SPECIFICATION

Shenzhen Daxian Technology Co., Ltd.

SunWinon D120L WIFI antenna assembly

Product specification

Guest households	SunWinon	frequency band	2400~2500MHz
Project name	D120L	version	V1.0
Material No.	1D-110LS-031	color	Black
R F design	ZhiQiang.Chen	structure design	RuiBin.Zhou
Quality Manager	YongJie.Pan	R & D director	Lei.Zhang
Date			

client confirmation：

Whether the assembly meets your requirements：☐OK ☐NG

Shenzhen DaXian Technology Co., Ltd.

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Change resume

version number	Change content	Reason for change	Initiate change Party	date	Modifier
V1.0	create				

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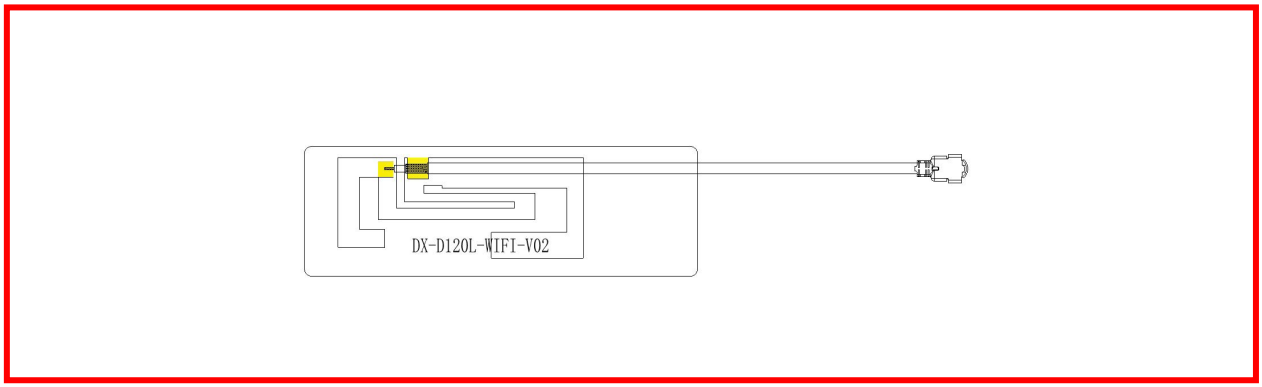
Ⅰ、 Project description

Customer name：	SunWinon
Whole machine type：	Intelligent Lock
Antenna band：	2400 ～ 2500MHz
Antenna form：	FPC+Coaxial line
Feed form：	weld

Ⅱ、WIFI antenna

This report provides a variety of measurements of the electrical performance of the D120L antenna. Figure 1 shows the antenna designed by the display.



antenna appearing diagram
Figure 1

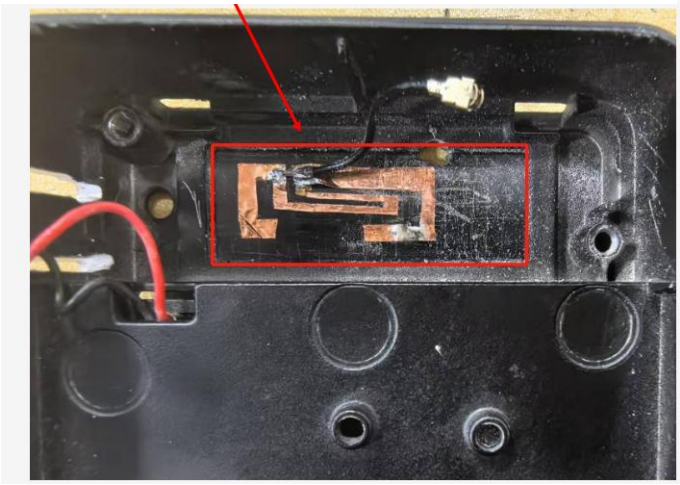
1.1 Electrical specification standard

The frequency range of the antenna is 2400 ~ 2500 MHz. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.

