

SPECIFICATION



Shenzhen Daxian Technology Co., Ltd.

SunWinon K140 WIFI antenna assembly

Product specification

Guest households	SunWinon	frequency band	2400~2500MHz
Project name	K140	version	V03
Material No.	1K-140MS-109	color	Black
R F design	ZhiQiang.Chen	structure design	RuiBin.Zhou
Quality Manager	ChongRui.Li	R & D director	Lei Zhang
Date	2025-11-21		

client confirmation:

Whether the assembly meets your requirements: ☐OK ☐NG

Shenzhen DaXian Technology Co., Ltd.

Shangshuijing Village, No. 513, ihua Road, BujiTown, Longgang District, Shenzhen (opposite to theNational Defense Training Base)reached the 7thfloor of the Industrial Park Complex

TEL:0755-28576002

FAX:0755-84276383

Shanghai Branch: Room 201, Building 8 No, 3000Longdong Avenue, Integrated Circuit IndustrialZone, Zhangjiang Hi-tech Park, Shanghai

TEL:021-61630552

FAX:755-84276383

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Confidential requirement

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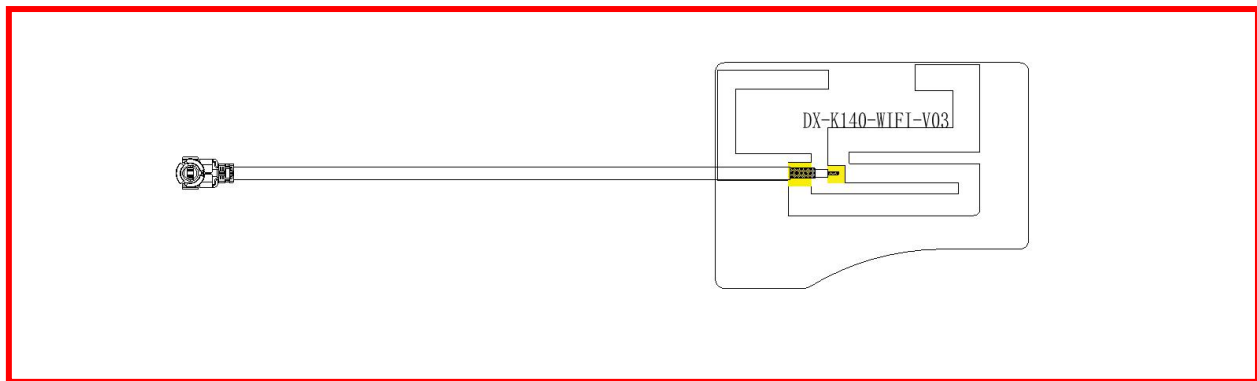
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I 、 Project description

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 K140 antenna. Figure 1 shows the antenna designed by the display.



antenna appearing diagram
Figure 1

1.1 Electrical specification standard

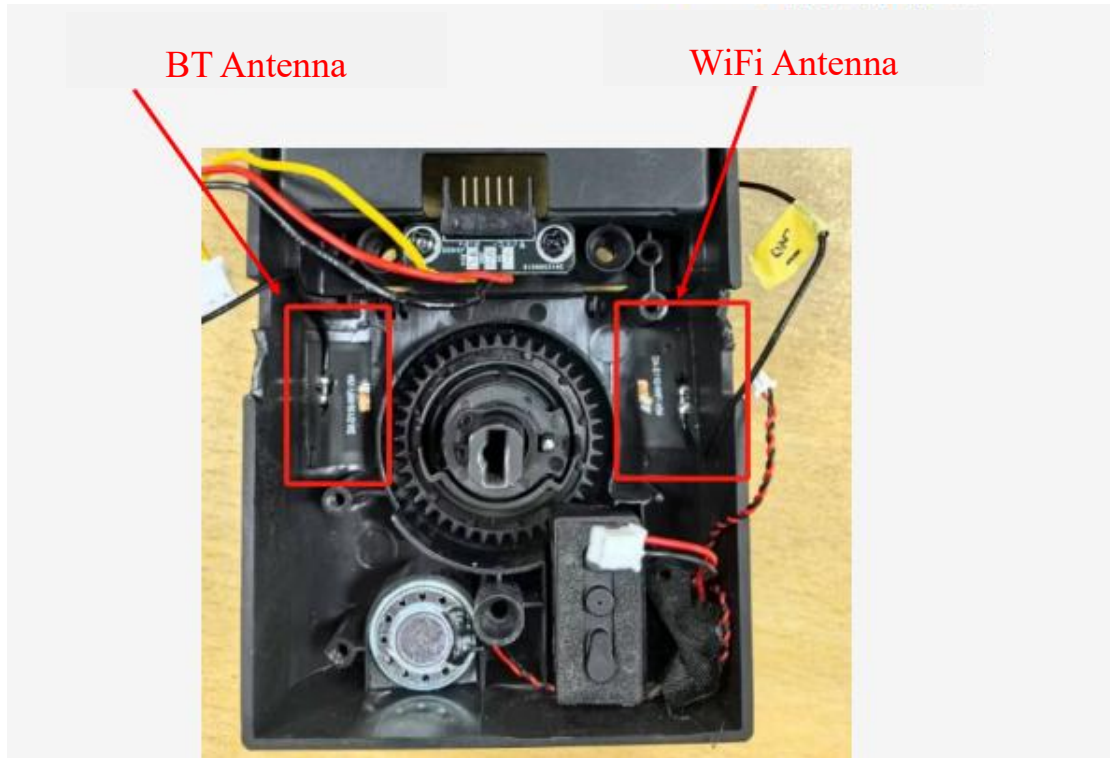
The frequency range of the antenna is 2400 ~ 2500 MHz. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.

