

Parts Acknowledgment

Name of Part: WIFI antenna

Specification of Parts: _____

Store at the material number: 10883000136

Model of application: A2SP Recorder -PV1106G main control -8189FVT module

Name of Supplier: Shenzhen Suo Ward Communication Technology Co., Ltd.

Type of Supplier: Manufacturer、 Agent、 Trader;

Manufacturer's material number: SF2192A-1R23B-060-A

Recognition number: _____

Keep an eye on the date of issue: _____

Supplier approval column			
To develop: LTT		audit:	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, Xinhuang 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

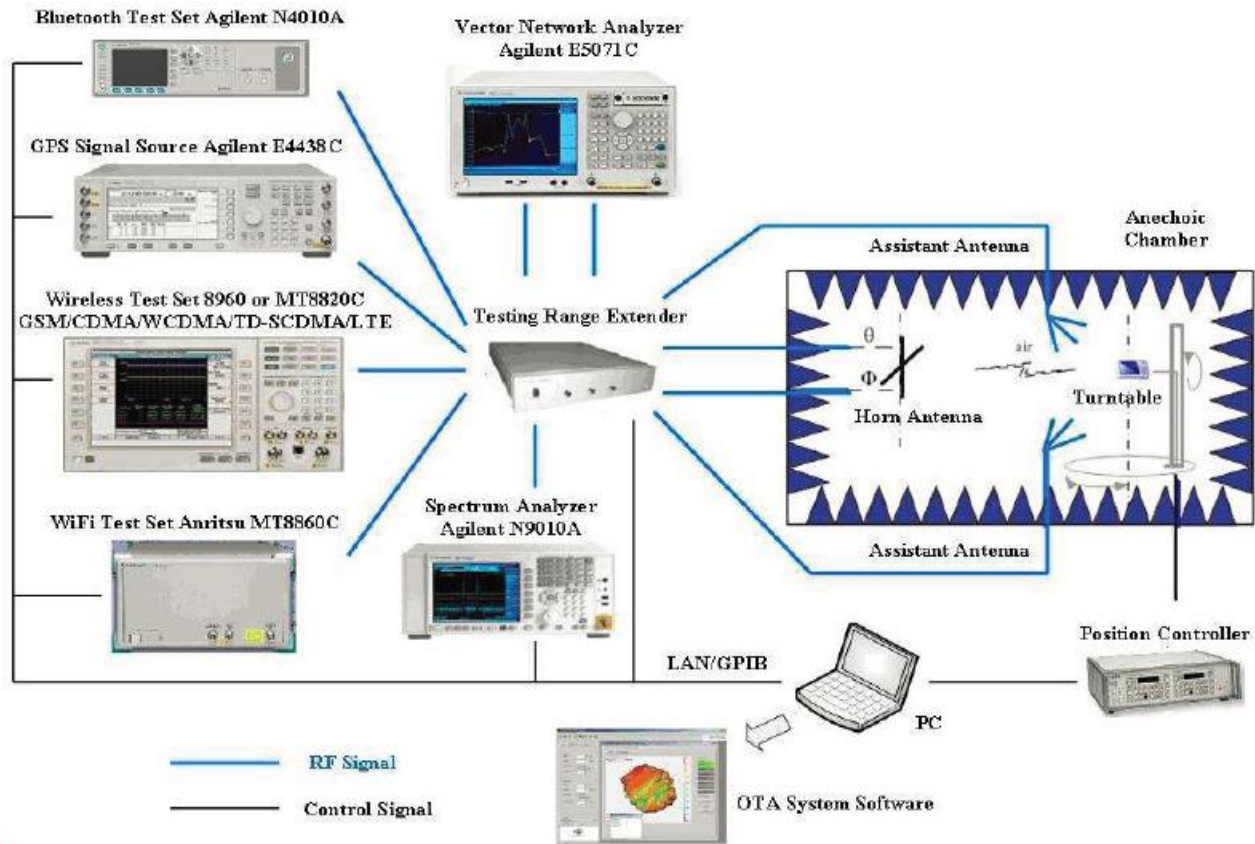
Contact information of supplier: Chen Heng /13717086260

