

# SPECIFICATION

Daxian Communication Technology Limited



## Shenzhen Daxian Technology Co., Ltd.

### SUNWINON T8502

### Bluetooth+WIFI antenna

### Product specification

Guest households	SUNWINON	frequency band	2400MHz~2500MHz
Project name	T8502	version	V4.0
Material No.	1T-8502X-042	color	Black
R F design	Qun.Jin	structure design	Manyi.Zeng
Quality Manager	Ziyin.Hu	R & D director	Lie Zhang
Date	2022-10-09		

client confirmation:

Whether the assembly meets your requirements: OK NG

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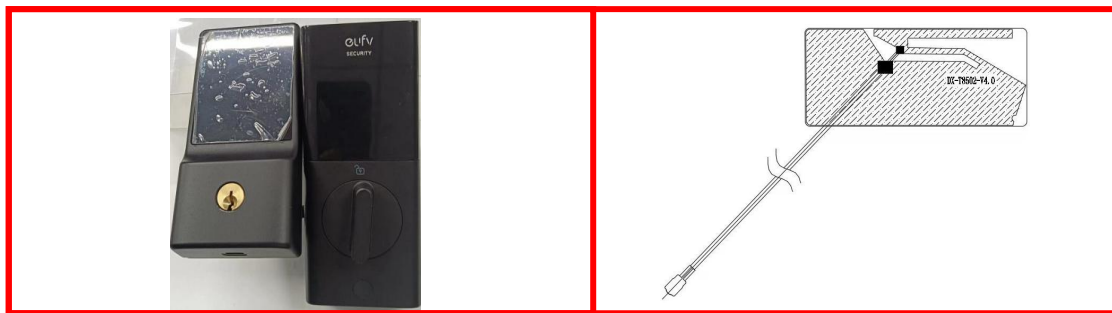
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– **Project description**

<b>Customer name:</b>	SUNWINON
<b>Whole machine type:</b>	WIFI antenna
<b>Antenna band:</b>	2400 ~ 2500MHz
<b>Antenna form:</b>	FPC+Cable
<b>Feed form:</b>	welding
<b>Number of feed feet:</b>	2 left and right ears
<b>Hardware version:</b>	<b>motherboard:</b>

一、**WIFI antenna**

This report provides a variety of measurements of the electrical performance of the T8502 antenna. Figure 1 shows the antenna designed by the display.



Whole machine appearance chart

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.

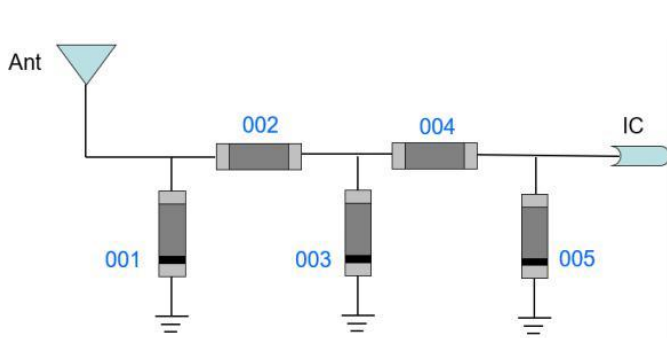
Frequency Range	Frequency (MHz)	VSWR
BT	2400 ~ 2500	≤ 3
WIFI	2400 ~ 2500	≤ 2

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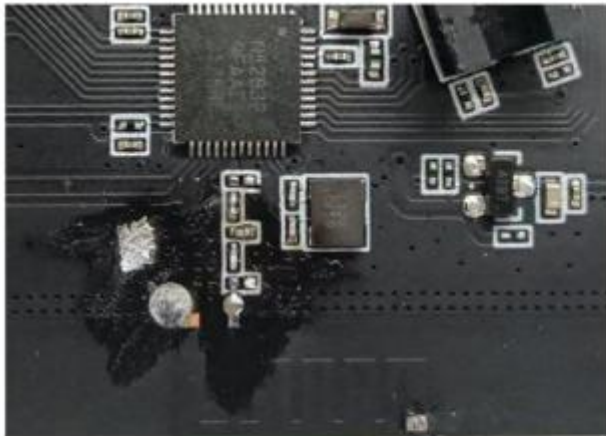
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### 1.1.1 Antenna matching circuit-BT



料号位	参数值
001	NC
002	1.0 NH
003	1.5 PF
004	0欧姆
005	NC

### 1.1.2 Picture of antenna position



BT



WIFI

## 1.2 Antenna composition

The antenna is mainly composed of FPC+Cable.

