MM
Part name

飞宇信料号：3.03.1001003133
Part No

客户料号：304WIFI3003
Customer Part No

客户确认 Customer confirmation		
确认 Confirmation	核实 check	批准 Approver

制造厂商承认 Manufacturer recognition			
销售代表 Sales	拟制 Drafters	核实 check	批准 Approver
Guzong	Zhenshaojuan	Lihe	Zhouxihua
感谢给予敝公司送样承认之机会.如惠蒙承认通过,烦请将此表签回敝公司. Thank you for giving us the chance to approve samples. If you agree to pass it, please kindly send it back to us.			

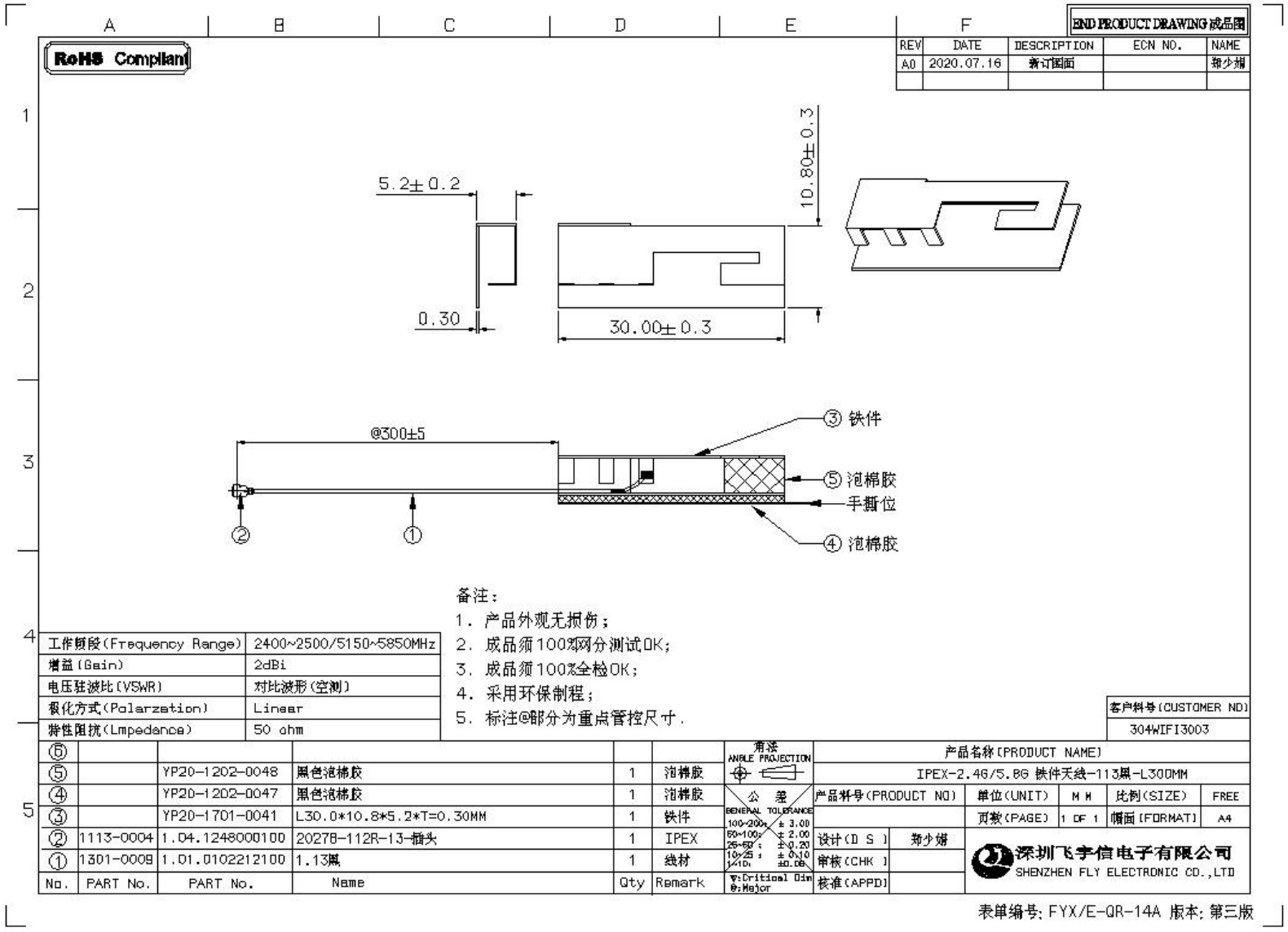
Manufacture:Shenzhen Feiyuxin Electronice Co.,Ltd
Address：Feiyuxin Industrial Park, No.76 Baotong South Road, Xikeng Industrial Zone, Henggang Town, Longgang District, Shenzhen, China TEL：0755-89737230 FAX：0755-89737181
http://www.fyxdz.com

