



Shenzhen unity wireless technology co., ltd

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Acknowledgement

Customer name: Shenzhen Yijing Technology Co., LTD

Customer part number: _____

Client projects: YJ-WIFI-PCB

Zhongcheng material number 众城料号: 01.01.0025

product description: PCB WIFI antenna 1.13black, IPEX1 L=200MM

date: 2025.5.24

R&D confirmation	SE: <u>薛明波</u>	signature:
	RF: <u>张吉成</u>	
approval	approval: <u>迪明慧</u>	

Customer feedback

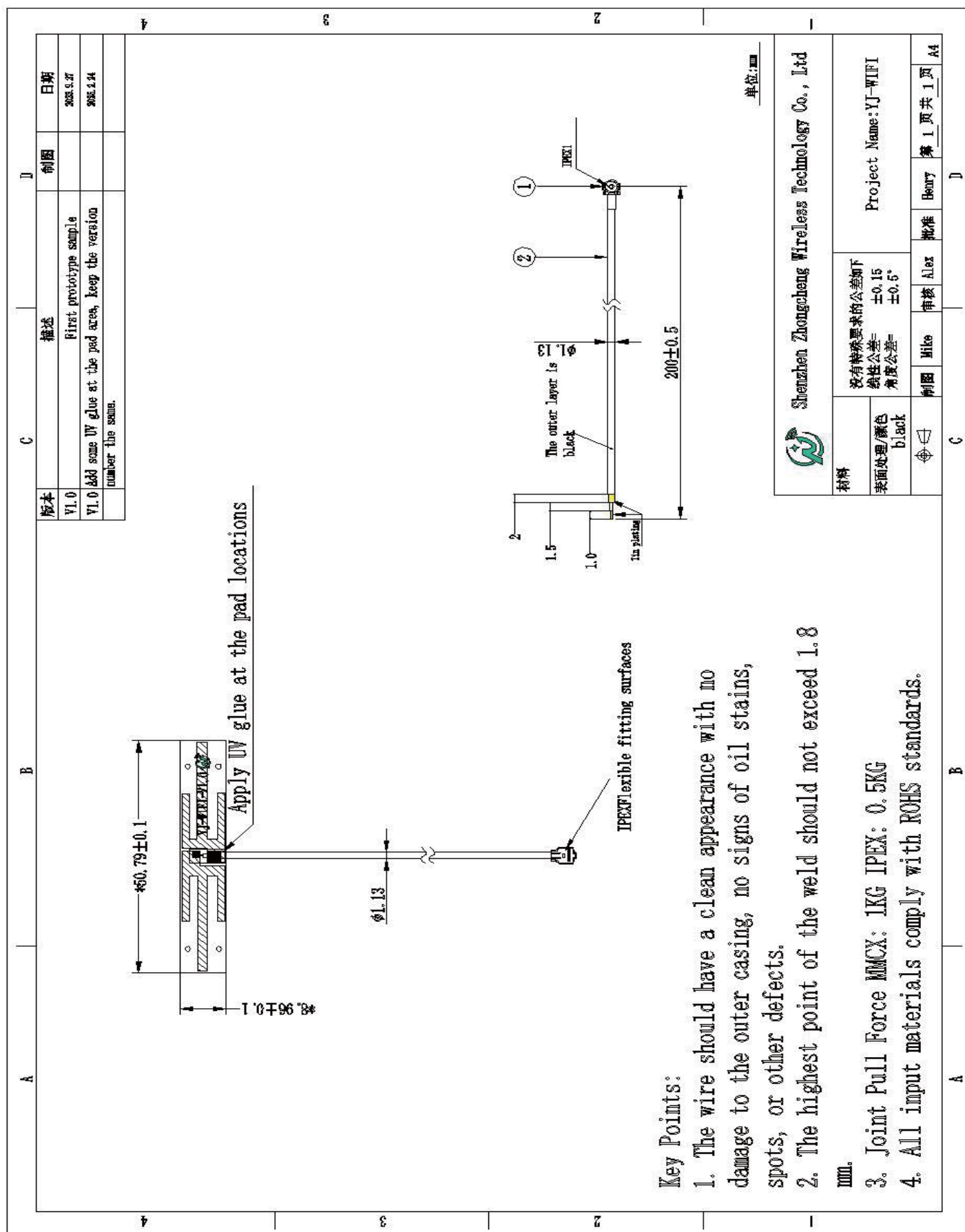
department	Engineering Department:	signature:
	purchase department:	