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## 2、 The Equipment of Active Test

Satimo 3D Chamber 6×4×4( m )

Agilent 8960 E5515c

Network analyzer-R&S ZVL



Figure 2

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### 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, Agilent8960 E5515C, 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:**

Passive Test: BT

Frequency (MHz)	Efficiency (%)	AVG Gain (dB)	Gain (dBi)
2400	43.79%	-3.59	1.72
2410	44.11%	-3.55	1.66
2420	44.87%	-3.48	1.61
2430	45.95%	-3.38	1.57
2440	44.71%	-3.50	1.52
2450	47.31%	-3.25	1.43
2460	46.79%	-3.30	1.46
2470	46.54%	-3.32	1.62
2480	45.90%	-3.38	1.61
2490	45.13%	-3.46	1.68
2500	44.27%	-3.54	1.73

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Passive Test: WIFI 2.4G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	57.4	-2.41	3.21
2410	59.26	-2.27	3.3
2420	61.27	-2.13	3.35
2430	62.11	-2.07	3.41
2440	61.9	-2.08	3.21
2450	64.12	-1.93	3.36
2460	65.82	-1.82	3.22
2470	66.51	-1.77	3.34
2480	67.6	-1.7	3.19
2490	69.29	-1.59	3.55
2500	66.44	-1.78	3.58

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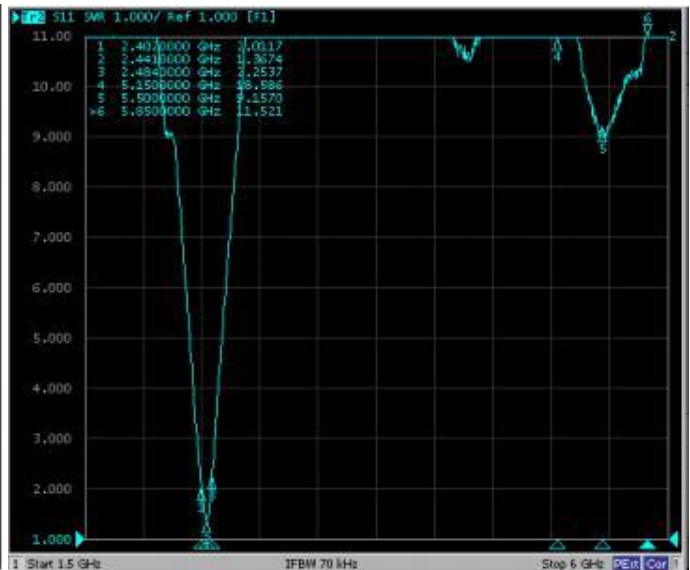
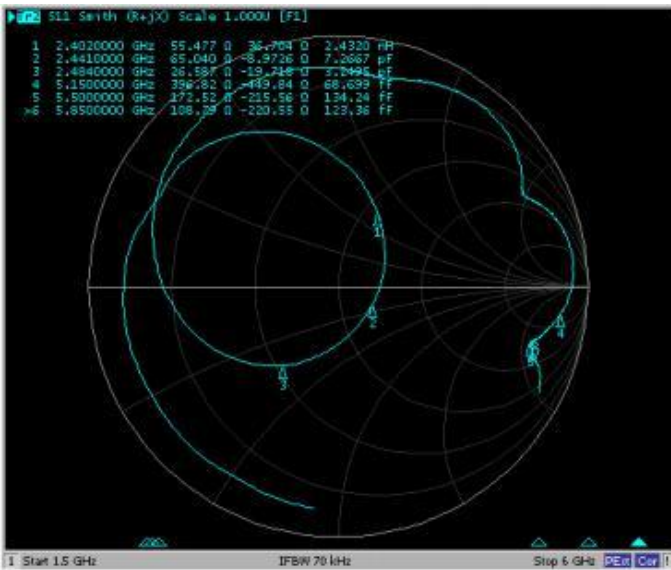
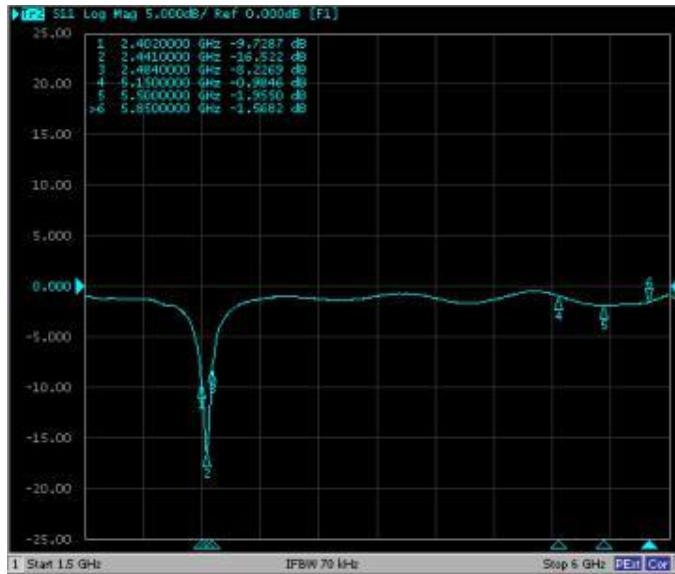
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## 4、 Attachment chart

