Shenzhen Yingjia Chuang electronic technology Co., LTD
http://www.szsyjc.com

APPROVAL SHEET

CUSTOMER NAME	Gao Si Bei Er
CUSTOMER P/N	KS00030140
PART NAME	2.4G/5G black FPC internal antenna OPEN 1.13 Black line L=155mm
P/ N	YJC-6N155-B19
APPROVAL REV.	A0
DELIVERY DATE	December 18, 2023
PREPARED BY	Yin Feijie
CHECKED BY	Fang Wenfeng
APPROVED BY	Chauhan

Customer Approved

Prepared By	Checked By	Approved By
Zhou Yong	Wang He	Tan Gong

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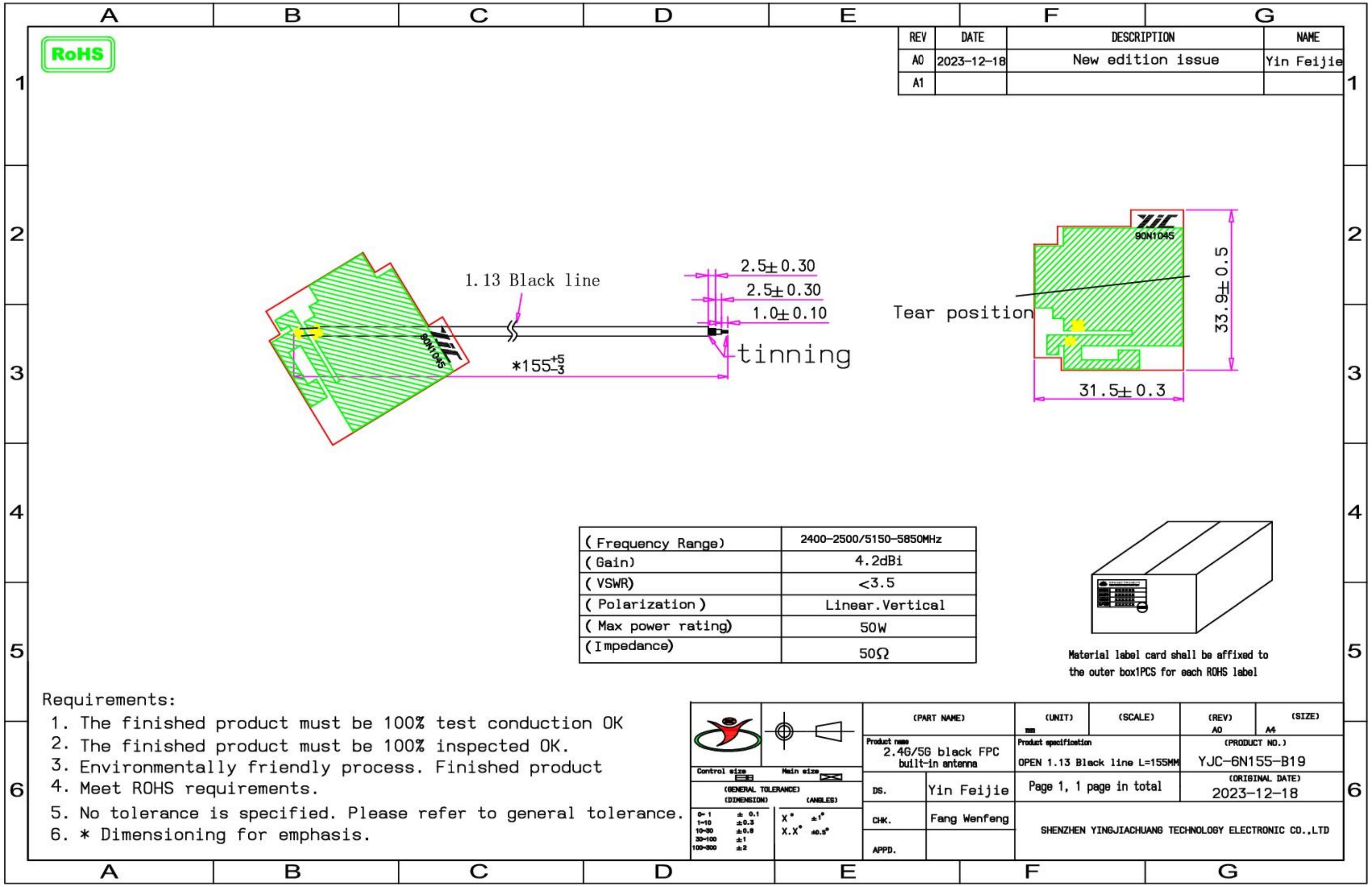
Catalogue