Frequency Range	Frequency (MHz)	VSWR
WIFI	2400 ~ 2500	≤ 2

1.2 Antenna position picture

Antenna placement



Coaxial line out position

Remarks:The antenna coaxial line must be out according to the above figure, the coaxial line should be placed in one direction if the coaxial line is bent it will affect the performance and consistency of the antenna.

1.3 Antenna composition

The antenna is mainly composed of FPC+Coaxial line.

2、 The Equipment of Active Test

Satimo 3D Chamber 4×4×4(m)

CMW500 E5071C

Network analyzer-R&S ZVL

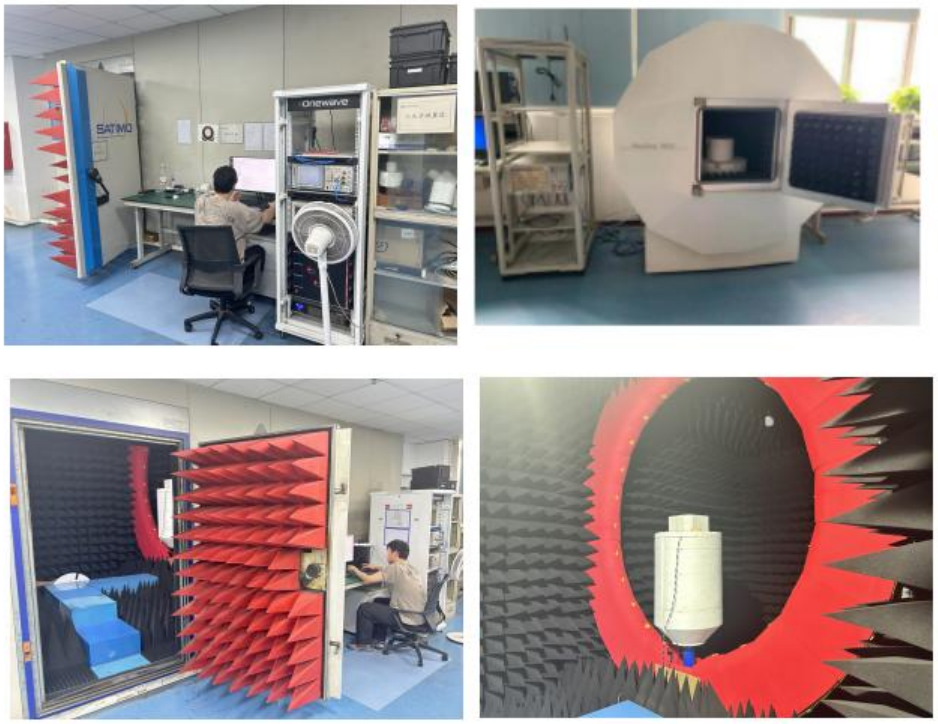


Figure 2

3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR)： In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site：

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB.

3.2.2 Test instrument：

Rs ZVL Network Analyzer, CMW500 E5071C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data ：In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test:

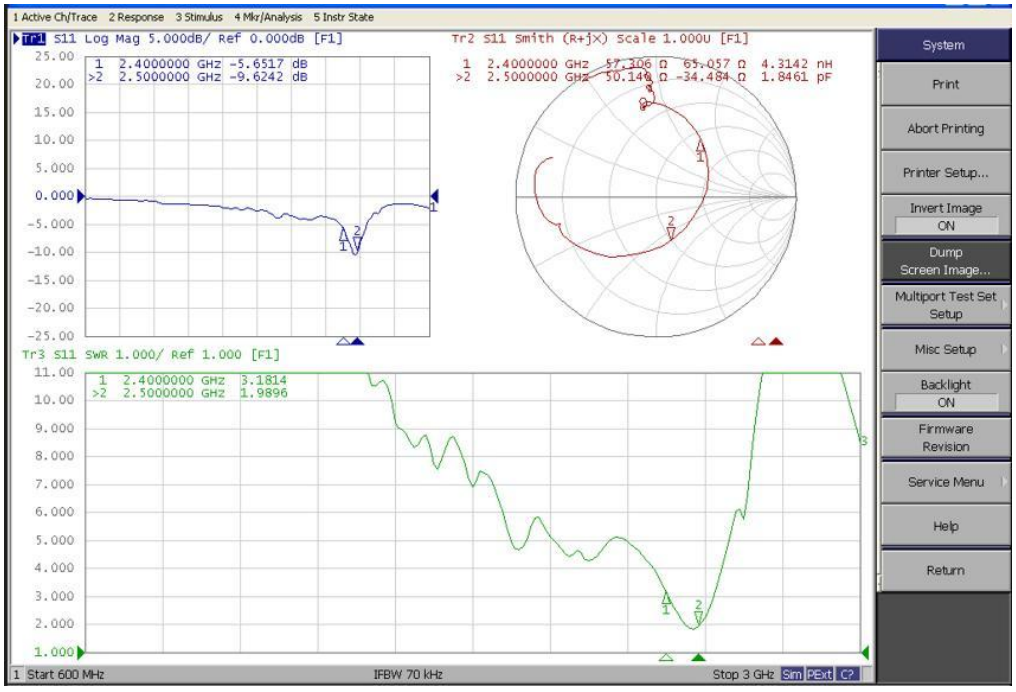
	Channel	TRP(dBm)	TIS(dBm)
802.11b 11M	1	11.51	
	6	11.22	
	11	10.23	-79.17

OTA Passive Efficiency&Gain Test:

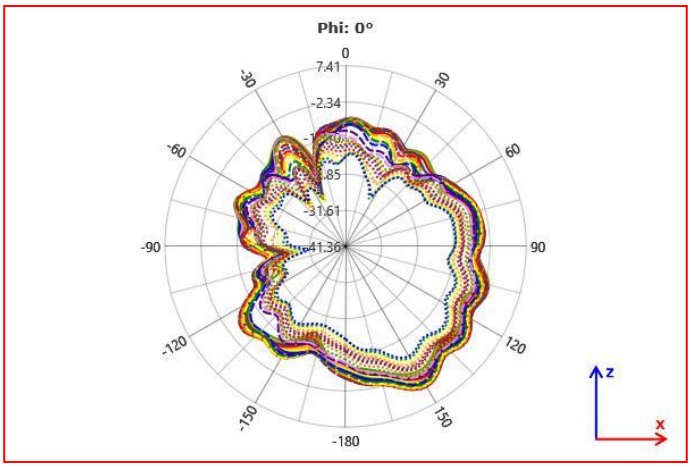
Freqency(MHz)	Efficiency(%)	Gain(dBi)
2400	31.61	1.55
2410	32.35	1.75
2420	33.16	1.98
2430	33.96	2.13
2440	34.37	2.23
2450	34.73	2.37
2460	34.04	2.43
2470	33.49	2.53
2480	31.27	2.49
2490	29.27	2.25
2500	27.05	2.01