目录
Catalog

修改记录

version	date	engineer	Revise the contents
A0	2024-7-2	Zhenshaojuan	newly built

1.Product Dimension Drawing



2. Product appearance

Dimensions	L30.0*10.8*5.2mm	Fixation	/
weight	/	Connector model	IPEX
Product color	silver	cable	1.13 线+300

3. Antenna performance parameters

project	characteristic	unit
Frequency range	2400～2500/5150～5850	MHz
Output impedance	50	Ω
VSWR	Compare waveforms	——
Gain	2.0	dBi
Polarization mode	Linear polarization	
Radiation direction	Omnidirectional	
Maximum input power	5	W
Operating temperature	-40～+70	℃
Storage temperature	-45～+75	℃

4. Wire specifications

1.13Line structure diagram

Structural parameter	material	diameter(mm)
1. Inner conductor	Tinned copper wire	7/0.08±0.02
2. insulator	Solid polyethylene (PE)	0.66±0.02
3. Outer conductor	Tinned copper wire	0.88±0.05
4. jacket	FEP	1.13±0.05

Electrical performance parameters

capacitance(pF/m)	96±3
impedance(ohm)	50
Rate (%))	66

Radius of Curve (mm)	≤7
Maximum operating voltage(VMS)	1000
Maximum operating frequency (MHz)	6000
Operating temperature range (℃)	-40 to +80

Attenuation (typical)

frequency (MHz)	attenuation (≯dB/m)
100	0.42
400	0.58
1000	2.20
2000	3.40
3000	4.20
4000	4.50
5000	5.20
6000	5.60

5.Environmental experiments

Environmental test report

5.1Low temperature and constant humidity test

Shenzhen Feiyuxin Electronics Co., Ltd

Iron antenna reliability test report

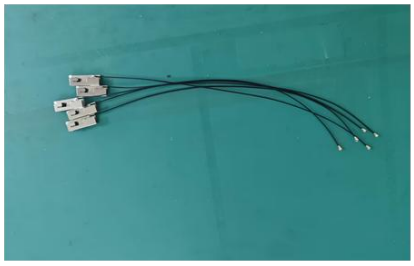
1. Basic Information

The name of the cu		TYPE	3.03.1001003133	quantity (PCS)	5	Department	Lab
Pilot project	Cryogenic storage			The start time of the trial	2024/6/24 08:20		
Testing tools	Constant temperature and humidity ma			The end time of the trial	2024/6/25 08:50		
Test conditions	1. Before the test, check the appearance of the sample to be tested and test its electrical performance, which meets the requirements of the antenna specification of the material; 2. Put the product into a constant temperature and humidity chamber and run in a static state for 2 hours; Set temperature: -25° C ±3° C 3. After the end of the test, the temperature should be returned to 2 hours, and there should be no water						
Judging Criteria	1. Inspect the appearance of the sample, and check the mechanical and electrical properties of the sample. 2. After the test is completed, the mechanical and VSWR of the antenna meet the requirements of the material antenna specification. 3. The surface of the antenna cannot be changed, such as depression, blistering, discoloration, etc.						