Resumer

Version	Changes and reasons	date	publish
A/0	Issued	December 18, 2023	

Product plan：



REV	DATE	DESCRIPTION	NAME
A0	2023-12-18	New edition issue	Yin Feijie
A1			

(Frequency Range)	2400-2500/5150-5850MHz
(Gain)	4.2dBi
(VSWR)	<3.5
(Polarization)	Linear.Vertical
(Max power rating)	50W
(Impedance)	50Ω

Material label card shall be affixed to the outer box1PCS for each ROHS label

Requirements:

1. The finished product must be 100% test conduction OK
2. The finished product must be 100% inspected OK.
3. Environmentally friendly process. Finished product
4. Meet ROHS requirements.
5. No tolerance is specified. Please refer to general tolerance.
6. * Dimensioning for emphasis.

Control size	Main size	(PART NAME)	(UNIT) mm	(SCALE)	(REV) A0 (SIZE) A4
(GENERAL TOLERANCE) (DIMENSION)	(ANGLES)	Product name 2.4G/5G black FPC built-in antenna	Product specification OPEN 1.13 Black line L=155MM		(PRODUCT NO.) YJC-6N155-B19
0~1 ± 0.1 1~10 ±0.3 10~30 ±0.5 30~100 ±1 100~300 ±2	X° ±1° X.X° ±0.5°	DS. Yin Feijie	Page 1, 1 page in total		(ORIGINAL DATE) 2023-12-18
		CHK. Fang Wenfeng	SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO.,LTD		
		APPD.			

Antenna Type:FPCB Antenna

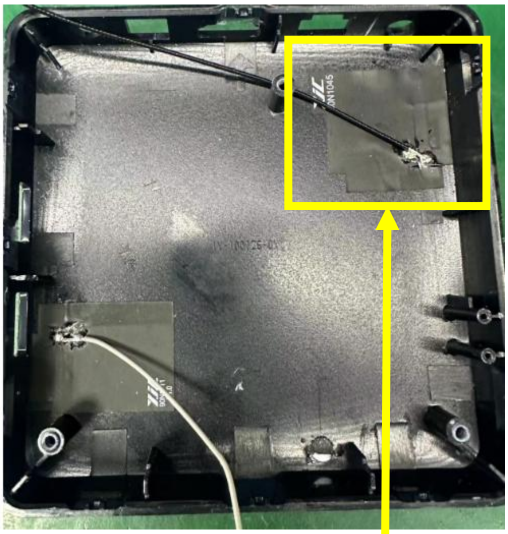
Antenna technical parameters and environmental testing:

Electrical technical parameter			
Electrical Specifications		Mechanical Specifications	
Frequency Range	2400-2500/5150-5850MHz	Cable Color	Black
VSWR	<3.5	Input connector	OPEN
Input Impedance	50 Ω	Cable length	155mm
Direction	All	Working Temperature	-20℃~+70℃
2.4G/5G Gain	2.86/4.15dBi	Working Humidity	20%~80%

Environmental performance test:

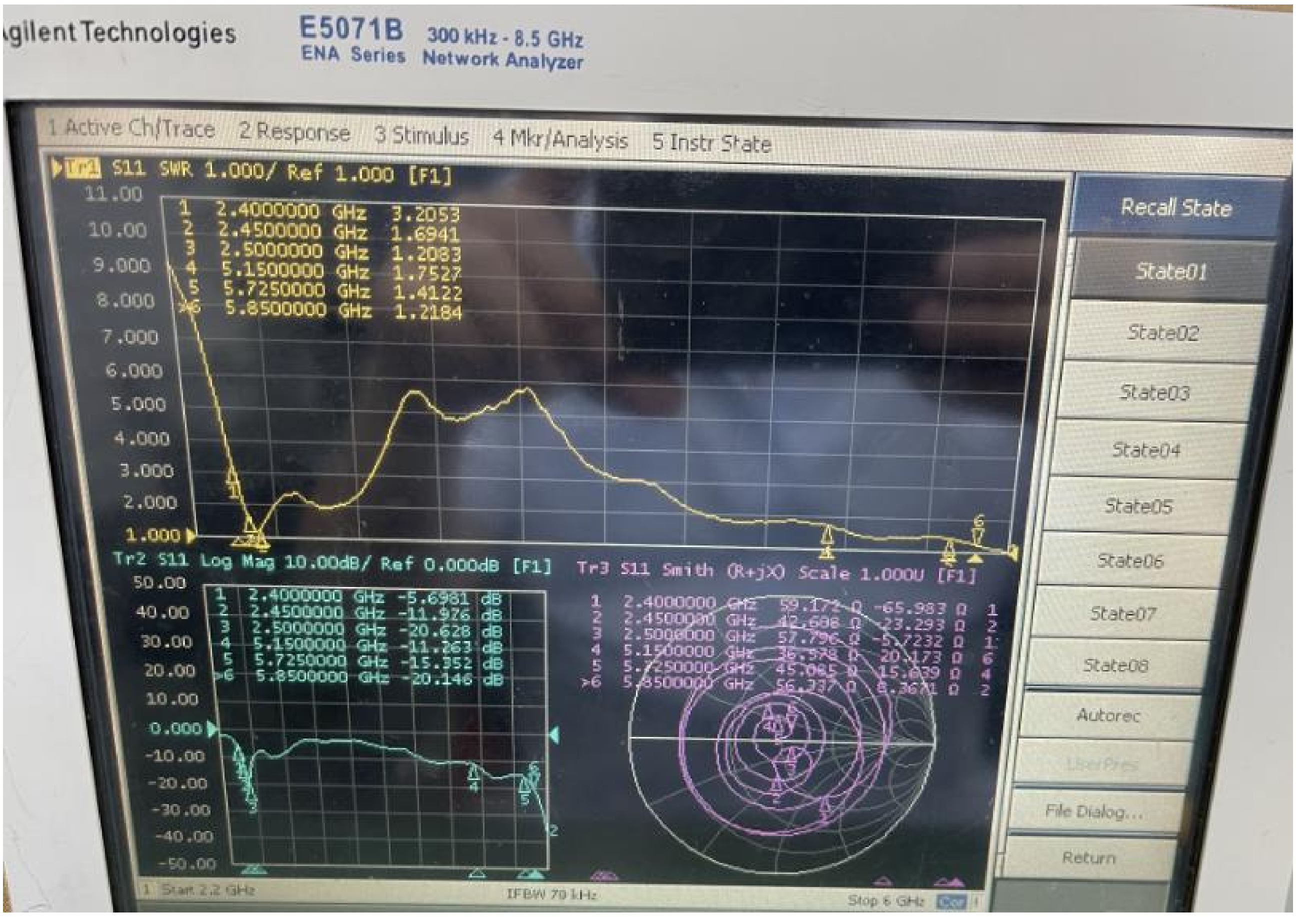
Project	Test condition	Standard
Storage Conditions	In the absence of specified test temperature, humidity, air pressure is as follows:: 1. Temperature is - 30 ℃ ~ + 80 ℃ 2. Relative humidity of 45% to 45% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical performace is normal
High and low temperature test	Between 70 ℃ and -20 ℃ for 5 loops, then 1-2 h under normal conditions, check the appearance quality.	Size should meet the requirements and meet the performance of mechinery and electric.
Constant damp and hot resistance test	95 + / - 3% relative humidity, temperature test: 40 ℃. Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality	Size should meet the requirements and meet the performance of mechinery and electric.
vibration test	10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times	Electrical and mechanical performace is normal
Fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times	Electrical and mechanical performace is normal

Antenna physical diagram and attached location diagram：



Antenna attachment

Antenna performance test diagram:



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Tr1 S11 SWR 1.000/ Ref 1.000 [F1]
 1   2.4000000 GHz  3.2053
 2   2.4500000 GHz  1.6941
 3   2.5000000 GHz  1.2083
 4   5.1500000 GHz  1.7527
 5   5.7250000 GHz  1.4122
>6   5.8500000 GHz  1.2184

Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]
 1   2.4000000 GHz  -5.6981 dB
 2   2.4500000 GHz  -11.976 dB
 3   2.5000000 GHz  -20.628 dB
 4   5.1500000 GHz  -11.263 dB
 5   5.7250000 GHz  -15.352 dB
>6   5.8500000 GHz  -20.146 dB

Tr3 S11 Smith (R+jX) Scale 1.000U [F1]
 1   2.4000000 GHz  59.172 Ω  -65.983 Ω  1
 2   2.4500000 GHz  42.688 Ω  -23.293 Ω  2
 3   2.5000000 GHz  57.796 Ω  -5.7232 Ω  1.
 4   5.1500000 GHz  36.378 Ω  20.173 Ω  6
 5   5.7250000 GHz  45.085 Ω  15.639 Ω  4
>6   5.8500000 GHz  56.237 Ω  8.3671 Ω  2