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[illegible]

工程图纸：

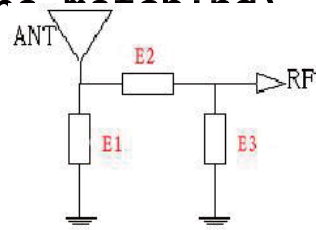


Product Parameter:

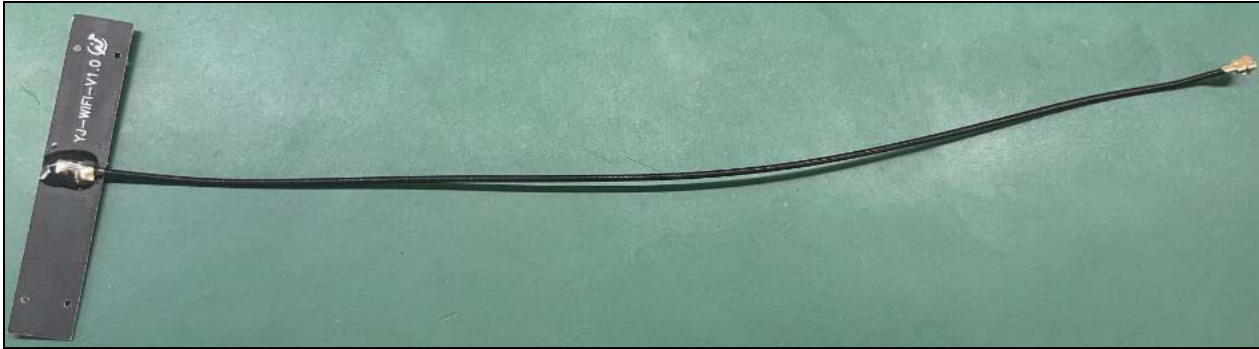
品名	FPC 天线	Model	FPCantenna
频率范围 (MHz)	2400-5900	Frequency (MHz)	2400-5900
极化方式	线极化	Polarization Type	Linear polarization
天线增益 (dBi)	2.25	Gain (dBi)	2.25
电压驻波比	/	VSWR	/
输入阻抗 (Ω)	50	Input Impedance (Ω)	50
同轴线长度 (mm)	200MM	Cable length (mm)	200MM
电缆线颜色	黑色	Cable Colour	Black
接口形式	一代端子	Connector Type	First-generation terminals
工作温度 (°C)	-40~+85	Operation temperature (°C)	-40~+85
存储温度 (°C)	-40~+85	Store temperat (°C)	-40~+85