Serial number	Certification number	Material type	Date of issue	Remarks
1	A2220186128101ER1	Tinned copper wire	2022-05-17	One year
2	CANEC2227657302	halogen	2022-12-28	One year
3	CANEC2227657303	Adhesive	2022-12-28	One year
4	SHAEC23000346911	FEP sheath	2023-01-13	One year
5	SHAEC22004639301	FEP insulation	2022-12-15	One year
6	SZXEC2203054804	Tin wire	2022-09-19	One year
7	SZXEC2203054808	Tin	2022-09-19	One year
8	ETR22800844	Printing ink	2022-08-09	One year
9	EKR22501369	Substrate	2022-05-27	One year
10	CANEC2227574118	EVA foam	2023-01-03	One year
11	SZXEC2202709609	Conductive cloth	2022-08-16	One year
12	CANEC2218227002	Gold plating	2022-08-30	One year

table of Contents

一:Device Support & Testable Antenna Type.....	1
二:Overview.....	2
三:Matching circuit diagram & machine picture & antenna picture	3
四:Antenna standing wave ratio Antenna efficiency Active data.....	4
五:3D pattern.....	5
六:Structural drawing.....	6

一: Device Support & Testable Antenna Type 型



Antenna function	Frequency Range	test instrument	test method	standard test
2G antenna (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B、8960 OTA darkroom	Active test, passive test	Soward standards, customer requirements
3G antenna (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B、8960 OTA darkroom	Active test, passive test	Soward standards, customer requirements
4G antenna (LTE-FDD/LTE-TDD)		5071B、CMW500、 SP8011、OTA darkroom	Active test, passive test	Soward standards, customer requirements
WiFi antenna	2.4GHz-2.48GHz, 5.15GHz-5.35GHz, 5.725GHz-5.825GHz	5071B、CMW500、OTA darkroom、router、 PC	Active test, passive test, APK actual test, throughput test	Soward standards, customer requirements
BT antenna	2.4GHz-2.48GHz,	5071B、OTA darkroom 、Bluetooth Speaker	Passive test, actual test	Soward standards, customer requirements
Positioning antenna (GPS, GLONASS, Beidou, Galileo)	1.575.42MHz±10MHz 1602MHz+0.5625MHz 1561MHz+2.046MHz	5071B、OTA darkroom 、APK	Passive test, actual test	Soward standards, customer requirements
NFC antenna	13.56MHz	5071B、Dedicated test fixture、OTA darkroom、APK	Passive test, actual test	Soward standards, customer requirements
Remote control antenna	433MHz	5071B、OTA darkroom	Passive test, actual test	Soward standards, customer requirements

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 antenna.
2. Antenna shape size: Meet the requirement of MID
3. Antenna band: 2400MHz~2500MHz
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:

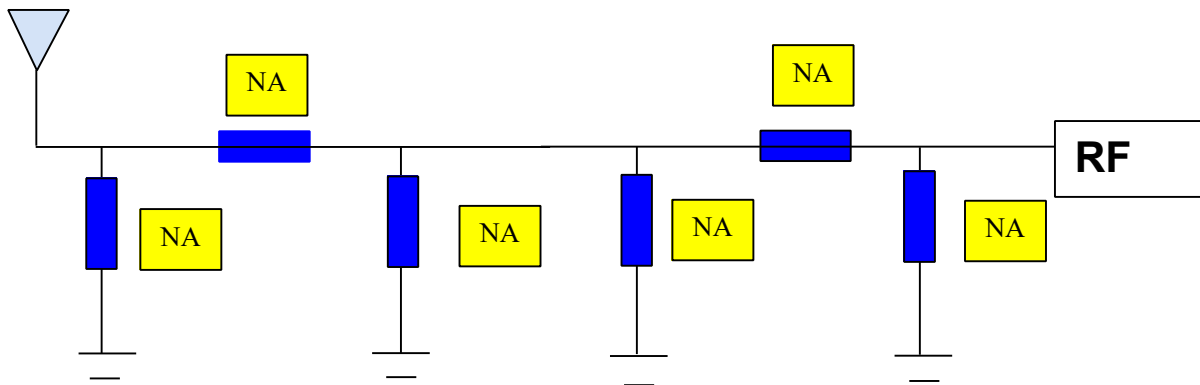
Description	2. 4GHZ~2. 5GHz	Units
VSWR	≤2.0	
Average Antenna Gain	≥-4.5	dB
Antenna Efficiency	≥40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2) Mechanical Information

