

Shenzhen Suo Ward Communication Technology Co., Ltd.

Antenna specification for approval

客户名称 Customer name			
机型 Model	A28pro		
天线频段 Antenna frequency	2.4GHZ		
天线功能 Antenna function	WIFI 天线		
天线材质 Antenna material	FPC	FPC 颜色 FPC color	黑色
型号 model	SF1006A-1B2-A		
料号 Material number	SF1006A-1R22B-060-A		

客户料号 Customer Part Number			
索沃德承认签章 Ward accepted the signature		客户承认签章 Client acknowledges signature	
结构 structure	采购 Purchase		
文控 Document control	结构 structure		
射频 radio frequency	工程 engineering		
审核 To examine	品质 QC		
承辦人 Responsible	李婷婷	审核 To examine	
日期 date 2023.08.24	盖章区 Seal area	日期 date 2023.08.24	盖章区 Seal area

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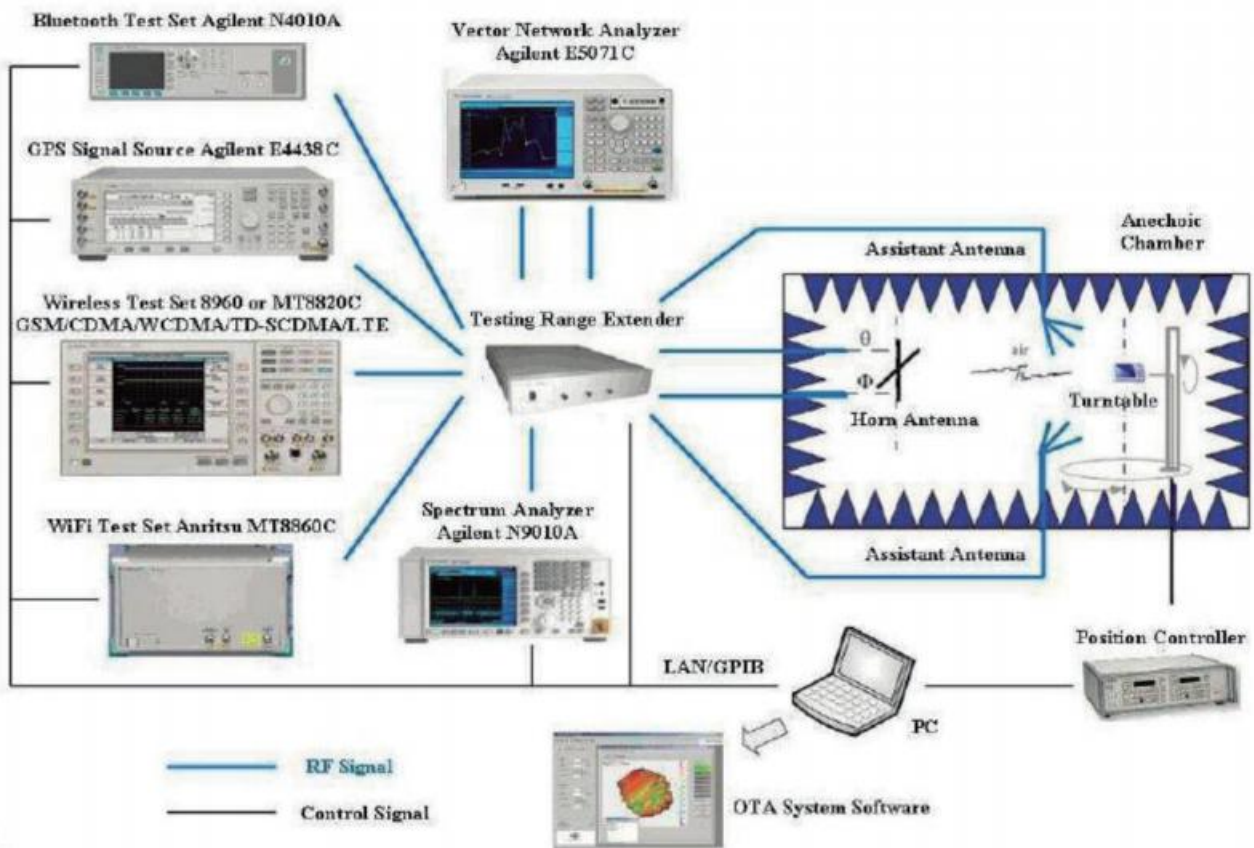
NO.	Certification No.	Material type	Date of issue	Remark
1	A2230173541101001E	tinned copper wire	2023-04-24	One year
2	CANEC2227657302	halogen	2022-12-28	One year
3	CANEC2227657303	Adhesive	2022-12-28	One year
4	SHAEC23000346911	FEP jacket	2023-01-13	One year
5	SHAEC22004639301	FEP insulation	2022-12-15	One year
6	SZXEC2203054804	Tin wire	2022-09-19	One year
7	SZXEC2203054808	Tin	2022-09-19	One year
8	ETR23701480	Printing ink	2023-07-13	One year
9	A2230173918101001E	base material	2023-04-18	One year
10	CANEC2227574118	EVA foam	2023-01-03	One year
11	A2230383826101003	conductive cloth	2023-08-04	One year
12	CANEC2218227002	gold plating	2022-08-30	One year

