

Parts Acknowledgment

Name of Part: antenna

Specification of Parts:

Accessory, Antenna, DR2004, WiFi dual band antenna, coaxial length 35mm, with 3rd generation terminal buckle, FPC, 23.60*23.59mm, -40℃~+85℃, with conductive sponge: 10.0 * 4.0 * 2.0mm, SF2495A-1L23B-035-A (silk screen printing: SF2495A-1B2-A)

Store at the material number:

10883000166

Model of application:

DR2004-2.9 inch screen recorder

Name of Supplier:

Shenzhen Suo Ward Communication Technology Co., Ltd.

Type of Supplier: ☒ Manufacturer、☐ Agent、☐ Trader;

Manufacturer's material number:

SF2495A-1L23B-035-A

Recognition number:

CRS0004345

Keep an eye on the date of issue:

Supplier approval column

To develop: LTT

audit:

杨欠德

Approved by the:

* The following is the check column of the tag tag

Material to send sample check column		Material confirmation and approval column	
Procurement Engineer	Purchasing Supervisor	Research and Development Engineer	Research and Development Supervisor

DDPai Technology CO.,LTD. Tel: 86-755-26401213

Address: Guangdong, China. 12th Floor, Yihua Fintech Building, Software Industry Base, Nanshan District, Shenzhen;

Website: www.ddpai.com

DDPai vision equipment Co.,LTD

Address: Building 6, No. 139, Xinhua Road, Xindai Town, Pinghu City, Jiaxing, Zhejiang

Supplier Address: 6th Floor, Building B, Hexi Hangcheng Industrial Zone, No. 135, Qianjin Second Road, Bao'an District, Shenzhen

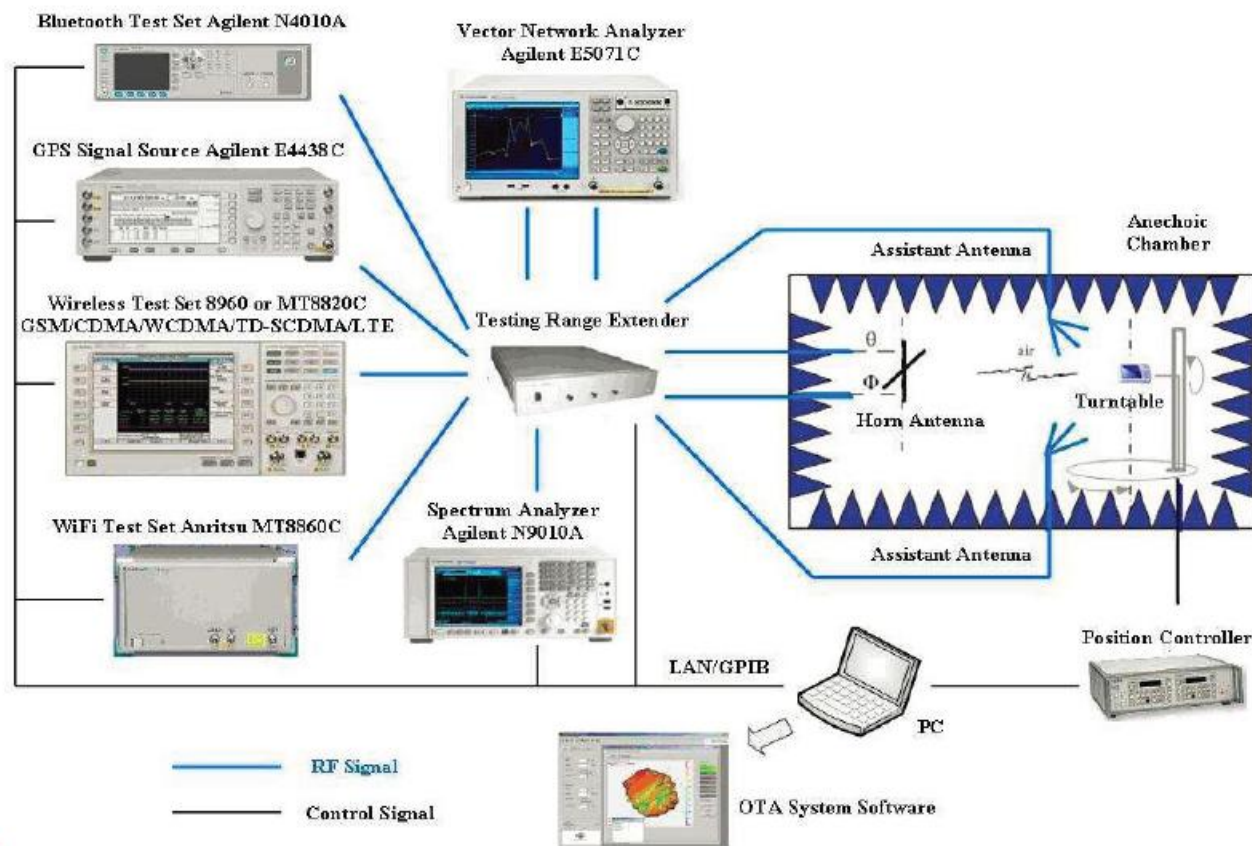
Contact information of supplier: Chen Heng /13717086260

