

SPECIFICATION



Shenzhen Daxian Technology Co., Ltd.

ZhiYi X490 WIFI antenna assembly

Material Recognition Letter

Guest households	ZhiYi	frequency band	2400MHz~2500MHz
Project name	X490	version	V01
Material No.	1X-912XX-181	color	Black
R F design	Chuan.Shen	structure design	RuiBin.Zhou
Quality Manager	Jin.Yang	R & D director	Lei.Zhang
Date	2025-4-16		

client confirmation:

Whether the assembly meets your requirements: ☐OK ☐NG

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Index

I、 Project description.....	4
II、 WIFI antenna.....	4
1、 specifications.....	4
1.1 Electrical specification standard.....	5
1.2 Antenna composition.....	5
2、 The Equipment of Active Test.....	6
3、 test.....	7
3.1 The Test of standing Wave (VSWR).....	7
3.1.1 test connection.....	7
3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS).....	7
3.2.1 Test site.....	7
3.2.2 Test instrument.....	7
3.2.3 test data	7-8
4、 VSWR parameter diagram.....	8
5、 Antenna passive field pattern.....	9
6、 conclusion:.....	9
III、 schedule drawing.....	10

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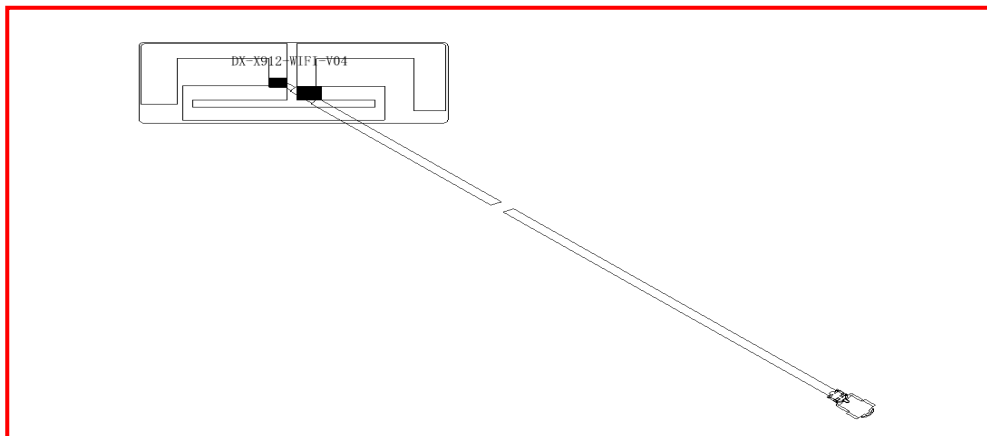
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I、 Project description

Customer name:	ZhiYi
Whole machine type:	sweeper
Antenna band:	2400 ~ 2500MHz
Antenna form:	FPC+Coaxial Cable
Feed form:	soldered
Number of feed feet:	Two
Hardware version:	motherboard:

II、 WIFI antenna assembly

This report provides a variety of measurements of the electrical performance of the X490 antenna. Figure 1 shows the antenna designed by the display.



antenna appearing diagram

Figure 1

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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
Right ear BT	2400 ~ 2500	≤ 3

1.2 Antenna composition

The antenna is mainly composed of FPC+Coaxial Cable .

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2、 The Equipment of Active Test

Satimo 3D Chamber $6 \times 4 \times 4$ (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:

OTA Active Test:

802.11 B R a t e 11M	WIFI 2.4G		
CH	1	6	11
TRP	17.12dB	17.38dB	17.03dB
TIS	-82.09dB	-82.64dB	-82.25dB
802.11 G R a t e 11M			
CH	1	6	11
TRP	11.23dB	11.44dB	11.01dB
TIS	-70.24dB	-70.46dB	-70.27dB
802.11 N R a t e 11M			
CH	1	6	11
TRP	10.64dB	10.70dB	10.11dB
TIS	-69.02dB	-69.49dB	-69.32dB

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Passive Test:

Freq (MHz)	Effi (%)	Gain (dBi)
2400	54.48	1.63
2410	54.42	1.52
2420	54.51	1.86
2430	55.01	2.17
2440	54.54	2.23
2450	55.11	2.55
2460	54.88	2.77
2470	55.17	3.1
2480	53.16	2.94
2490	52.69	3.04
2500	50.11	2.7

4、 VSWR parameter diagram-Right ear

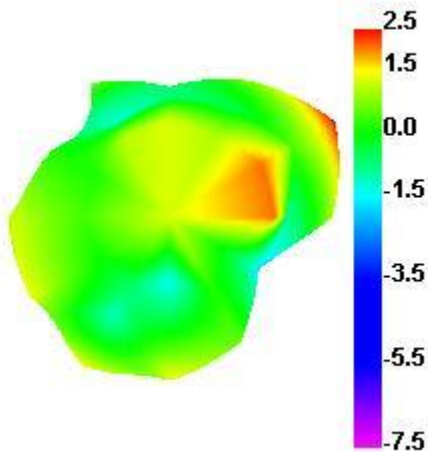
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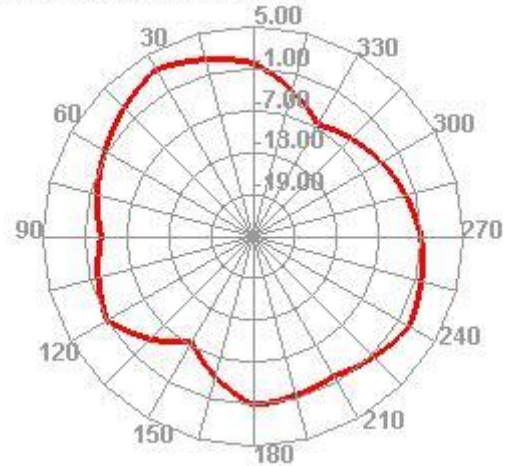
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5、 Antenna passive field pattern:

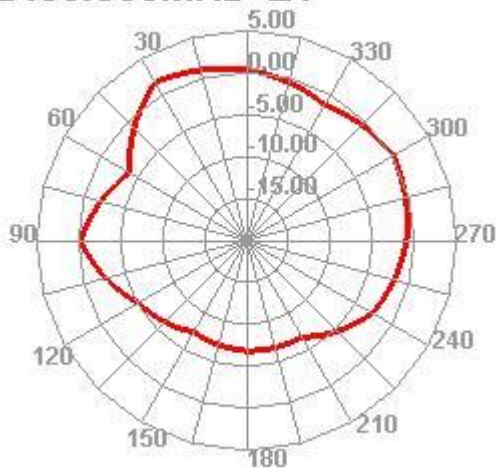
2450.000MHz



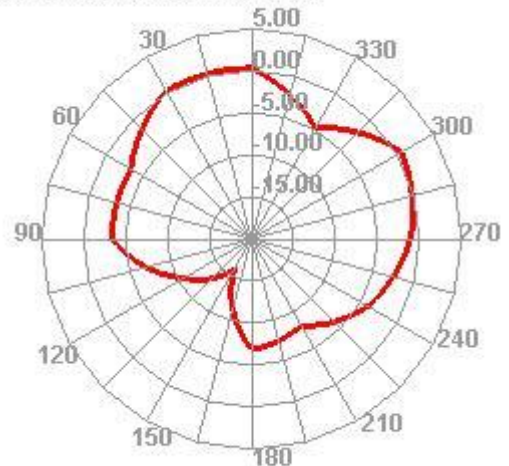
2450.000MHz H



2450.000MHz E1



2450.000MHz E2



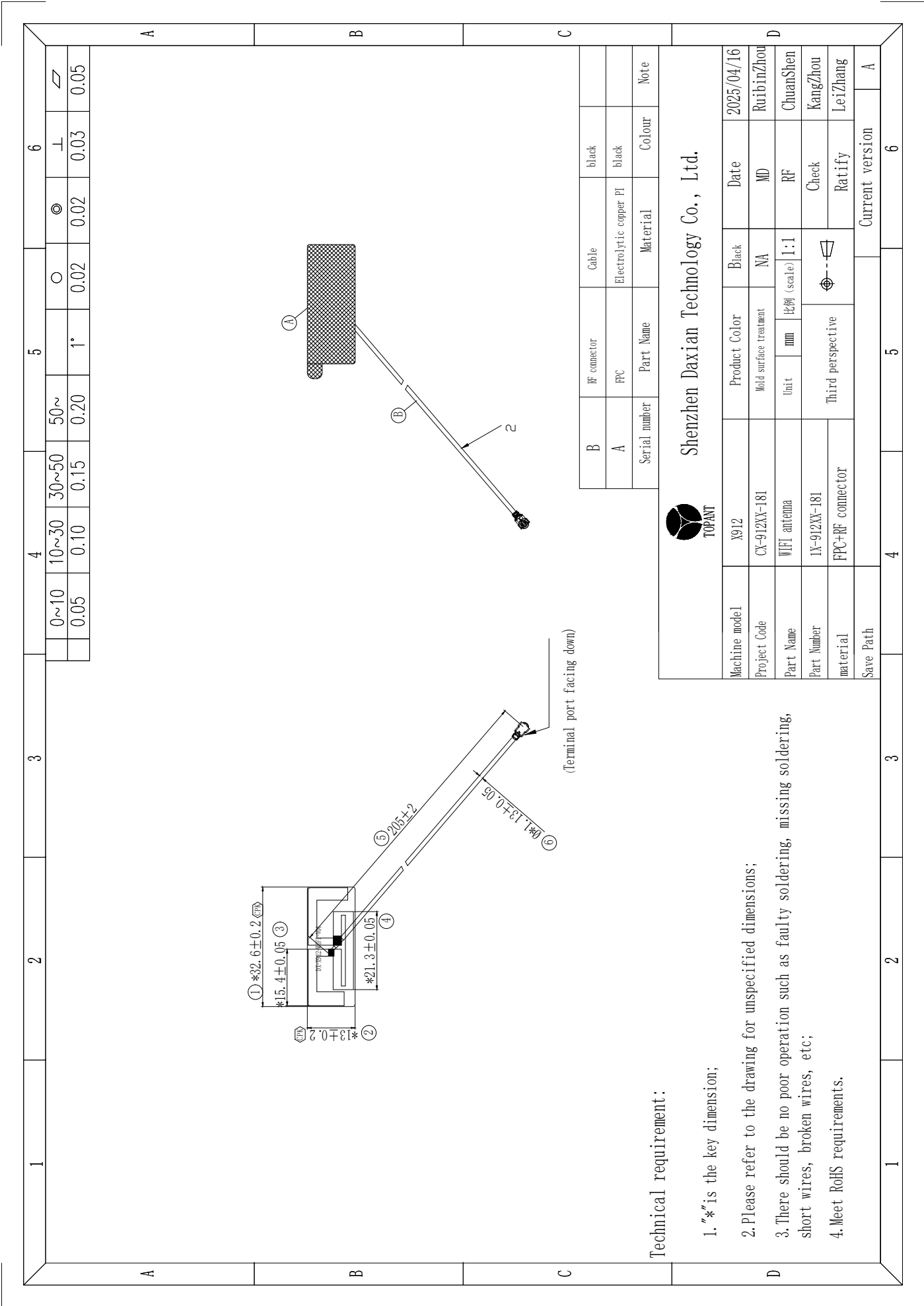
6、 conclusion:

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!

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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.

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

TOPANT Shenzhen Daxian Technology Co., Ltd.									
Machine model	X912	Product Color		Black	Date		2025/04/16		
Project Code	CX-912XX-181	Mold surface treatment		NA	MD		RuibinZhou		
Part Name	WiFi antenna	Unit	mm	比例 (scale)	1:1	RF		ChuanShen	
Part Number	1X-912XX-181	Third perspective			Check		KangZhou		
material	FPC+RF connector				Ratify		LeiZhang		
Save Path				Current version			A		