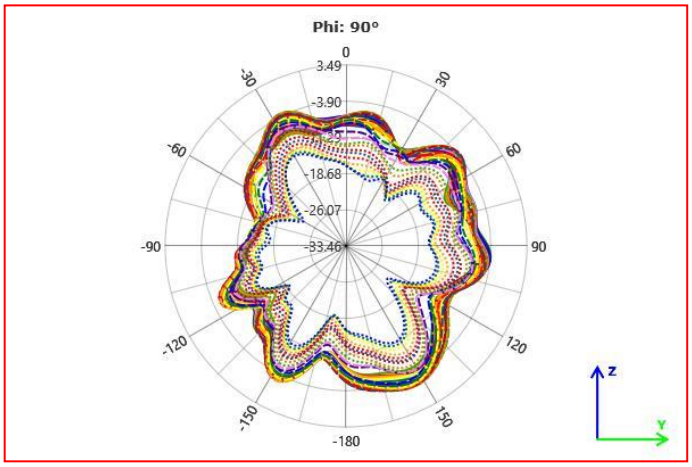
4、Attachment chart

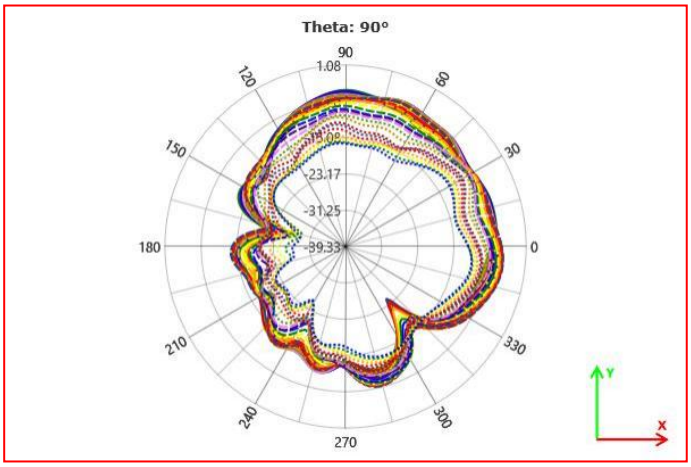
4.1 VSWR parameter diagram



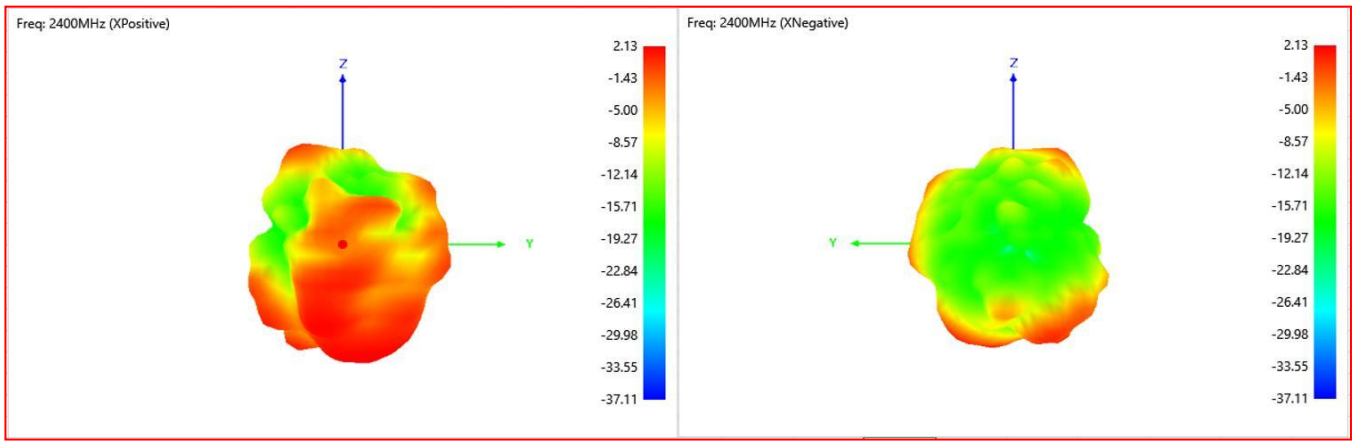
5、Antenna passive field pattern diagram

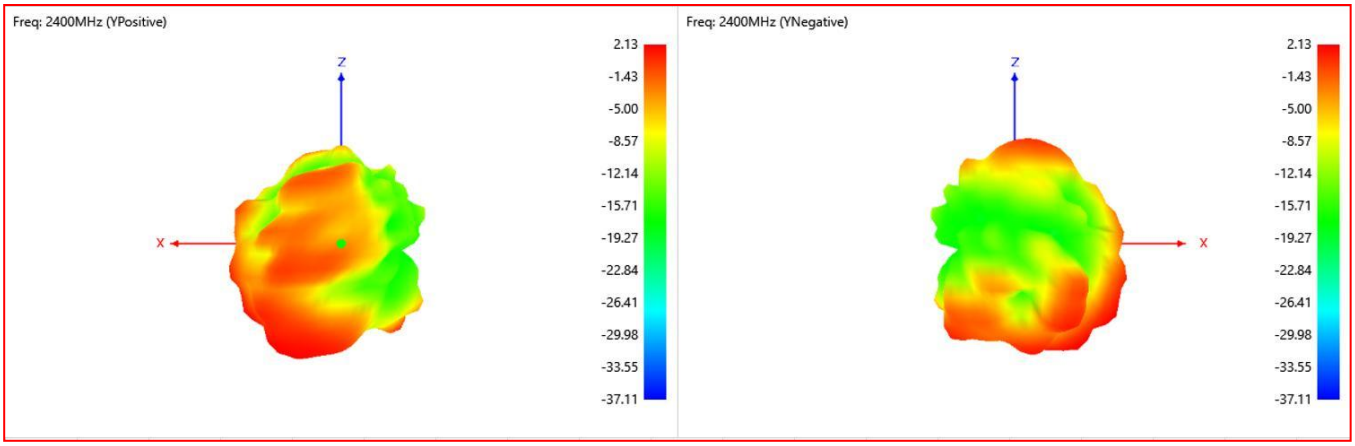




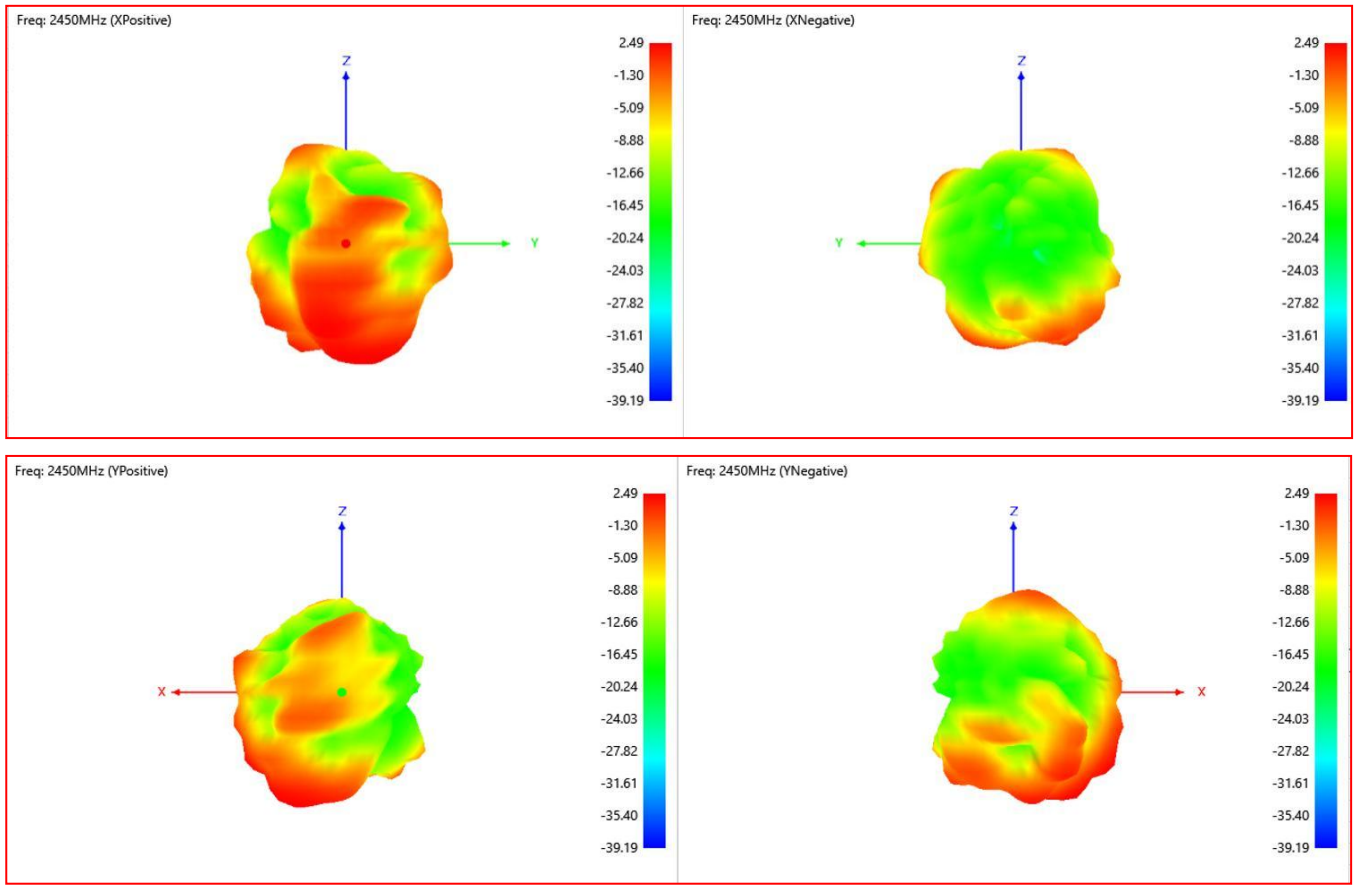


2400MHZ

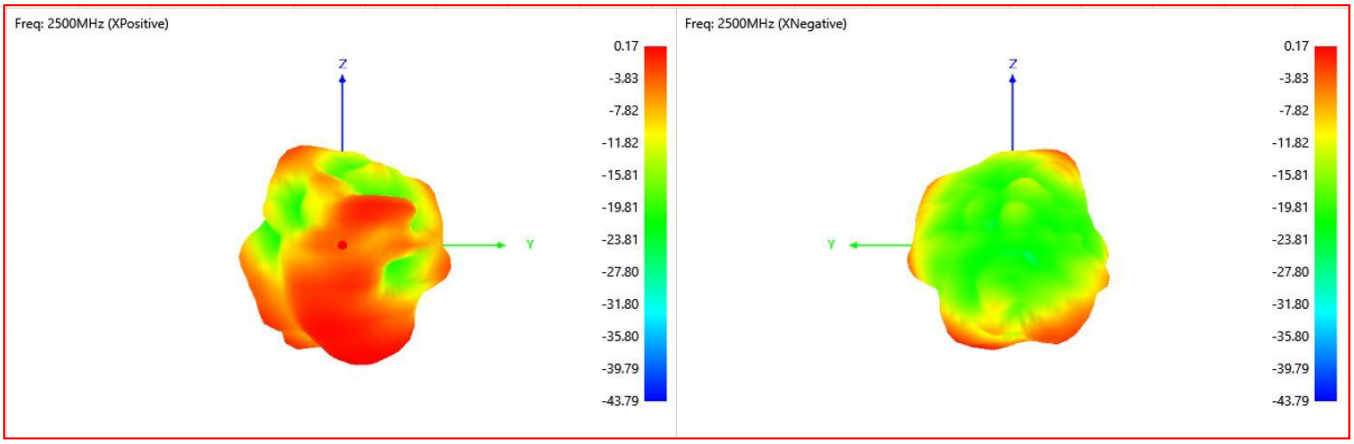