Serial number	Certification number	Material type	Date of issue	Remarks
1	SHAEC24025471005	Tinned copper wire	2024-11-25	One year
2	SHAEC24027284565	halogen	2024-12-06	One year
3	SHAEC24027480902	Adhesive	2024-12-06	One year
4	SHAEC24029171725	FEP sheath	2024-12-26	One year
5	SHAEC24027284563	FEP insulation	2024-12-05	One year
6	SZXEC24002306404	Tin wire	2024-07-24	One year
7	SZXEC24002306408	Tin	2024-07-24	One year
8	ETR24600712	Printing ink	2024-06-14	One year
9	A224012320010200 1E	Substrate	2024-03-20	One year
10	CANEC24028865417	EVA foam	2025-01-03	One year
11	A224043975210100 1	Conductive cloth	2024-07-29	One year
12	SZXEC24002471802	Gold plating	2024-08-08	One year

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一:Device support&testable antenna type



Antenna function	frequency range	Testing instruments	Testing method	Testing standards
2G antenna (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B, 8960, OTA darkroom	Active testing, passive testing	Soward standards, customer requirements
3G antenna (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B, 8960, OTA darkroom	Active testing, passive testing	Soward standards, customer requirements
4G天线 (LTE-FDD/LTE-TDD)		5071B, CMW500, SP8011, OTAdarkroom	Active testing, passive testing	Soward standards, customer requirements
WIFI antenna	2.4GHz-2.48GHz, 5.15GHz-5.35GHz, 5.725GHz-5.825GHz	5071B, CMW500, OTAdarkroom, Router, PC	Active testing, passive testing, APK testing, throughput testing	Soward standards, customer requirements
BT antenna	2.4GHz-2.48GHz	5071B, OTAdarkroom, Bluetooth Speaker	Active testing, passive testing, actual testing	Soward standards, customer requirements
Positioning antenna (GPS, GLONASS, Beidou, Galileo)	1575.42MHz ± 10MHz 1602MHz±0.5625MHz 1561MHz±2.046MHz	5071B, OTAdarkroom, APK	Active testing, passive testing, actual testing	Soward standards, customer requirements
NFC antenna	13.56MHz	5071B, Specialized testing fixture, OTAdarkroom, APK	Passive testing and actual measurement	Soward standards, customer requirements
Remote control antenna	433MHz	5071B, OTAdarkroom	Passive testing and actual measurement	Soward standards, customer requirements
NB_IOT	with LTE-FDD	CMW500 (high-end version)	Active testing, passive testing	Under construction (power standard basically consistent with 4G)

二:Overview

(1)Antenna performance

- 1.This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of WIFI&BT antenna.
- 2.Antenna shape size: Meet the requirement of MID
- 3.Antenna band: 2.4GHz~5GHz
- 4.Antenna material: Antenna material meet the requirement of MID
- 5.Adhesive performance: Adhesive performance meet the requirement of MID
- 6.Antenna performance meet the spec below:

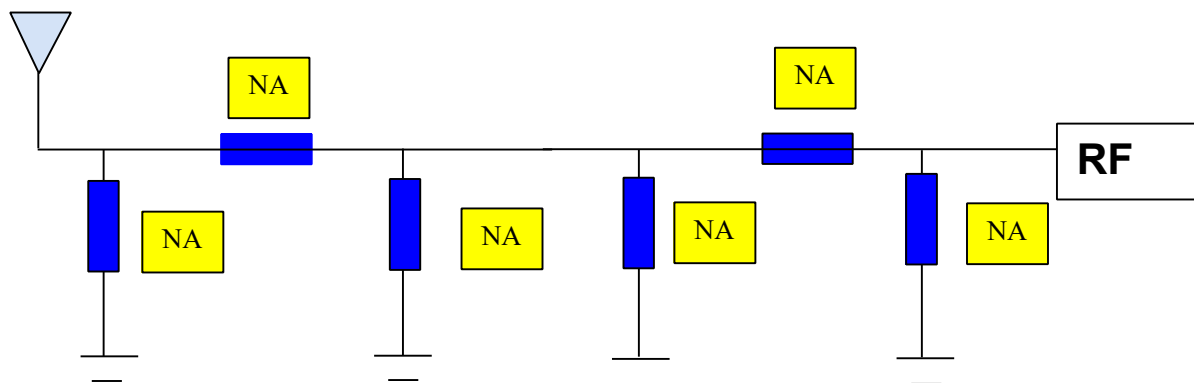
Description	2.4GHz~5GHz	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

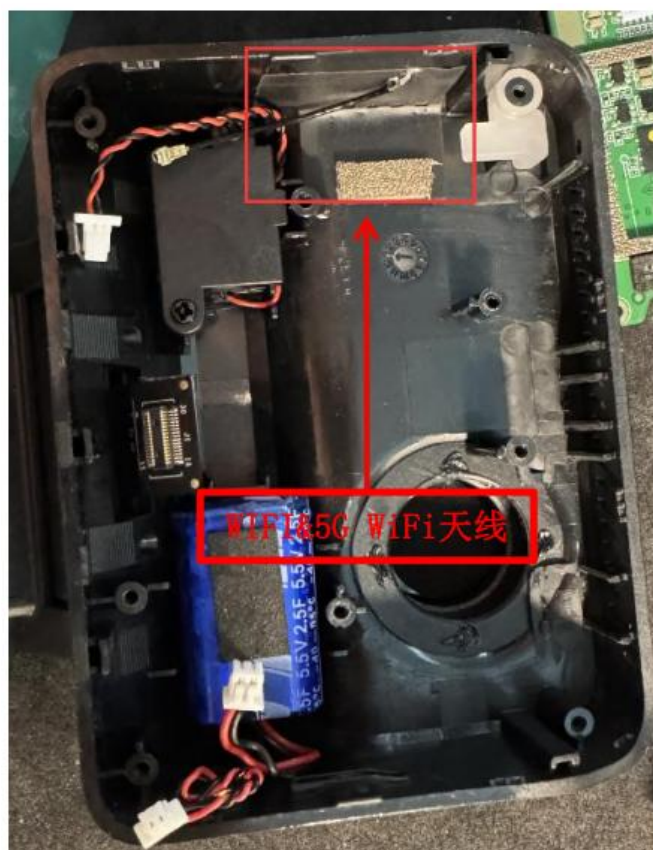
Mechanical Dimension	
Cable Length	035mm/BLACK
Description	WIFI&BT antenna
Material	FPC
Coaxial Cable	50Ω /0. D. 0.81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

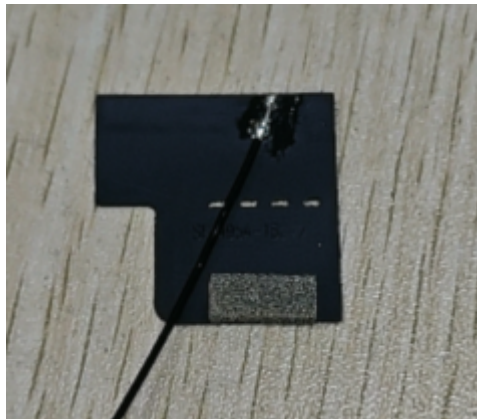
三: Match circuit diagram & machine image & antenna image