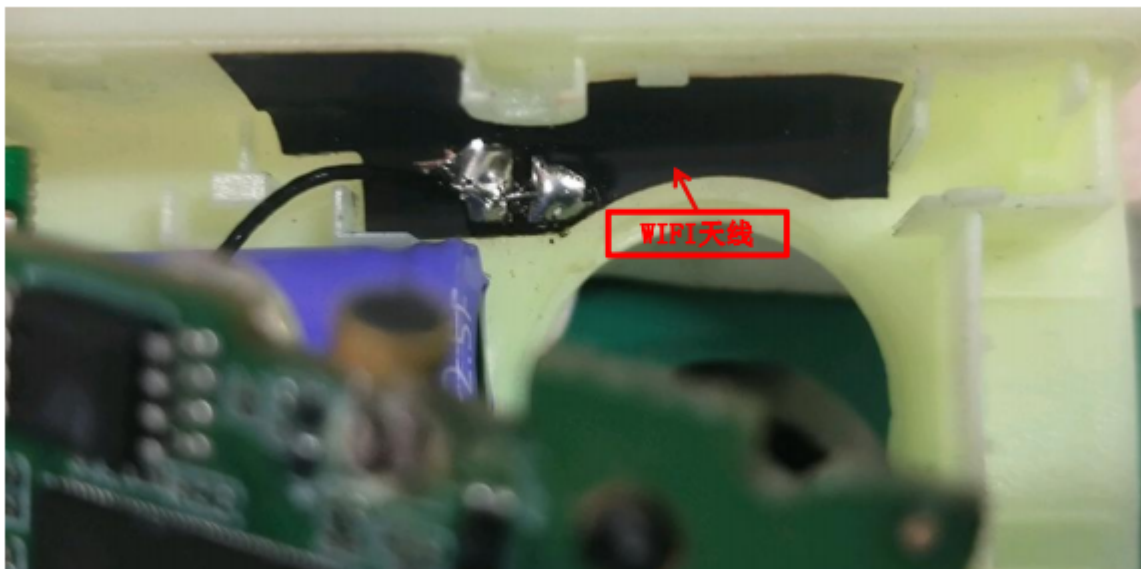
Mechanical Dimension	
Cable Length	060mm/BLACK
Description	WIFI antenna
Material	FPC
Coaxial Cable	50Ω/O. D. 0. 81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

三: Matching circuit diagram & machine picture & antenna picture

(1) Matching circuit



(2) Machine picture & antenna picture





四: Antenna standing wave ratio Antenna efficiency Active data



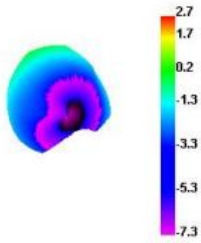
Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	43.19	-3.65	2.69	0.54	15.228	27.966	2.69	-9.48
2410	45.57	-3.41	3.01	0.86	15.974	29.597	3.01	-9.59
2420	41.43	-3.83	2.73	0.58	14.18	27.247	2.73	-10.47
2430	39.65	-4.02	2.7	0.55	13.249	26.402	2.7	-11.42
2440	41.16	-3.86	3.09	0.94	13.41	27.751	3.09	-11.72
2450	41.34	-3.84	3.2	1.05	13.492	27.847	3.2	-12.45
2460	42.5	-3.72	3.38	1.23	14.09	28.414	3.38	-13.24
2470	43.64	-3.6	3.52	1.37	14.784	28.86	3.52	-13.94
2480	46.05	-3.37	3.81	1.66	15.726	30.327	3.81	-15.02
2490	46.15	-3.36	3.89	1.74	15.809	30.34	3.89	-16.33
2500	48.25	-3.17	4.15	2	16.413	31.836	4.15	-17.16