### 4.1 VSWR parameter diagram-BT

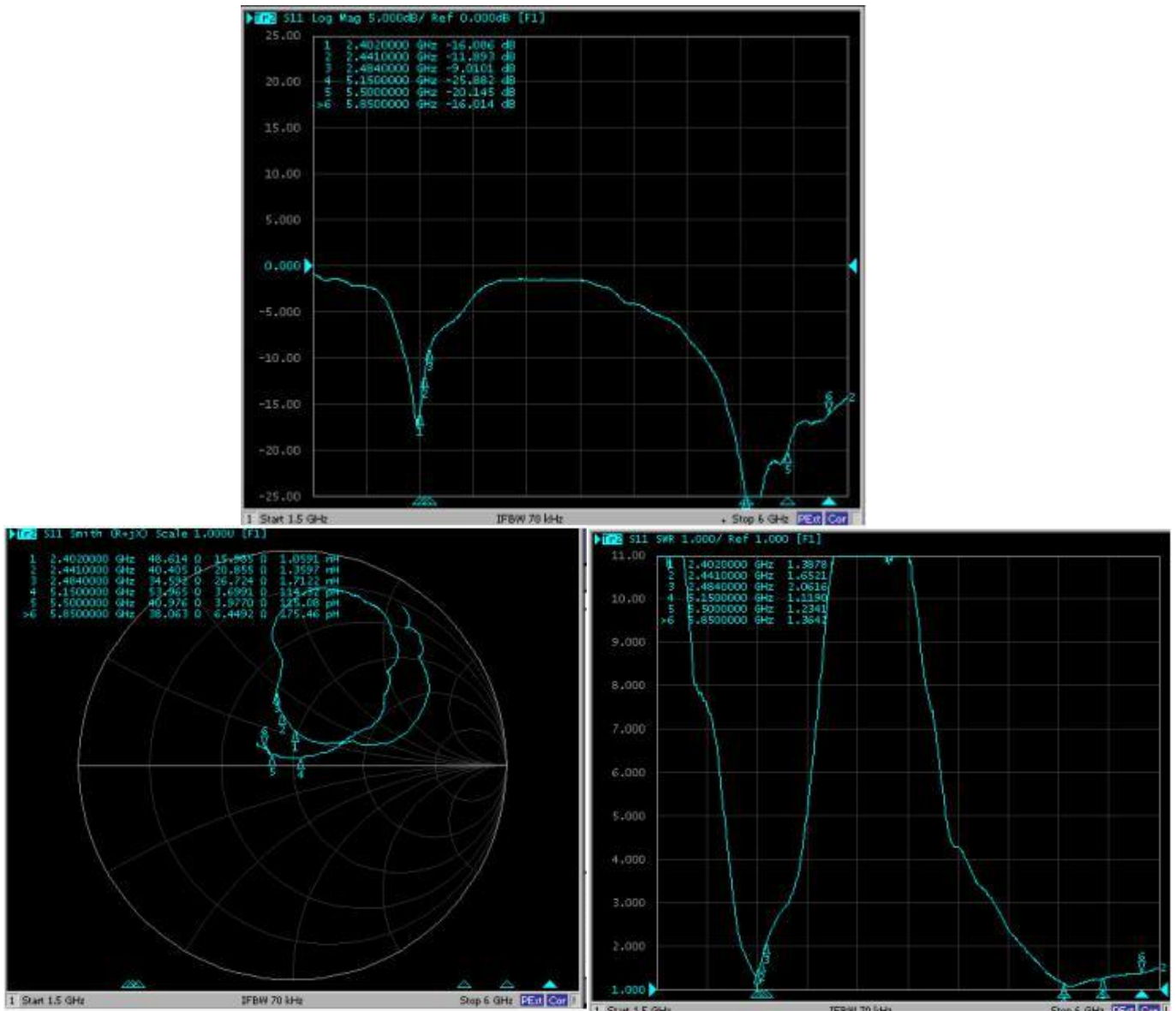


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### 4.1.1 VSWR parameter diagram-WIFI 2.4G



## 5、 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!

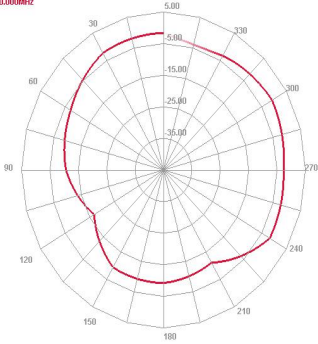
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### 6、2D&3D Field pattern diagram-BT