(1) matching circuit

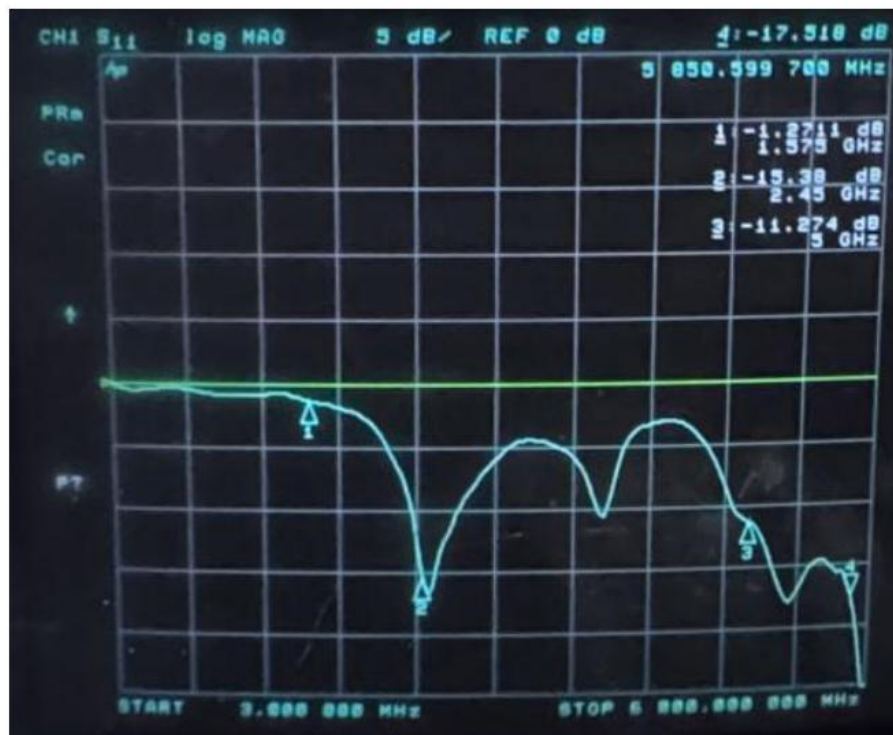


(2) Machine images & antenna images





四 :Antenna Standing Wave Ratio&Antenna Efficiency (VSWR)



Passive Test For 2.4G			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	38.55	-4.14	0.69
2410	37.63	-4.24	0.55
2420	39.1	-4.08	0.78
2430	43.6	-3.6	1.35
2440	45.52	-3.42	1.38
2450	43.22	-3.64	0.88
2460	42.5	-3.72	0.51
2470	36.6	-4.37	-0.14
2480	36.55	-4.37	0.2
2490	39.16	-4.07	0.86
2500	43.44	-3.62	1.5

Passive Test For 5G-WIFI			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
5000	39.77	-4	2.99
5100	39.81	-4	2.52
5200	34.86	-4.58	1.73
5300	48.7	-3.12	3.16
5400	53.96	-2.68	3.35
5500	50.96	-2.93	2.64
5600	39.11	-4.08	1.66
5700	47.32	-3.25	3.27
5800	51.65	-2.87	3.89
5900	42.19	-3.75	2.3
6000	46.11	-3.36	2.33