WIFI active data

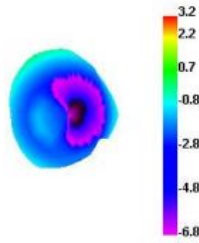
机型编号	信道	b模式 (11MHz)		g模式 (54MHz)		n模式 (MCS7)	
		TRP	TIS	TRP	TIS	TRP	TIS
1	1	8.18	-78.28	9.07	-61.01	10.68	-57.7
	7	11.91	-80.52	12.87	-63.13	11.54	-58.92
	11	16.6	-79.78	15.66	-62.47	14.37	-57.42
	36	NA	NA	NA	NA	NA	NA
	100	NA	NA	NA	NA	NA	NA
	165	NA	NA	NA	NA	NA	NA

五:3D pattern

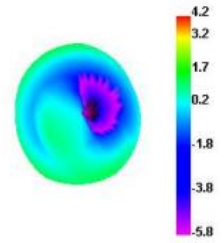
2400.000MHz



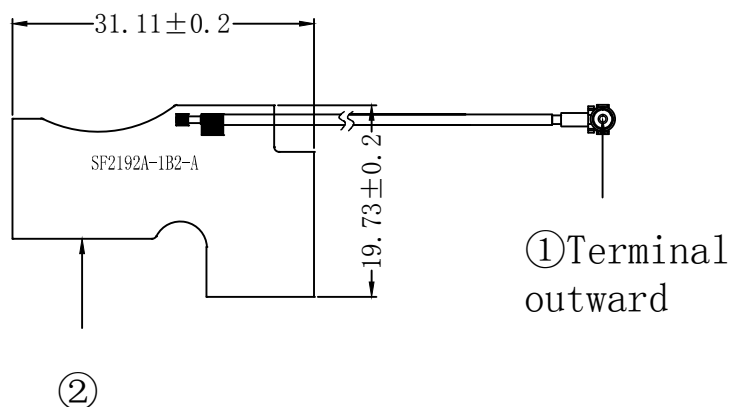
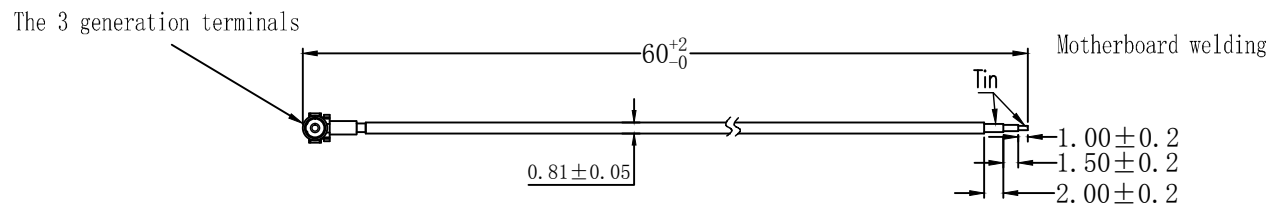
2450.000MHz



2500.000MHz



六:Structural drawing



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											<u>SWARD</u>	ShenZhen SWARD Communication Technology Co.Ltd	
4												SF2192A-1R23B-060-A	
3					signatures	date	mass	signatures	date	time markup		percentage	
2	FPC	black	1	SF2192A-1B2-A	RD	YWD	2023.05.16	Q C					
1	coaxial line	black	1	φ=0.81	RF					1		A	1 : 1
	name	color	quantity	specifications	audits			approval					ROHS