1  Start 2.2 GHz          IFBW 70 kHz          Stop 6 GHz  Cor
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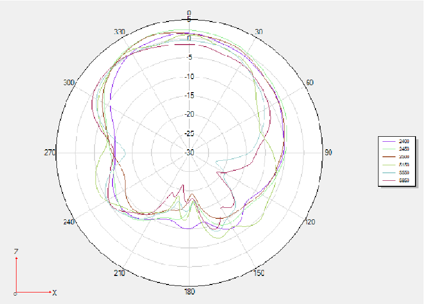
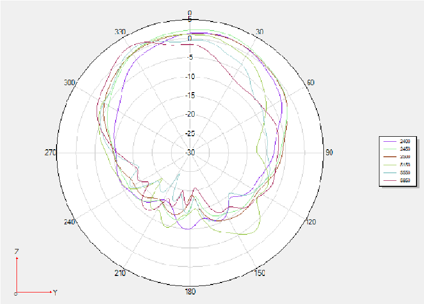
2D and 3D test data (2.4G/5G):

Frequency	Efficiency (%)	Gain.(dBi)
2400MHz	53.58	2.02
2410MHz	58.48	2.51
2420MHz	51.94	2.60
2430MHz	54.12	2.28
2440MHz	53.83	2.86
2450MHz	56.37	2.86
2460MHz	52.95	2.40
2470MHz	51.52	2.51
2480MHz	55.43	2.76
2490MHz	56.62	2.59
2500MHz	53.83	2.53
5150MHz	47.54	3.17
5250MHz	47.92	3.73
5350MHz	45.16	3.41
5450MHz	49.29	3.47
5550MHz	48.71	3.59
5650MHz	46.23	4.15
5750MHz	48.64	3.94
5850MHz	48.11	3.70