五:Active data

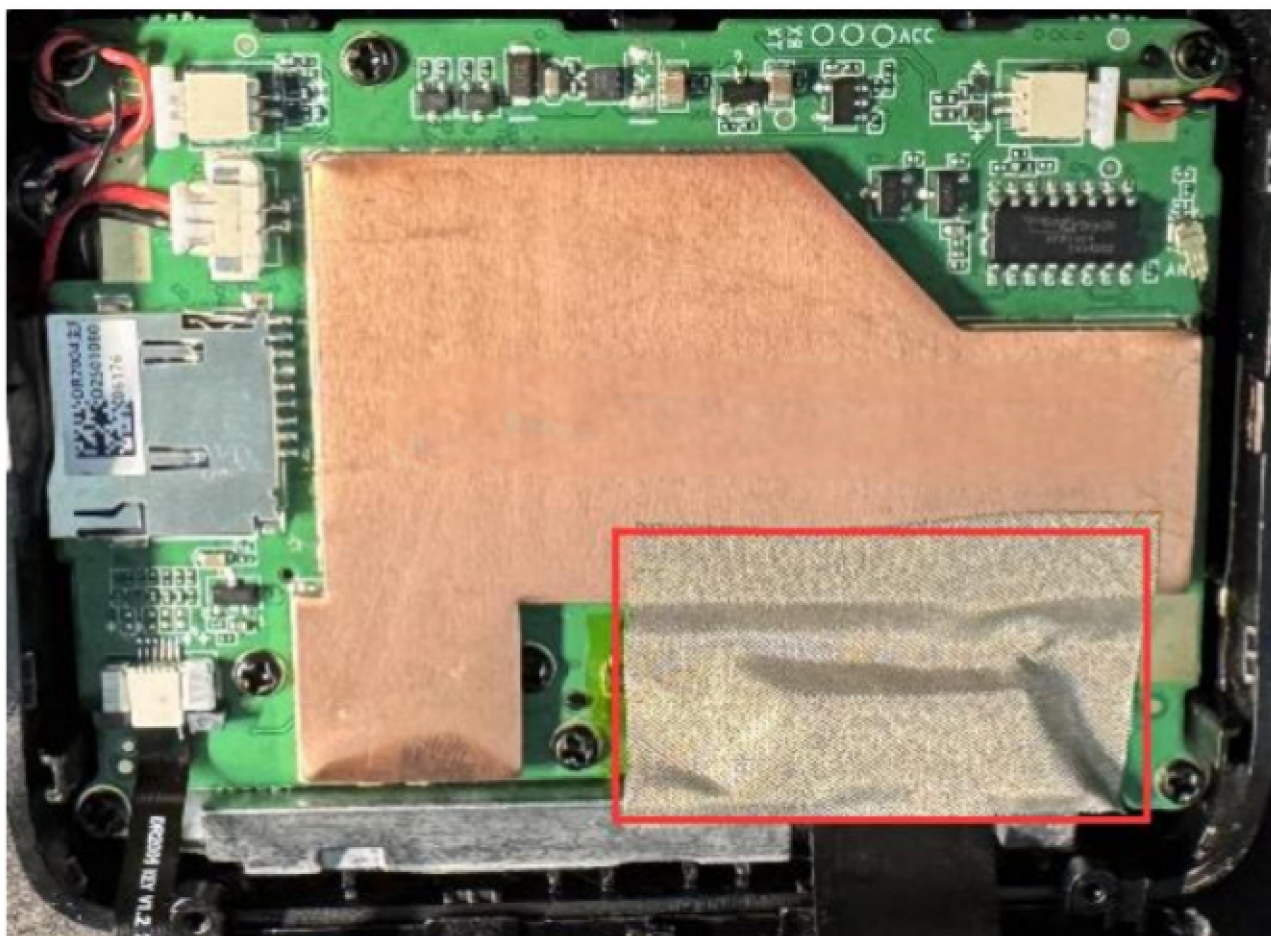
Machine No.1+
conductive cloth

802.11b : 11MBps 20M		
1	6	11
2412	2437	2462
13.57	13.17	13.84
-78.52	-79.2	-78.43
802.11a : 54MBps 20M		
36	64	165
5180	5320	5825
14.28	15.01	14.55
-70.79	-72.92	-73.13
802.11n : MCS7 20M		
1	6	11
2412	2437	2462
11.71	12.25	11.73
-62.34	-62.63	-63.63
802.11n : MCS7 20M		
36	64	165
5180	5320	5825
15.19	15.05	16.59
-69.23	-70.36	-72.09

Machine No.2
+DR2009 screen+
conductive cloth

802.11b : 11MBps 20M		
1	6	11
2412	2437	2462
14.64	14.14	14.7
-78.21	-78.56	-78.57
802.11a : 54MBps 20M		
36	64	165
5180	5320	5825
12.05	15.11	13.65
-69.98	-70.39	-71.12
802.11n : MCS7 20M		
1	6	11
2412	2437	2462
12.44	12.84	12.69
-61.09	-62.91	-63.7
802.11n : MCS7 20M		
36	64	165
5180	5320	5825
13.66	15.61	14.46
-69.11	-69.58	-70.63