2. Parameter measurement before the test

Test items	specification	1#	2#	3#	4#	5#	average before	Judge
Enclosure inspection	The surface of the antenna should not be changed, such as	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.55	1.39	1.42	1.48	1.54		
	5.8G	1.49	1.5	1.49	1.52	1.51		

3. Test photos

图1	图2	图3
		
Pre-test photos	Photos taken during the test	PhPost-test photos

The parameter measurement after the test

Enclosure inspection	The surface of the antenna should not be	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.53	1.42	1.38	1.51	1.52		
	5.8G	1.45	1.46	1.52	1.51	1.58		

Test results

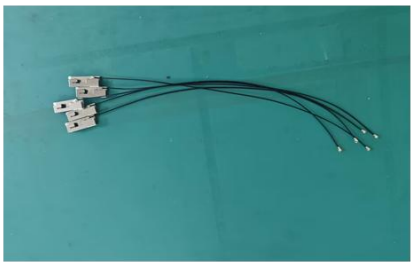
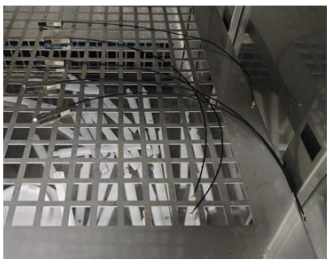
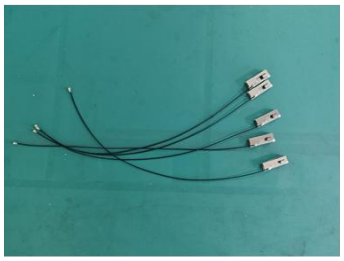
Number of Qualified Products (PCS)	Number of non-conforming products (pcs)	Acceptance Rate (%)	Judgment of test results(Indicated by "√" in the correspondicolumn)		Test Failure Improvement Report Number:
5	0	100%	☑ passing	☐qualified	

Tabulation	Gong Xingwei	Date:	2024/6/24	Approval:	Xu Junyi	Date: 2024.6.29

5.2High temperature and humidity test

Shenzhen Feiyuxin Electronics Co., Ltd							
Iron antenna reliability test report							
1. Basic Information							
The name of the cu		TYPE	3.03.1001003133	quantity (PCS)	5	Department	Lab
Pilot project	High temperature storage			The start time of the trial	2024/6/25 10:20		
Testing tools	Constant temperature and humidity machine			The end time of the trial	2024/6/26 10:20		
Test conditions	Test Procedure: a) Put the test specimen into the test chamber, and then adjust the temperature of the high temperature chamber to 75° C±3° C, and monitor the time. b) Leave at room temperature for 1 hour after the test for routine testing.						
Judging Criteria	1. Inspect the appearance of the sample, and check the mechanical and electrical properties of the sample. 2. After the test is completed, the mechanical and VSWR of the antenna meet the requirements of the material antenna specification. 3. The surface of the antenna cannot be changed, such as depression, blistering, discoloration, etc.						

2. Parameter measurement before the test								
Test items	specification	1#	2#	3#	4#	5#	average before	Judge
Enclosure inspection	The surface of the antenna should not be	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.56	1.46	1.42	1.48	1.51		
	5.8G	1.47	1.51	1.46	1.52	1.45		

3. Test photos		
图1	图2	图3
		
Pre-test photos	Photos taken during the test	PhPost-test photos

The parameter measurement after the test								
Enclosure inspection	The surface of the antenna should not be	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.51	1.41	1.47	1.55	1.52		
	5.8G	1.43	1.51	1.44	1.52	1.48		