1. Antenna matching (formerly antenna matching)

	E1	E2	E3
	N/A	0 欧姆	N/A



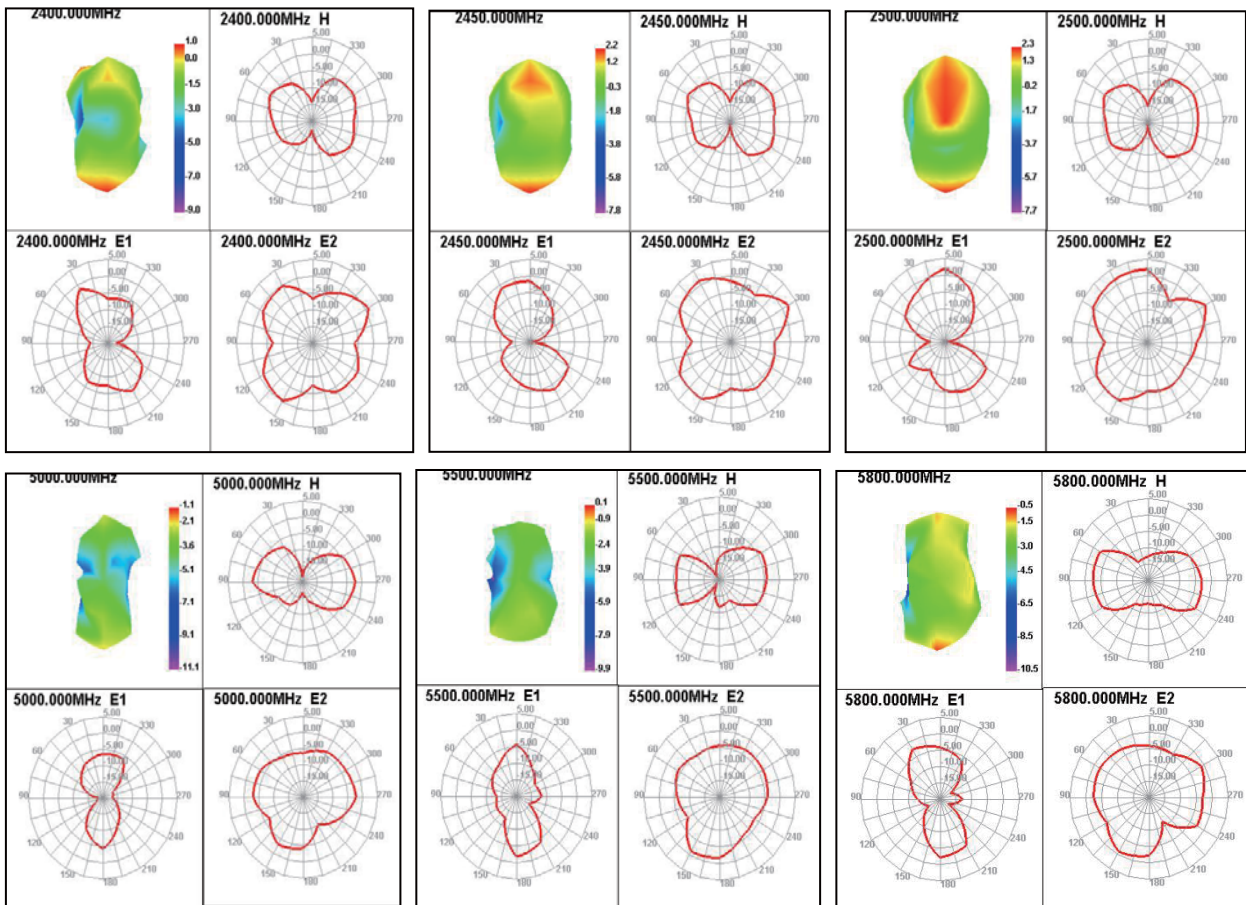
2. 天线位置



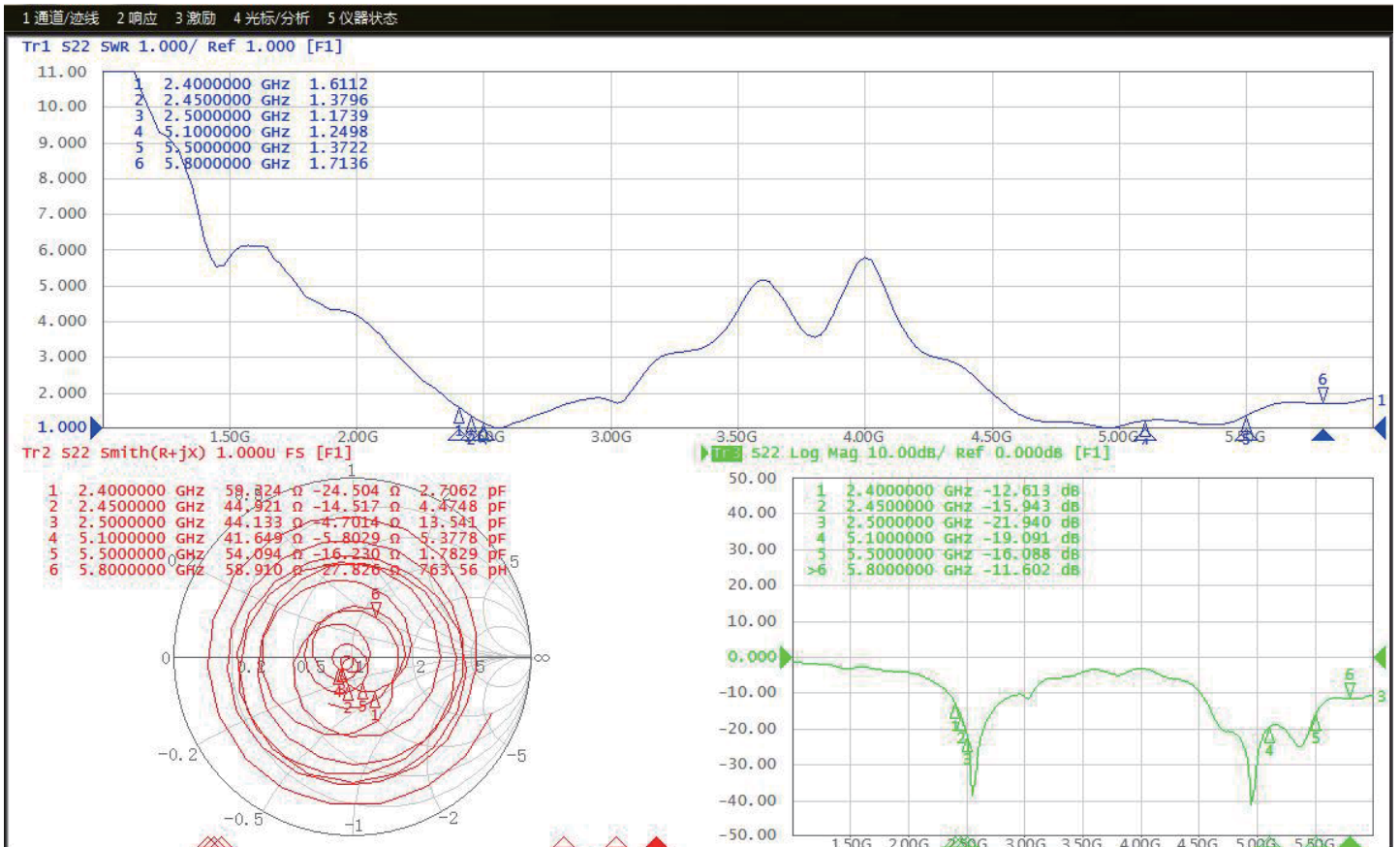
3. Antenna isopropyl efficiency

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
2400	38.23	1.03	5000	20.74	-1.1
2410	34.58	0.73	5100	20.53	-1.3
2420	39.26	1.4	5200	18.9	-1.24
2430	43	1.94	5300	17.57	-0.92
2440	42.05	1.96	5400	19.98	0.23
2450	44.28	2.25	5500	21.96	0.07
2460	43.05	2.09	5600	23.62	-0.55
2470	44	2.15	5700	28.24	-0.72
2480	43.93	2.04	5800	28.92	-0.51
2490	44.14	2.02	5900	32.68	0.97
2500	48.51	2.34			

4. Apple's antenna diagram:



5. S11 ZEPP0



ROHS Restricted Substance Composition Survey

Product information provided

customer name	Material name/model	project name	manufacturer
The ultimate	01.01.0025	YJ-WIFI-PCB	Shenzhen Zhongcheng Wireless Technology Co., LTD

Product composition information

serial number	name	component	Third party inspection report		Content of restricted substance in PPM						备注
			date	number	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬	多溴联苯	多溴二苯醚	
1	PCB	基材 FR4(铜箔)	2024.10.11	CANEC23010851106	○	○	○	○	○	○	SGS
2		油墨(字符)	2024/9/23	ETR24902229M01	○	○	○	○	○	○	SGS
3		焊盘 (OSP)	2024/3/14	CANEC24004013302	○	○	○	○	○	○	CTI
4		焊盘 (电金)	2024/3/30	A2240158803101001E	○	○	○	○	○	○	CTI
5		线材	2024/1/12	XMP24-000173	○	○	○	○	○	○	
6		端子	2024/4/25	27322E20188R1M	○	○	○	○	○	○	
Note:	1. 请以○、×表示六项限用物质含量合规与否；合规者以○表示；不合规以×表示。										

testing facility

- Measuring instrument: microwave anechoic chamber, network analyzer, standard antenna.
- Micro-wave anechoic chamber description:

This is the microwave anechoic chamber set up in Shenzhen by our company. This microwave anechoic chamber belongs to a far-field measurement system. The size of the anechoic chamber is 7.0m x4.0m x3.0m, and the quiet zone size is 15cm x15cm x15cm.