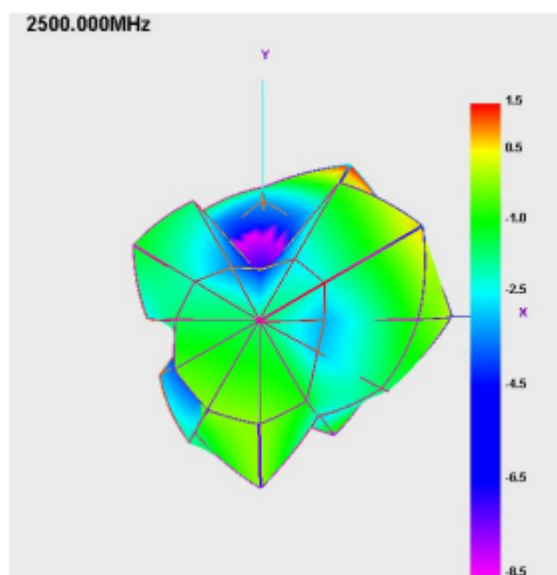
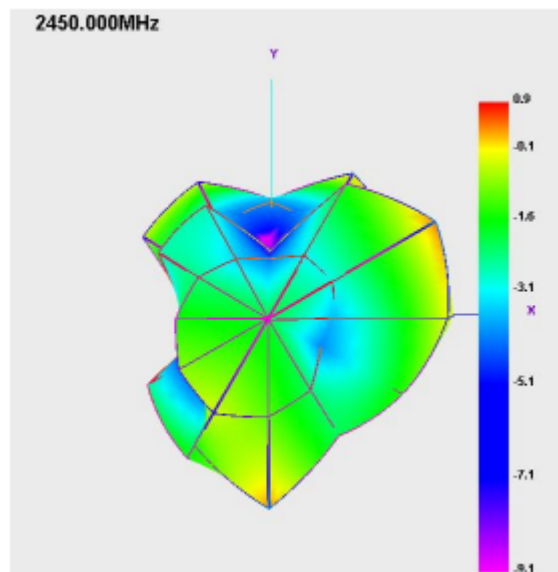
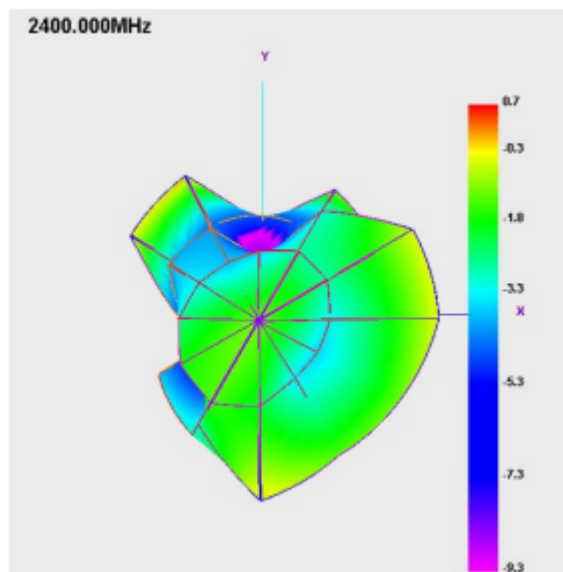
六:environmental treatment

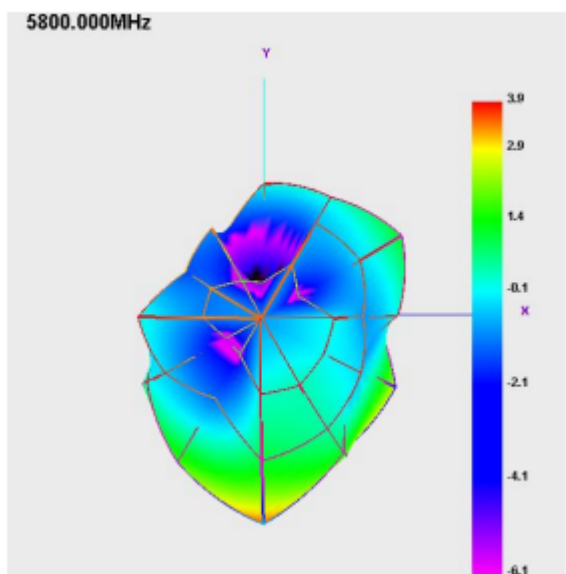
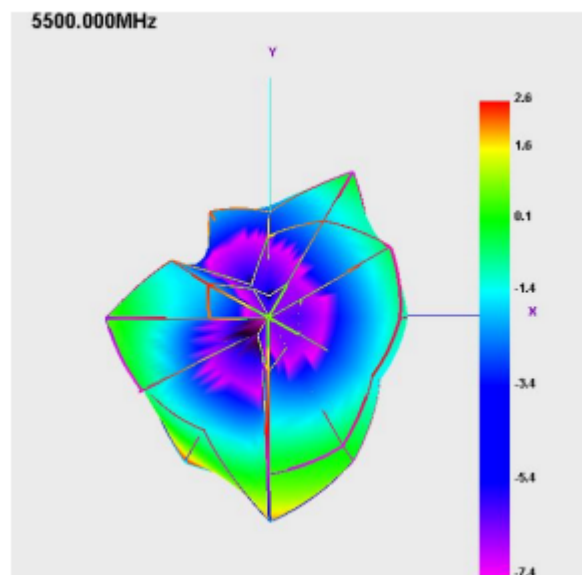
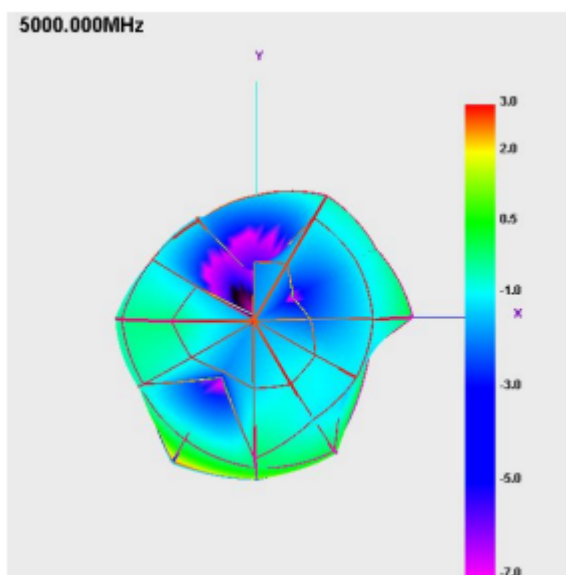