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

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1.2 Antenna position picture



1.3 Antenna composition

The antenna is mainly composed of FPC+Coaxial line.

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2、 The Equipment of Active Test

Satimo 3D Chamber $4 \times 4 \times 4$ (m)

CMW500 E5071C

Network analyzer-R&S ZVL

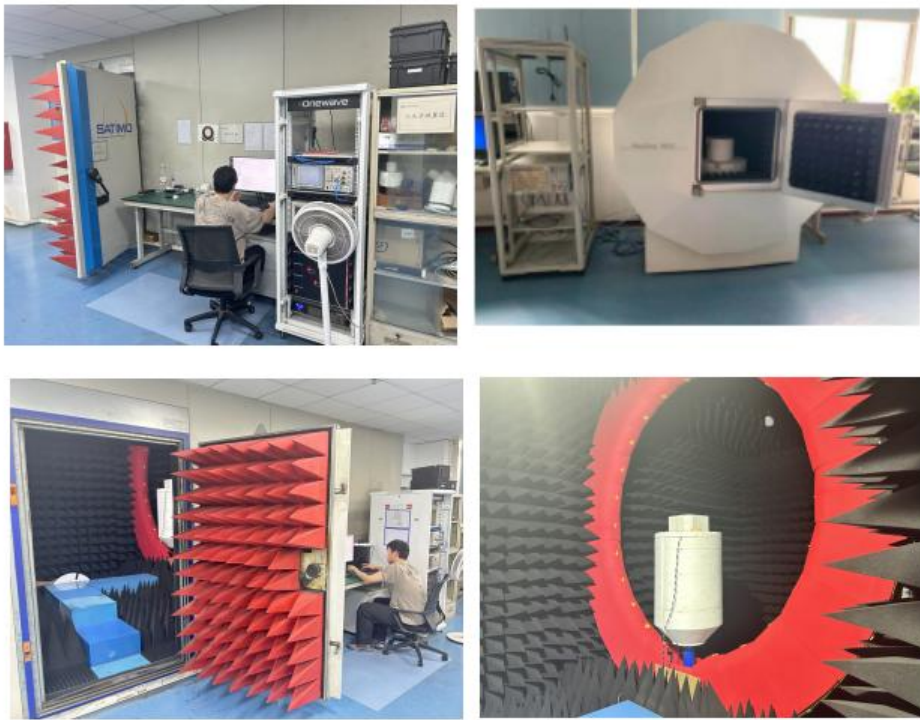


Figure 2

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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, 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:

WIFI	Channel	FS	
		TRP	TIS
802.11b(11Mbps)	1	13.12	
	6	13.41	
	11	13.32	-80.08

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OTA Passive Efficiency&Gain Test:

Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	2.68	-3.89	40.85
2410	2.81	-3.81	41.58
2420	2.88	-3.72	42.44
2430	2.91	-3.62	43.4
2440	2.8	-3.62	43.42
2450	2.68	-3.63	43.31
2460	2.74	-3.61	43.57
2470	2.87	-3.51	44.53
2480	3.1	-3.36	46.15
2490	3.27	-3.3	46.75
2500	3.39	-3.37	46.05

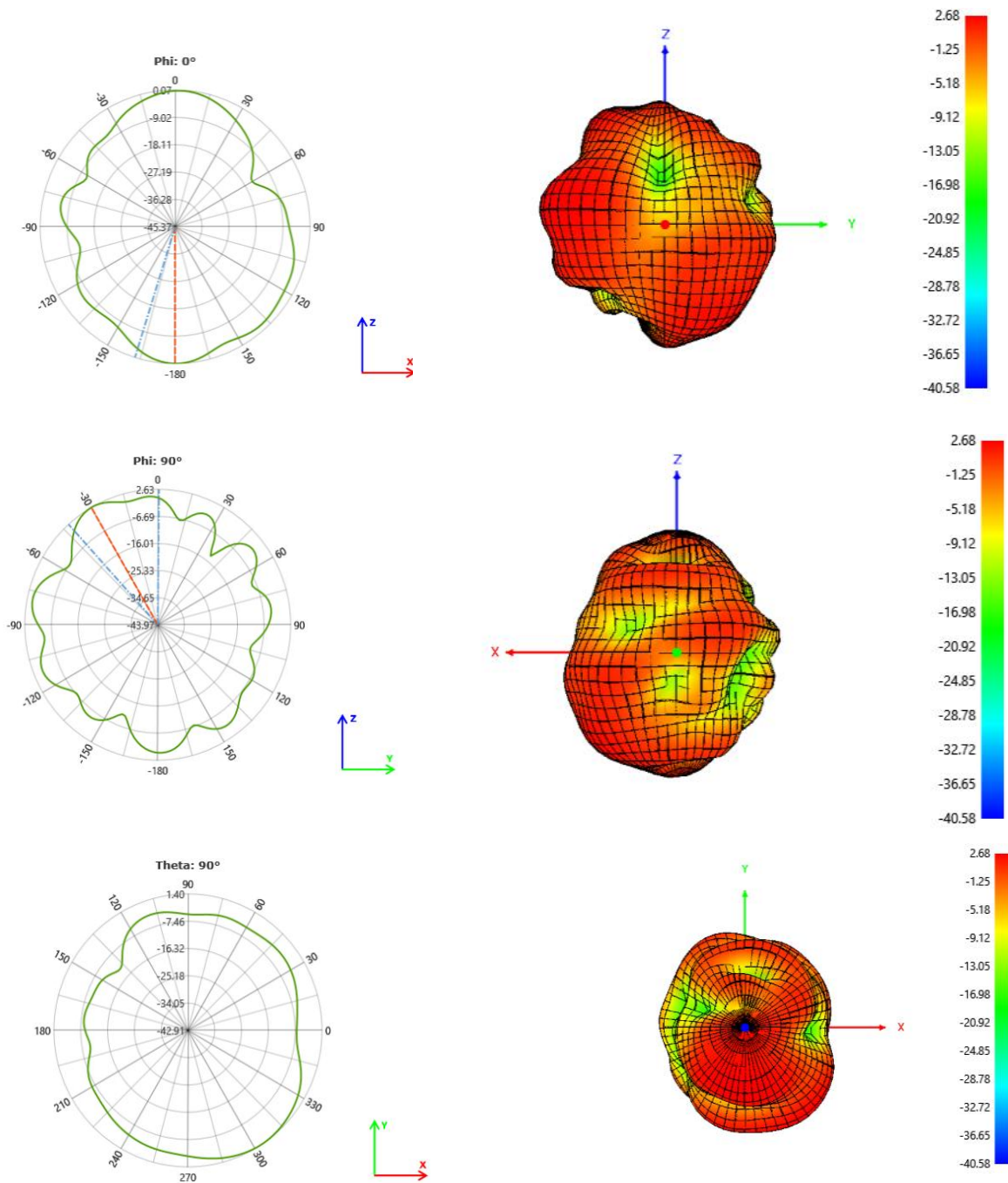
4、 Attachment chart**4.1 VSWR parameter diagram**

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5、Passive field pattern diagram:



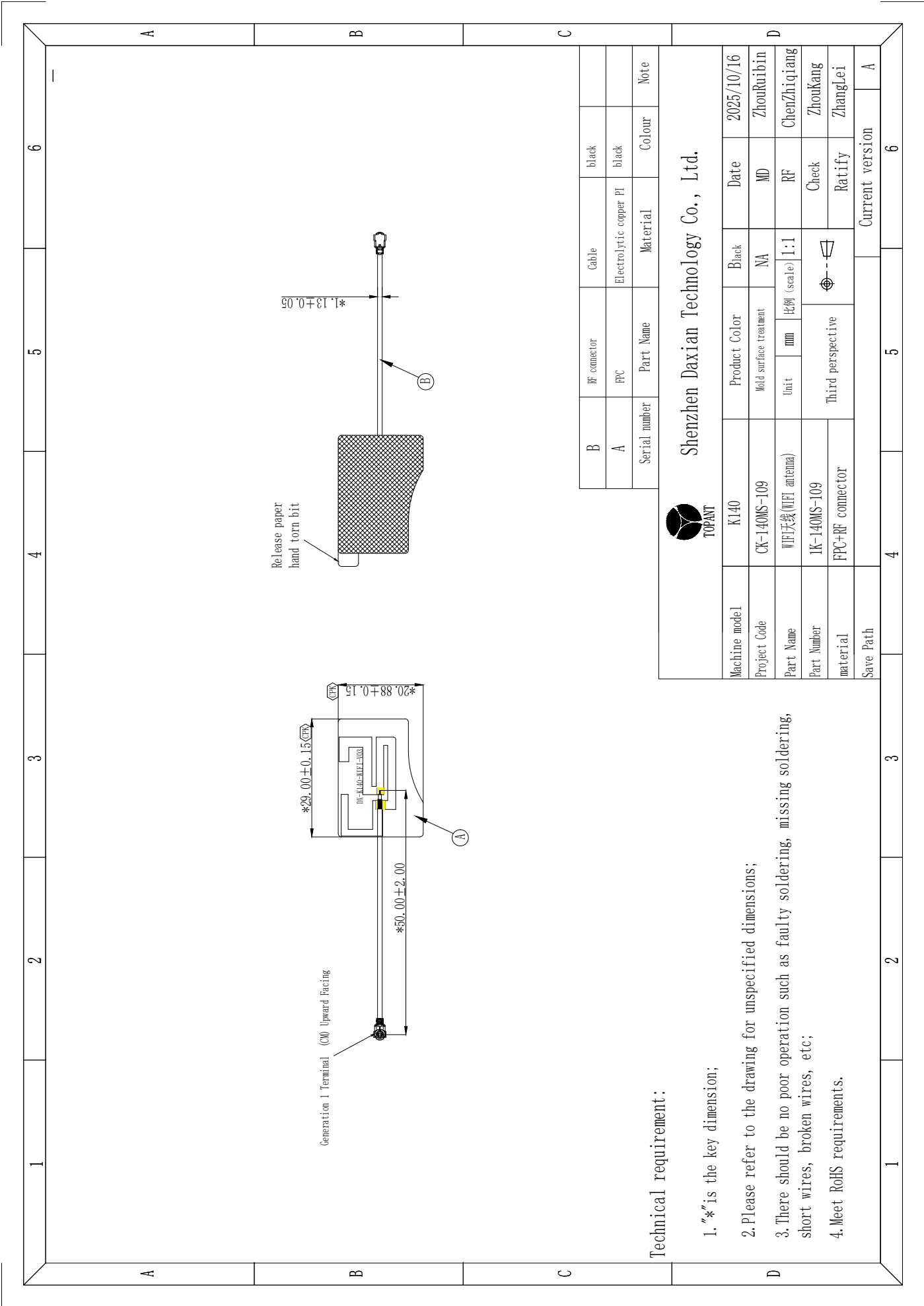
6、conclusion:

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

Shenzhen Daxian Technology Co., Ltd.						
Machine model	K140	Product Color		Black	Date	2025/10/16
Project Code	CK-140MS-109	Mold surface treatment		NA	MD	ZhouRuibin
Part Name	WiFi天线(WiFi antenna)	Unit	mm	比例 (scale)	1:1	ChenZhiqiang
Part Number	1K-140MS-109	Third perspective			Check	ZhouKang
material	FPC+RF connector				Ratify	ZhangLei
Save Path					Current version	A