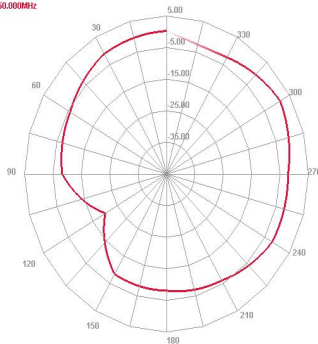
Horizontal

2400.000MHz



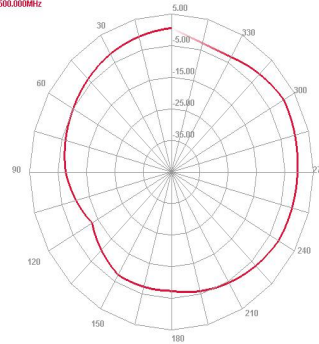
Horizontal

2450.000MHz



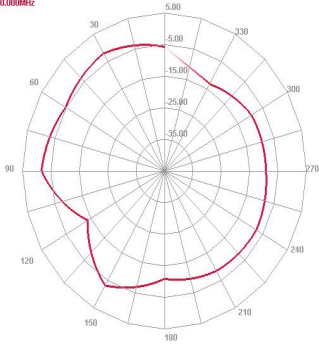
Horizontal

2500.000MHz



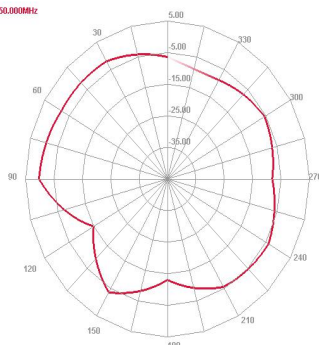
E1 Face

2400.000MHz



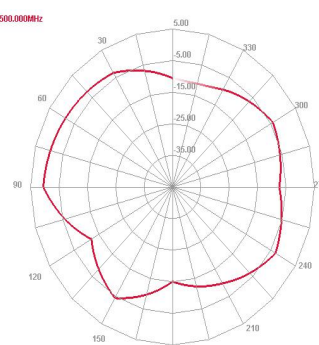
E1 Face

2450.000MHz



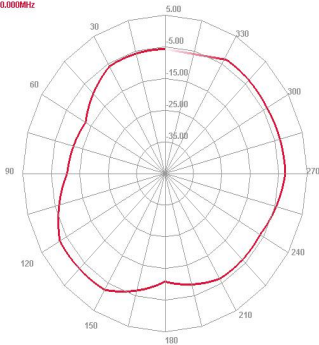
E1 Face

2500.000MHz



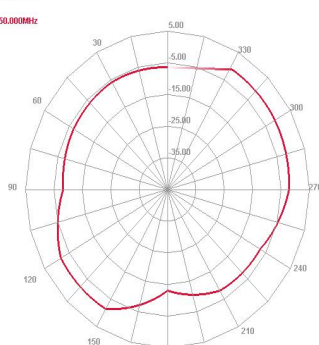
E2 Face

2400.000MHz



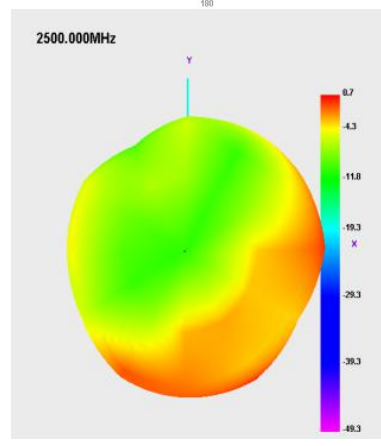
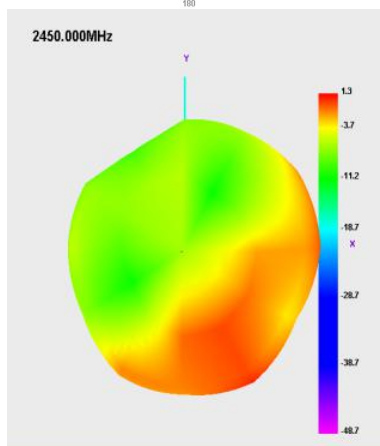
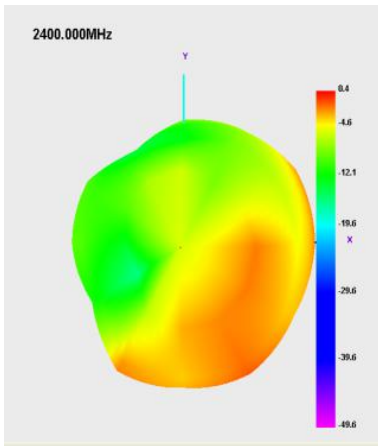
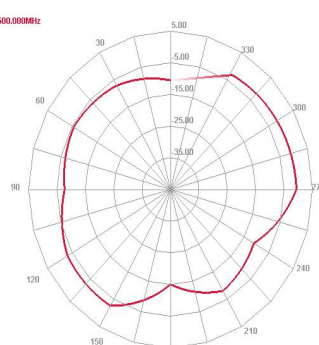
E2 Face