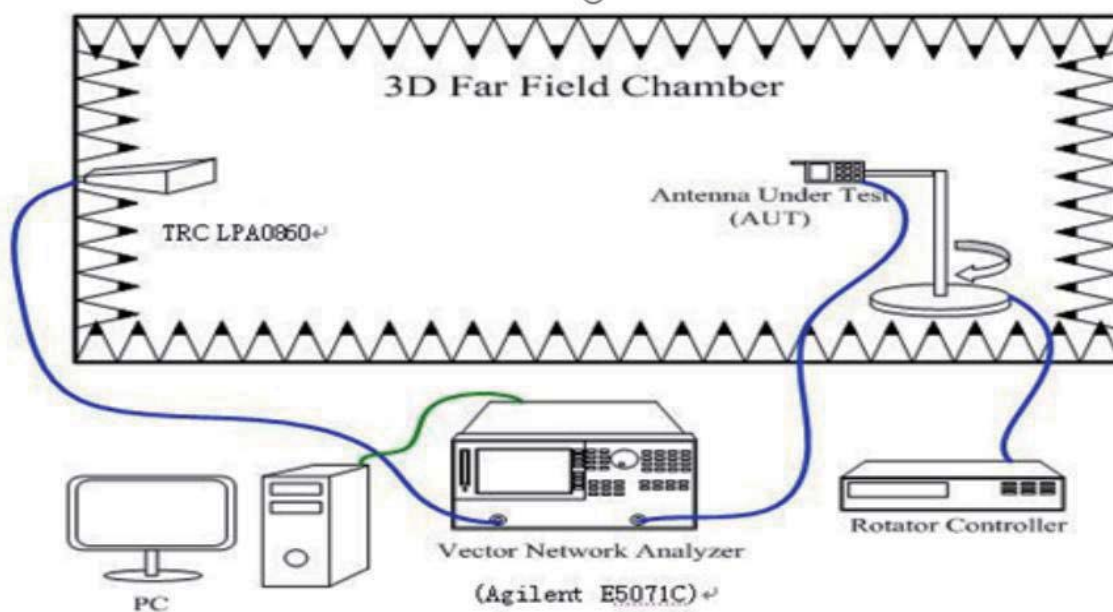


图. 1. 微波暗室内仪器设置

图. 1. Configuration diagram for instruments in the microwave anechoic chamber and network analyzer connection: The transmitting antenna (TRC LPA0860 800MHz-6GHz model used in this chamber) is positioned 1.35 meters from the test antenna (AUT), which is mounted on a rotating platform. By adjusting the rotation angle of the platform, both preliminary and precise measurements can be performed on the test antenna.

The antenna under test is mounted on a rotating platform to collect 360-degree field strength data across its two planes (ZY and ZX). The antenna is then reconfigured as a standard dipole antenna (specifically the TRC AD series dipole antenna operating in the 800MHz-2500MHz frequency range used in this anechoic chamber) to measure its 360-degree field strength data. These measurements serve as the reference for calculating conversion gain values. Through Equation 1, the antenna's gain value and radiation pattern can be determined

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

P_{AUT} : Measured Power of AUT

P_{stand} : Measured Power of Standard Gain Antenna

Environmental and Reliability Testing

project	Reference standards, and experimental conditions	Judgment basis	Sample quantity / bad quantity (PCS)	Test / test the equipment
collide	GB/T 2423.6-1995 Acceleration: 200m / s ² Collision pulse duration: 6ms Number of collisions per minute: 40~80 times Total collisions: 400 vertical direction, front and back Left and right horizontal direction each 300 times, a total of 1000 times.	It should meet the requirements of electrical characteristics, and the mechanical properties are normal, but the appearance of touch marks, whitening and bending in the allowable range.	5/0	Collision experiment machine
vibrate	GB/T2423.10-1995 Test the FcFrequency: 10~30; 30~50Hz; Resonance point amplitude: 0.35mm Amplitude: 0.75mm Duration: X, Y & Z, 0.5 hours per direction. Cycle: 1min; Test for 1 hour after completing the experiment.	And firmware without loose, parts without rupture or fatigue; No original fall off, no solder point fracture; The electrical performance index meets the requirements of the technical specifications;	5/0	Vibration test machine
retentivity	Verification conditions: both ends of the joint and wire are fixed on the drawing machine fixture, and the pulling force returns to zero Verification method: manually pull to the product IPEX connector and wire fall off	>10N	5/0	Pull force test machine