1. Use conductive cloth for shielding treatment at the interface of the screen cable

Note: Please optimize the specific environmental treatment methods according to the test report

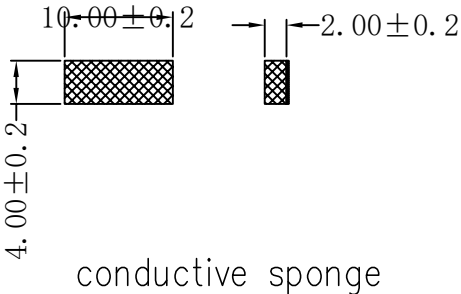
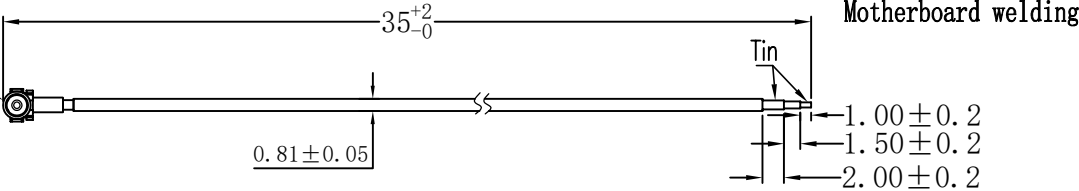
七:3D pattern



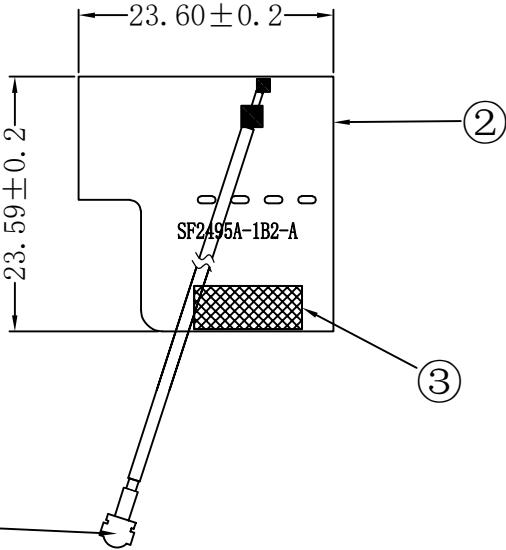


八: structural drawings

The 3 generation terminals



①Terminals facing inward



- technical requirements:
- 1.* for critical dimensions;
 - 2.Size conform to the requirements of the drawings;
 - 3.No virtual welding welding point, false welding. Require full welding points.
 - 4.Network test pass.
 - 5.No marked tolerance according toSJ/T 10628 1995 6classes;

5										
4										
3	conductive sponge	gray	1	10*4*2mm	RD	ZYA	2025. 2. 25	Q C		
2	FPC	black	1	SF2495A-1B2-A						
1	coaxial line	black	1	Φ=0.81	RF					
	name	color	quantity	specifications	audits			approval		

SWARD

ShenZhen SWARD Communication Technology Co.Ltd

SF2495A-1L23B-035-A

time markup

percentage

1 A 1 : 1

ROHS