2450.000MHz



E2 Face

2500.000MHz

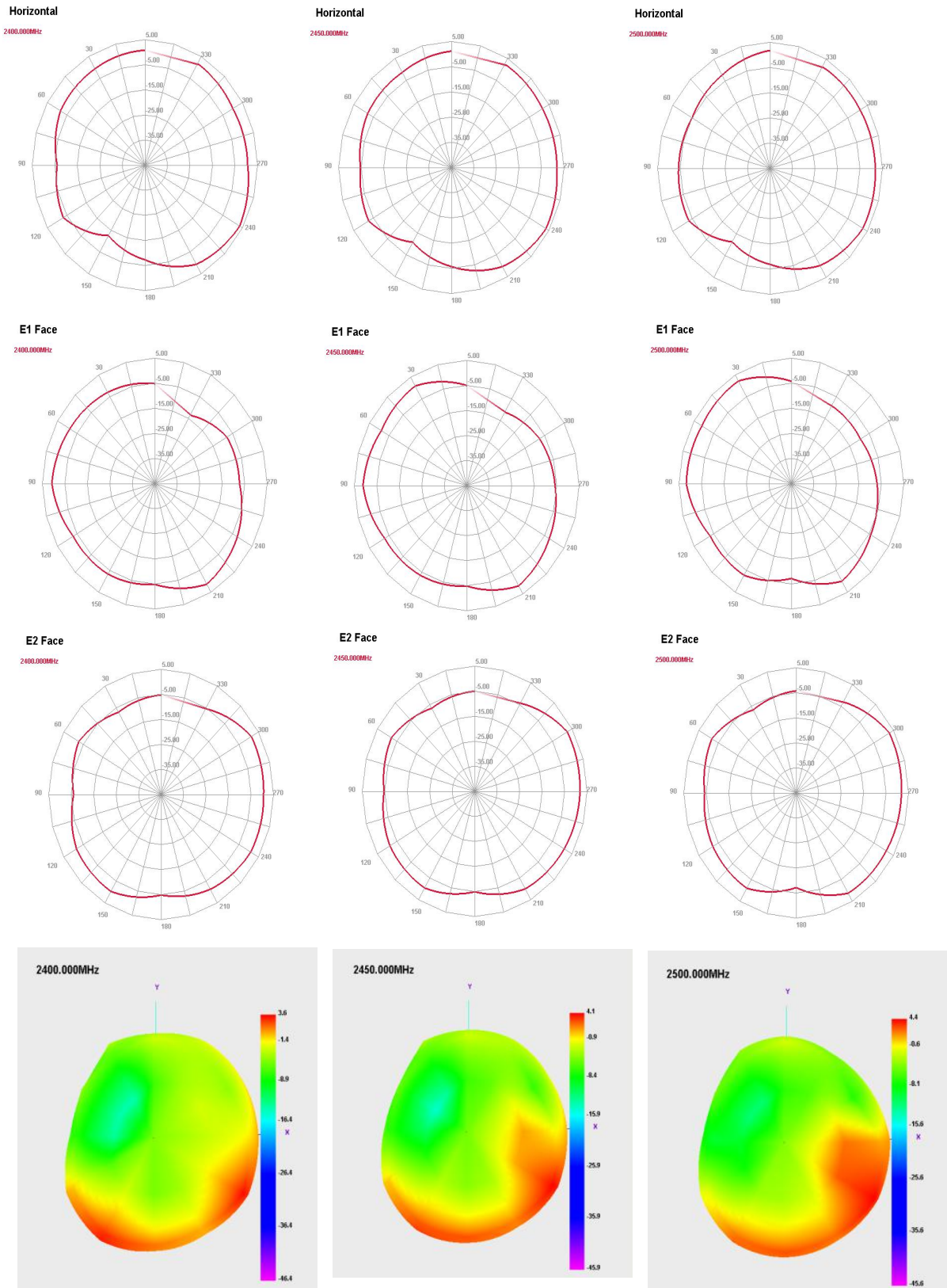


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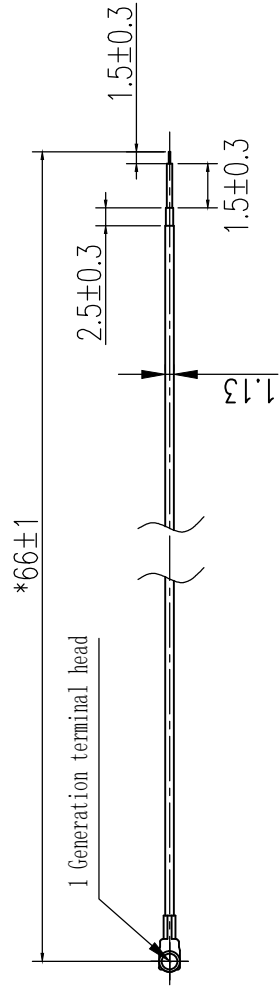
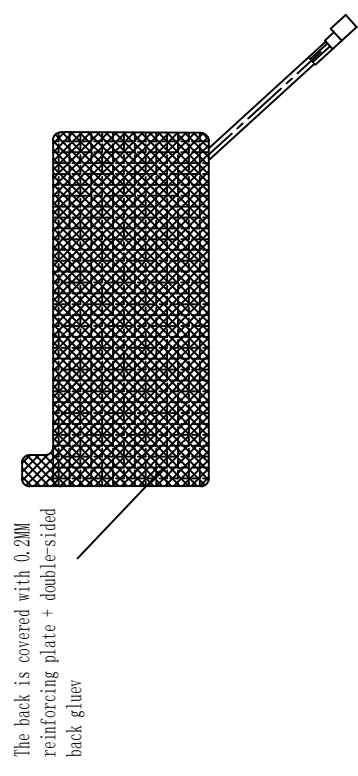
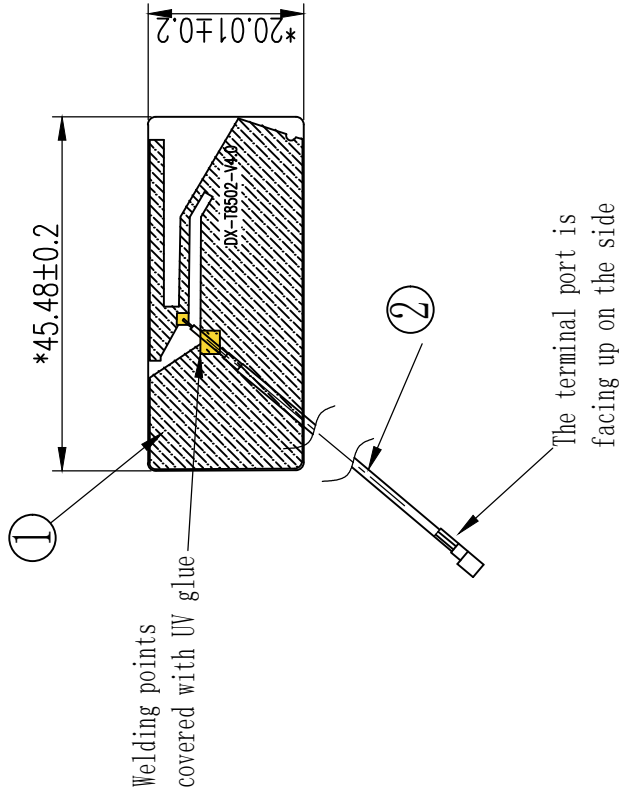
### 7、 2D&3D Field pattern diagram-WIFI 2.4G



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The third perspective		1		2		3		4		5		6	
Unit	mm	0~10	10~30	30~50	50~	Angle	◎	⊥	⊥	⊥	⊥	⊥	⊥
Proportion	1:1	0.05	0.10	0.15	0.20	1°	0.02	0.03	0.03	0.03	0.03	0.03	0.05



2	Coaxial line of terminal	Cable	black	Remark
1	FPC Antenna	Electrolytic copper	black	
No.	Part Name	Material	Colour	Remark

Shenzhen Daxian Technology Co., Ltd.		TOPANT		Product color		black		Date		2022-10-09	
Model		T8502		MoI dsurfacetreat ment		MoI dsurfacetreat ment		Structural Design		zengmanyi	
Project Coding		CT-8502X-042		Part Name		WIFI Antenna		RF design		chenxitian	
Parts coding		1T-8502X-042		Material		FPC+Cable		Check		zhoukang	
Save Path				Approve		Approve		zhanglei		current version	
version		1		Description		Date		Remark		A	

- Note:
- "\*" for the key size;
  - Please follow the drawing is not dimensioned
  - Product environmental protection meets ROHS requirements