decline	GB/T2423.8-95 From 100cm height to the floor 10 times. GB/T2423.8-95	1. No significant abnormality in appearance 2. After the test, the electrical performance shall meet the requirements of the electrical characteristics, and the mechanical performance shall be normal, but the external collision marks, whitening and bending shall be in the allowable range.	5/0	Drop test machine
high-temperature storage	GB/T 2423.2-2001 trial B Ambient conditions: + 85 ± 3°C for 96H The experiment was completed 24 hours after room temperature.	The surface coating shall have no peeling, crack, wrinkle and separation; the non-metallic structures have no permanent deformation, cracking, bonding; the mobile components are not stuck or detached; the electrical performance indexes meet the requirements of technical specifications	10/0	Temperature and humidity cycle test box
Low temperature storage	The gb / t 2423.1-2001 test a ambient conditions: -40 ± 3°C for 96h was tested 24 hours after the experiment was at room temperature.	The surface coating shall have no peeling, crack, wrinkle and separation; the non-metallic structures have no permanent deformation, cracking, bonding; the mobile components are not stuck or detached; the electrical performance indexes meet the requirements of technical specifications	10/0	Temperature and humidity cycle test box

High and low temperature cycle	gb/t2423.22-2002 Test n: Place the antenna in t1=-40°C incubator for 30 minutes, then raise the temperature for 60 minutes to t2=80°C, then keep the temperature for 30 minutes, relative humidity at 50% rh, and the cycle is repeated 20 times.	The surface coating shall have no peeling, crack, wrinkle and separation; the non-metallic structures have no permanent deformation, cracking, bonding; the mobile components are not stuck or detached; the electrical performance indexes meet the requirements of technical specifications	10/0	Temperature and humidity cycle test box
humid heat test;	Test gb / t 2423.3-1993 ca: ambient conditions: 40 ± 2°C, relative humidity 80 ~90% for 96 hours. The experiment was completed 24 hours after room temperature.	2. After the test, the electrical performance meets the specification requirements, and the electrical performance meets the specification range.	10/0	Temperature and humidity cycle test box
salt spray test	The gb / t 2423.18-2000 test kb places the test in a salt spray chamber with saline injection concentration (5 ± 1)%, 35°C± 1°C, sedimentation rate (1-2) ml / 50mm2 * h, 48 hours, check the appearance.	No rust phenomenon, mechanical performance and electrical performance to meet the range of specification.	5/0	Saline spray machine

Packaging specifications

Product material number: 01.01.0025

size of product, specifications of the products:PCB WIFI 天线 1.13 黑, 一代端子 L=200MM

1. Labeling requirements (according to the customer name reference corresponding finished product label production requirements, no requirements, according to the ordinary label requirements)

2. The inner label is about 8cm long and 5.5cm wide

 众城无线 UNITY WIRELESS 深圳众城无线技术有限公司			
SHENZHEN UNITY WIRELESS TECHNOLOGY., LTD			
客户		规格型号	
订单号		送货数量	
客户料号		众城无线料号	
日期		生产批次	
TEL:0755-23285621		FAX:0755-23285621	

The outer label is about 8cm long and 5.5cm wide

 众城无线 UNITY WIRELESS 深圳众城无线技术有限公司			
SHENZHEN UNITY WIRELESS TECHNOLOGY., LTD			
客户		规格型号	
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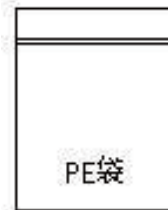
二、The packing requirements

job description:

1. inner packing:

Product according to actual packaging quantity pcs / pouch,

Quantity of pcs / large bag according to the actual package



2. Packaging:

Quantity / box according to the actual packing



纸箱

matters need attention:

1. Whether to add a partition board, pearl cotton;

2. Label, such as rohs, etc.;