Test results						
Number of Qualified Products (PCS)	Number of non-conforming products (pcs)	Acceptance Rate (%)	Judgment of test results(Indicated by "√" in the correspondicolumn)			Test Failure Improvement Report Number:
5	0	100%	☑passing	☐Unqualified		
Tabulation	Gong Xingwei	Date:	2024/6/25	Approval:	Xu Junyi	Date: 2024.6.29

5.3Salt spray test

Shenzhen Feiyuxin Electronics Co., Ltd

Iron antenna reliability test report

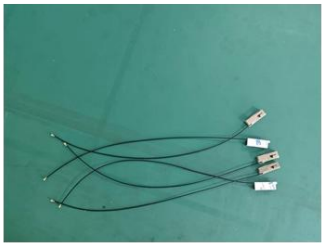
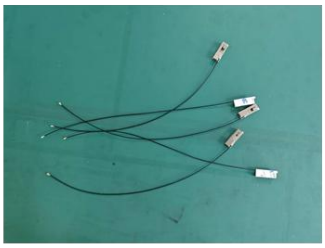
1. Basic Information

The name of the cu		TYPE	3.03.1001003133	quantity (PCS)	5	Department	Lab
Pilot project	Salt spray test			The start time of the trial	2024.6.27 8:20		
Testing tools	Salt spray machine			The end time of the trial	2023.6.28 8:20		
Test conditions	Test Procedure: a) Adjust the salt spray testing machine to the relevant test conditions. b) Place the test piece in the salt spray testing machine and leave it for 24 hours. After the test, rinse with clean water, visually inspect the appearance of the test piece, and carry out routine inspection.						
Judging Criteria	1. The mechanical and electrical performance of the antenna is normal; 2. The surface of the antenna should not be affected by corrosive substances, such as depression, blistering, discoloration, etc.; 3. For the antenna metal connector, after scrubbing with clean water, there is no visible rust on visual inspection.						

2. Parameter measurement before the test

Test items	specification	1#	2#	3#	4#	5#	average before	Judge
Enclosure inspection	The surface of the antenna should not be changed, such as	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.51	1.43	1.48	1.48	1.53		
	5.8G	1.48	1.51	1.45	1.51	1.49		

3. Test photos

图1	图2	图3
		

The parameter measurement after the test

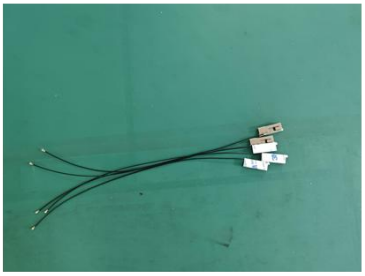
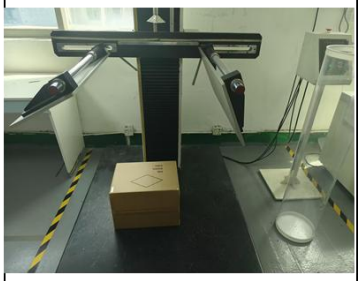
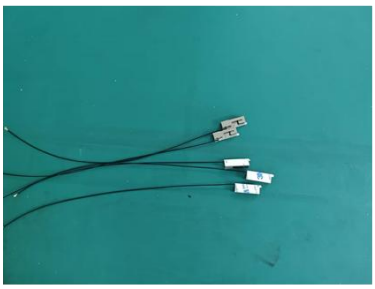
Enclosure inspection	The surface of the antenna should not be changed, such as	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.51	1.39	1.42	1.48	1.54		
	5.8G	1.44	1.52	1.47	1.5	1.46		

Test results

Number of Qualified Products (PCS)	Number of non-conforming products (pcs)	Acceptance Rate (%)	Judgment of test results(Indicated by "√" in the correspondicolumn)		Test Failure Improvement Report Number:
5	0	100%	☑assing	☐nqualified	