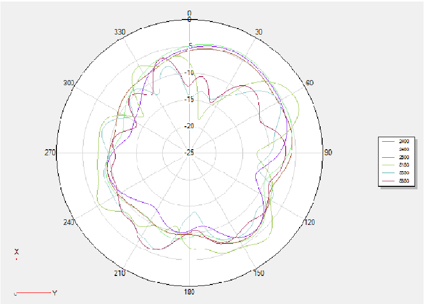
Phi 0 2D



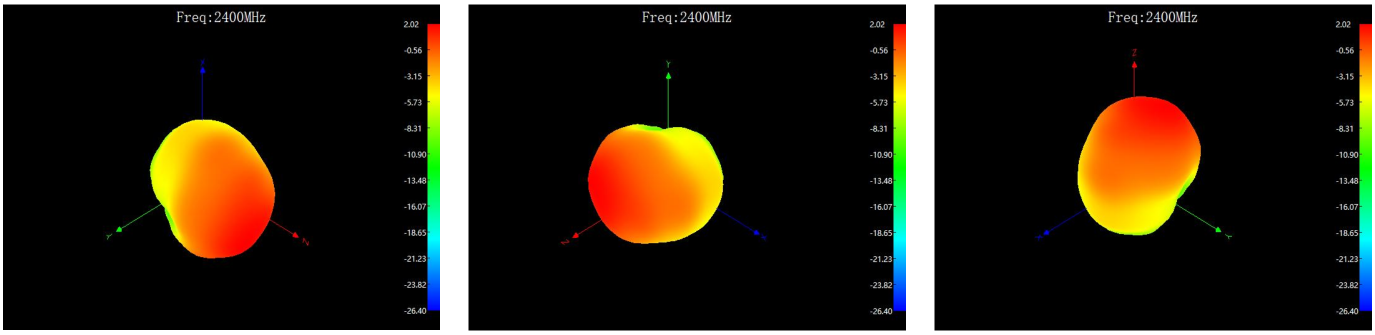
Phi 90 2D



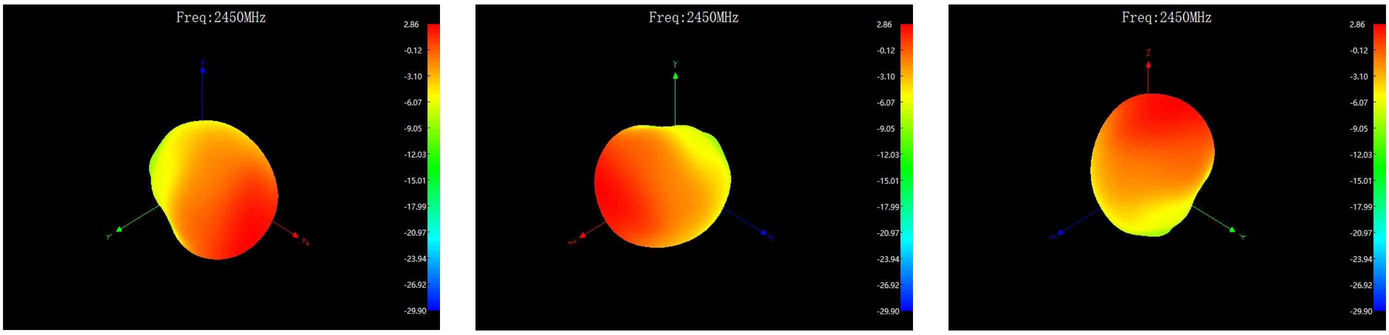
Theta 90 2D



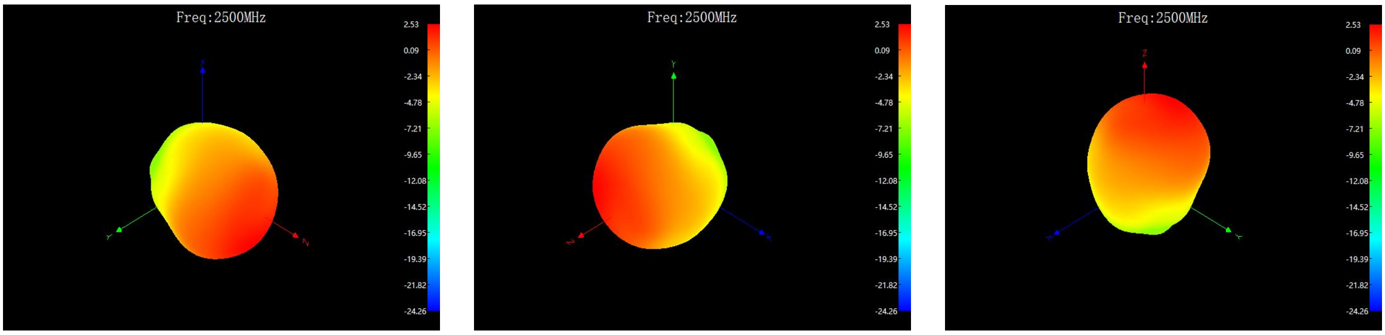
3D 2400:



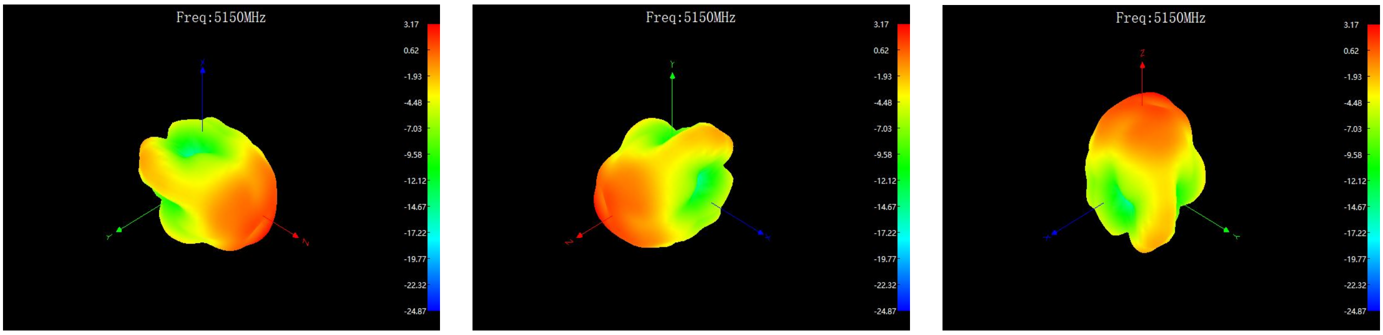
3D 2450：



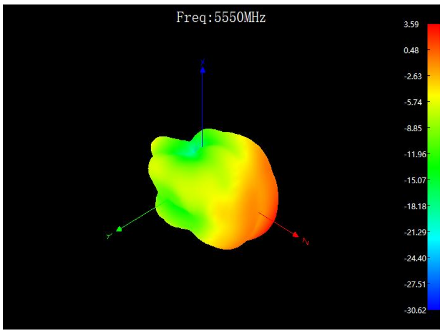
3D 2500：

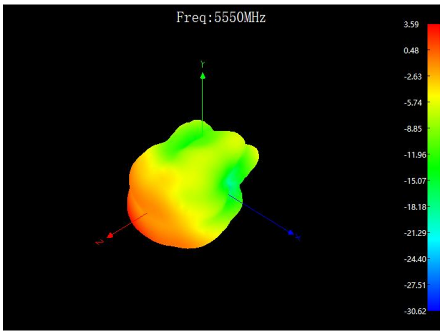


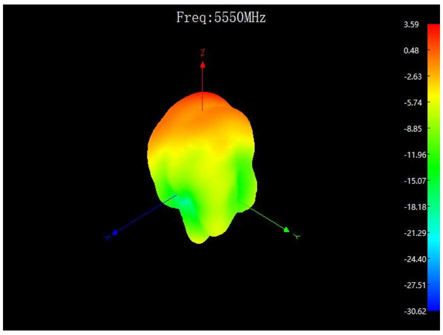
3D 5150：



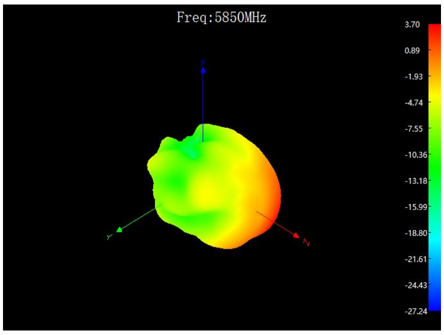
3D 5550：

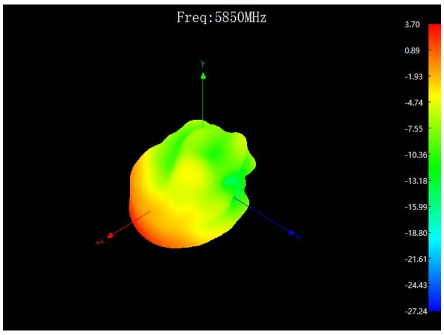


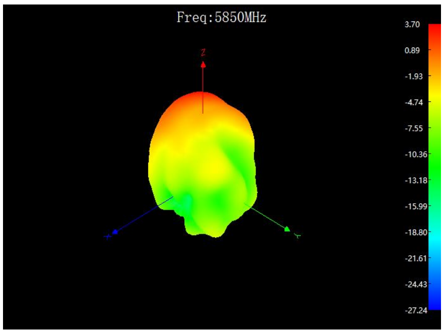




3D 5850：







OTAactive test data statistics：

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	14.62
2	TRP	WIFI_B (11M)	6	2437	15.35
3	TRP	WIFI_B (11M)	11	2462	14.75
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-77.69
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-74.21
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-76.53
7	TRP	WIFI_G (54M)	1	2412	13.59
8	TRP	WIFI_G (54M)	6	2437	14.22
9	TRP	WIFI_G (54M)	11	2462	14.21
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-66.06
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-62.9
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-68.64
13	TRP	WIFI_N_ISM (65M)	1	2412	14.03
14	TRP	WIFI_N_ISM (65M)	6	2437	14.78
15	TRP	WIFI_N_ISM (65M)	11	2462	14.25
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-65.83
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-61.49
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-62.49
19	TRP	WIFI_A (54M)	36	5180	12.73
20	TRP	WIFI_A (54M)	149	5745	11.72
21	TRP	WIFI_A (54M)	165	5825	12.1
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-68.98
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-72.9
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-71.93

Material RoHS conformity declaration form

This is to certify that the delivery to your company's components, raw materials, auxiliary materials used and the additives in the production engineering are accord with RoHS environmental requirements of the restrictions on the use of hazardous substances directive (RoHS directive 2011/65 / EU)

About components used raw materials, packaging materials, auxiliary materials and additives used in the production process such as composition of the report is as follows:

Component /Part Name	Material Composition	ICP report #	Test Org.	Test Date	Content of harmful substances (ppm)						PASS?
					Cd	Pb	Hg	Cr^{6+}	PBB	PBDE	PASS
FPC	FPC	FTS2302160201-01C1	SGS	23/02/20	ND	ND	ND	ND	ND	ND	PASS
Wire rod	Teflon coaxial cable	CANEC2301851703	SGS	23/02/23	ND	ND	ND	ND	ND	ND	PASS
Eco-friendly tin wire	Eco-friendly tin wire	SHAEC23006357502	SGS	23/05/23	ND	43	ND	ND	ND	ND	PASS