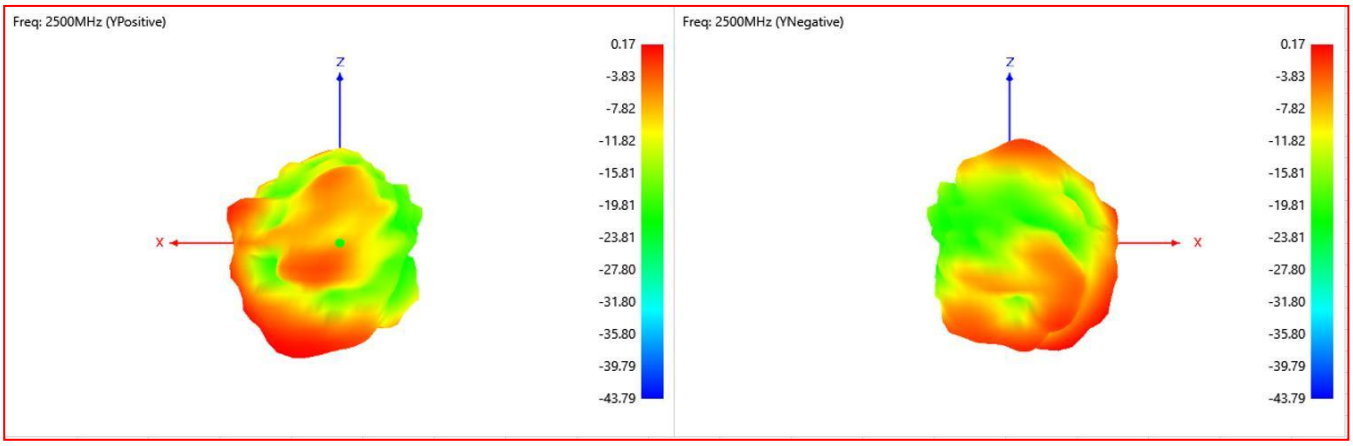


2450MHZ



2500MHZ

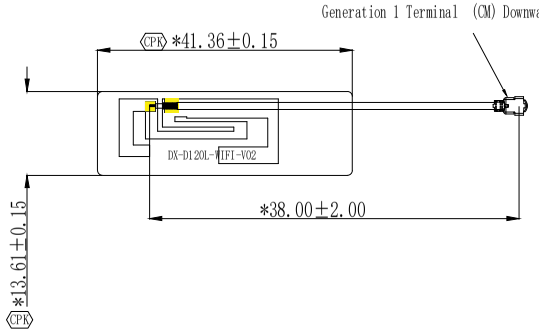


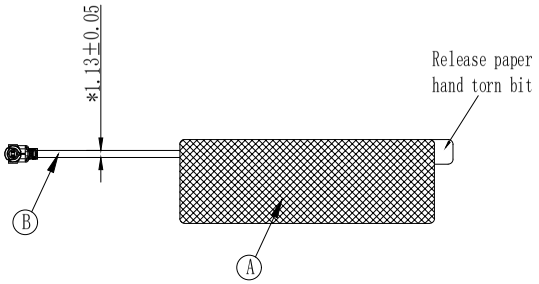


6、conclusion：

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

	0~10	10~30	30~50	50~		○	◎	⊥	▱
	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05





Serial number	Part Name	Material	Colour	Note
B	RF connector	Cable	black	
A	FPC	Electrolytic copper PI	black	

Technical requirement:

1. "*" is the key dimension;
2. Please refer to the drawing for unspecified dimensions;
3. There should be no poor operation such as faulty soldering, missing soldering, short wires, broken wires, etc;
4. Meet RoHS requirements.

TOPANT

Shenzhen Daxian Technology Co., Ltd.

Machine model	D120L	Product Color	Black	Date	2025/07/08
Project Code	CD-110LS-031	Mold surface treatment	NA	MD	ZhouRuibin
Part Name	WIFI天线(WIFI antenna)	Unit mm 比例 (scale) 1:1		RF	ChenZhiqiang
Part Number	1D-110LS-031	Third perspective		Check	ZhouKang
material	FPC+RF connector			Ratify	ZhangLei
Save Path				Current version	A