Tabulation	Gong Xingwei	Date:	2024.6.27	Approval:	Xu Junyi	Date: 2024.6.29

5.4Free fall test

Shenzhen Feiyuxin Electronics Co., Ltd							
Iron antenna reliability test report							
1. Basic Information							
The name of the cu		TYPE	3.03.1001003133	quantity (PCS)	5	Department	Lab
Pilot project	Controlled drop test at room temperature (antenna monomer)			The start time of the trial	2024/6/29 08:20		
Testing tools	Marble floors			The end time of the trial	2024/6/29 08:50		
Test conditions	Test surface: marble floor Drop height: 1m; Number of tests: horizontal (antenna elbow facing up), vertical (antenna elbow facing up, facing down), 10 times each;						
Judging Criteria	1. According to the test conditions, horizontal (antenna elbow facing up), vertical (antenna elbow facing up, facing down), each fell 10 times, a total of 30 times; After every 10 falls, the appearance, structure, and function are checked. 2. After the test is completed, the mechanical and electrical functions of the antenna are normal; The						
2. Parameter measurement before the test							
Test items	specification	1#	2#	3#	4#	5#	average before	Judge
Enclosure inspection	The surface of the antenna should not be	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.58	1.46	1.42	1.48	1.51		
	5.8G	1.49	1.52	1.49	1.52	1.53		
3. Test photos							
图1			图2			图3		
								
Pre-test photos			Photos taken during the test			PhPost-test photos		
The parameter measurement after the test							
Enclosure inspection	The surface of the antenna should not be changed, such as	specification	specification	specification	specification	specification		
Standing wave test	2.4G	1.54	1.44	1.48	1.47	1.49		
	5.8G	1.53	1.51	1.49	1.54	1.51		
Test results							
Number of Qualified Products (PCS)	Number of non-conforming products (pcs)	Acceptance Rate (%)	Judgment of test results(Indicated by "√" in the correspondicolumn)			Test Failure Improvement Report Number:	
5	0	100%	☑ passing	Unqualified			
Tabulation	Gong Xingwei	Date:	2024/6/29	Approval:	Xu Junyi	Date: 2024.6.29	

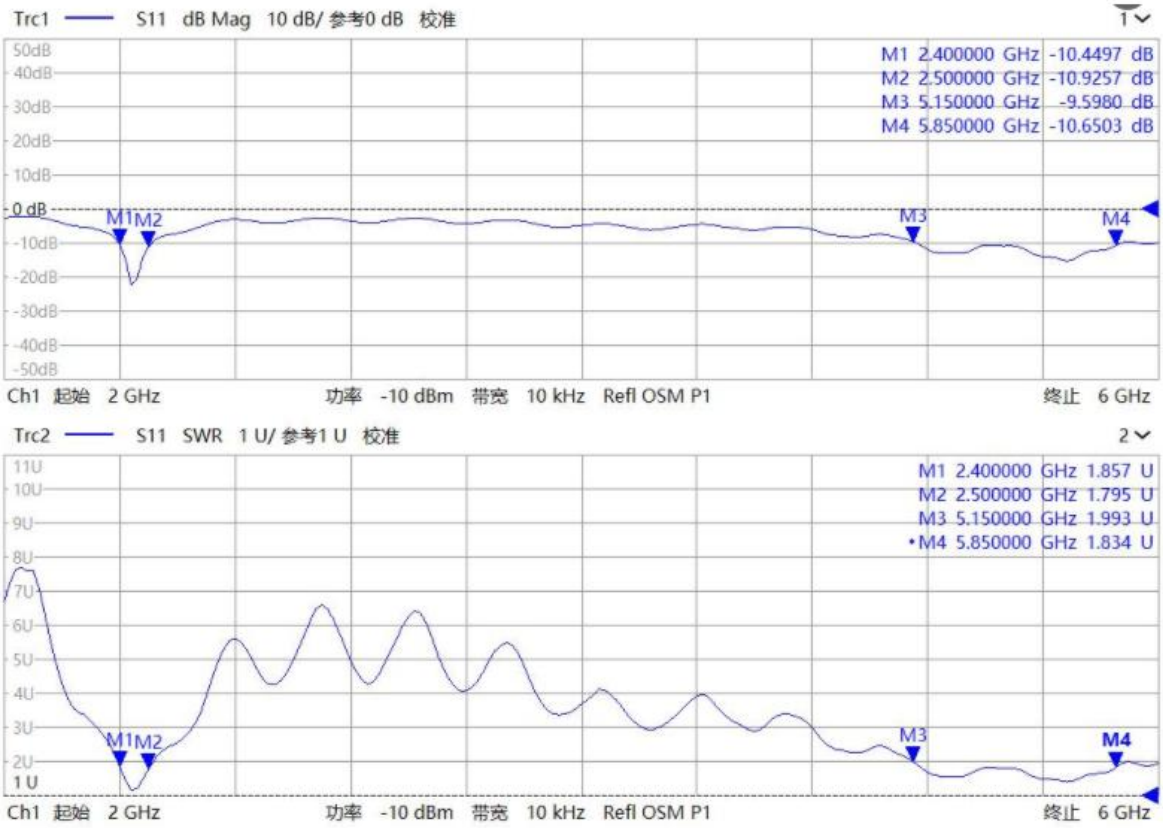
6. Antenna performance test

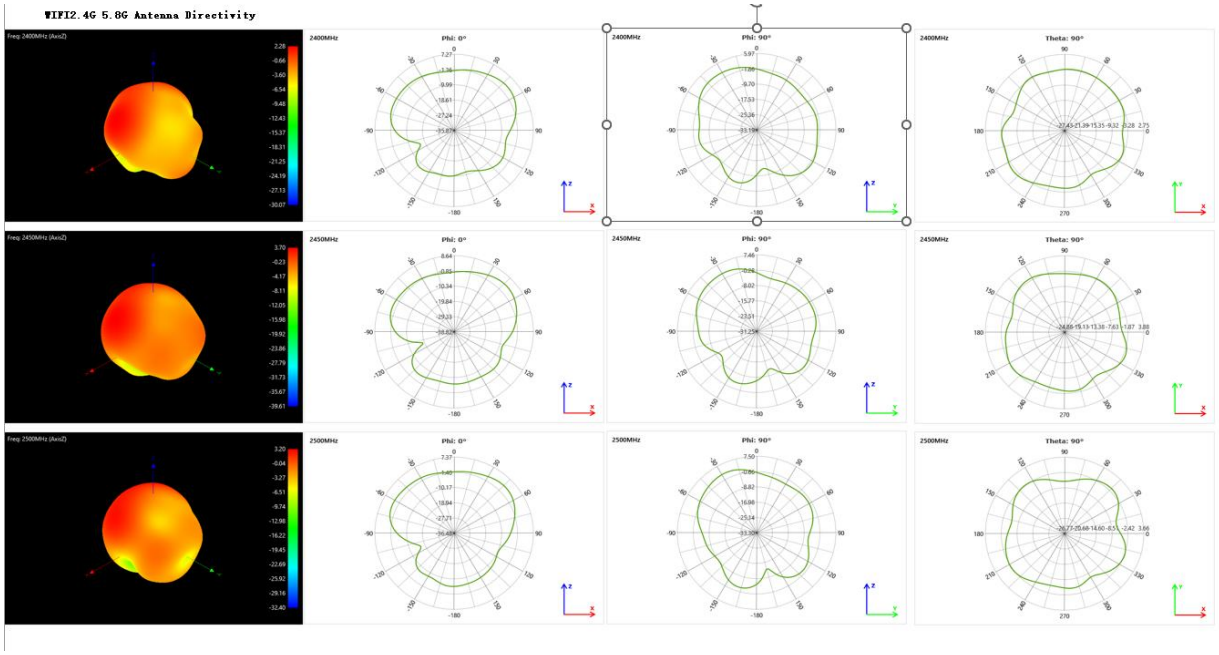
WIFI2.4G 5.8G Antenna Gain&Efficiency

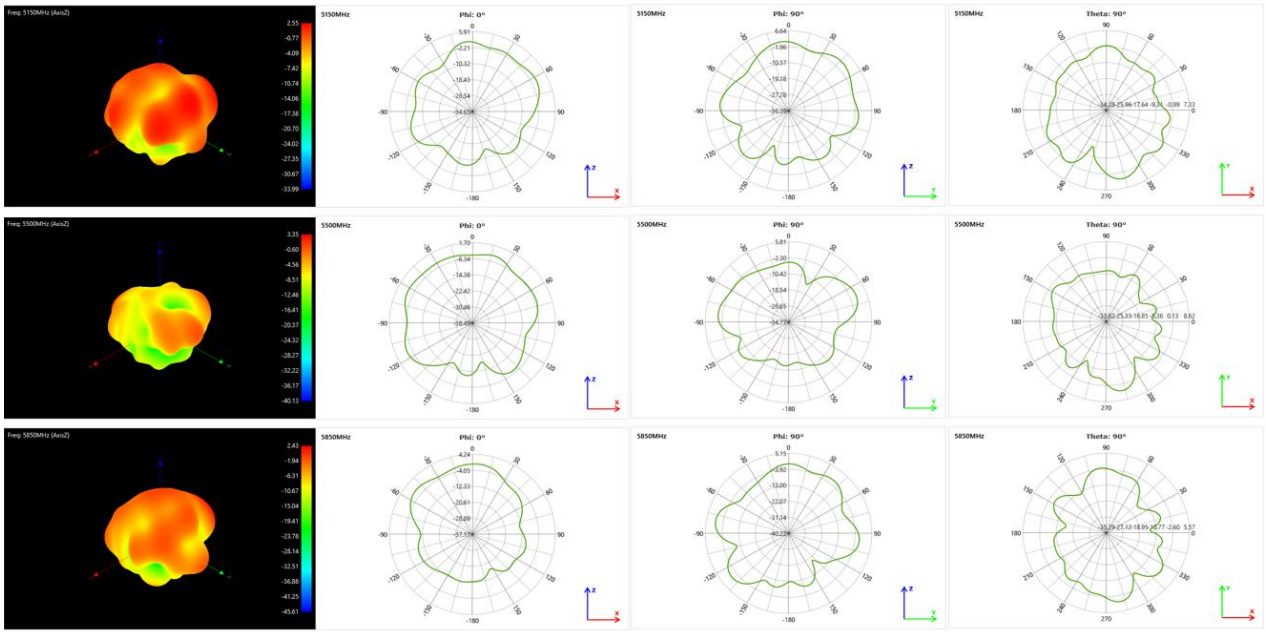
Freqency(M	Gain(dBi)	Efficiency(%)
2400	2.28	56.21
2410	2.83	56.81
2420	2.93	56.57
2430	2.98	55.3
2440	3.34	61.25
2450	3.7	62.91
2460	3.26	57.83
2470	3.28	59.99
2480	2.74	55.34
2490	3.06	56.61
2500	3.2	56.25

Freqency(M	Gain(dBi)	Efficiency(%)
5150	2.55	59.88
5200	3.16	63.45
5250	3.04	59.74
5300	2.95	57.05
5350	2.79	60.2
5400	3.39	58.05
5450	3.17	55.26
5500	3.35	56.74
5550	3.17	56.49
5600	2.77	55.89
5650	2.71	53.86
5700	2.92	55.73
5750	3.23	53.98
5800	2.94	53.36
5850	2.43	52.36

WIFI 2.4G 5.8G Antenna Standing wave ratio




WIFI2.4G 5.8G Antenna Directivity
2400MHz
Phi: 0°
Phi: 90°
Theta: 90°
2450MHz
2500MHz


5150MHz
Phi: 0°
Phi: 90°
Theta: 90°
5500MHz
5850MHz

7.Actual picture of the product