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1: Equipment support & testable antenna types



Antenna function	Frequency Range	Test Instrument	Testing Way	Test Standard
2G Antenna (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B, 8960,OTA Darkroom	Active test, Passive test	Thorward Standard, Customer Standard
3G Antenna (WCDMA/TDSCDMA/CDMA- EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B, 8960,OTA Darkroom	Active test, Passive test	Thorward Standard, Customer Standard
4G Antenna (LTE-FDD/LTE-TDD)		5071B, CMW500, SP8011, OTA Darkroom	Active test, Passive test	Thorward Standard, Customer Standard
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 test, Throughput test	Thorward Standard, Customer Standard
BT Antenna	2.4GHz-2.48GHz	5071B, OTA Darkroom, BT speaker	Active test,Actual test	Thorward Standard, Customer Standard
Positioning Antenna (GPS, GLONASS, BEIDOU,Galileo)	1575.42MHz±10MHz 1602MHz+0.5625MHz 1561MHz+2.046MHz	5071B, OTA Darkroom, APK	Active test,Actual test	Thorward Standard, Customer Standard
NFC Antenna	13.56MHz	5071B,Special Fixture, OTA Darkroom, APK	Active test,Actual test	Thorward Standard, Customer Standard
Remote Antenna	433MHz	5071B, OTA Darkroom	Active test,Actual test	Thorward Standard, Customer Standard

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2: 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:

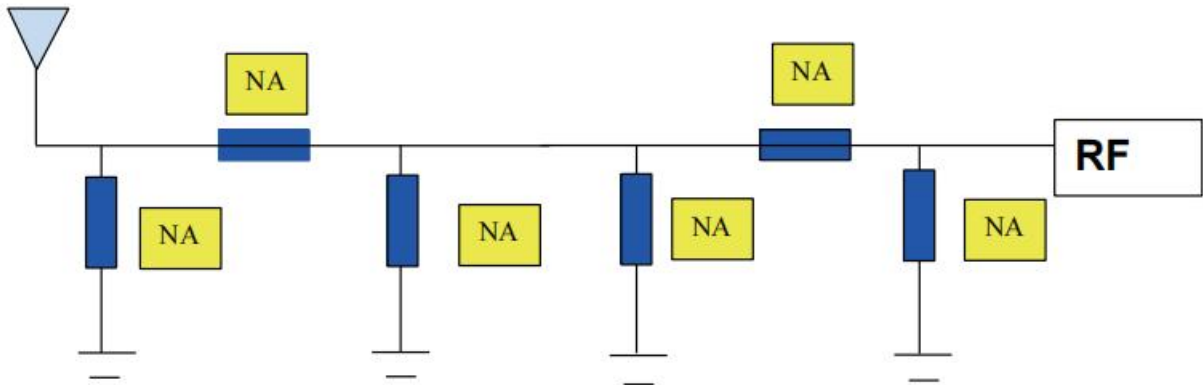
Description	2.4GHZ~2.5GHz	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(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

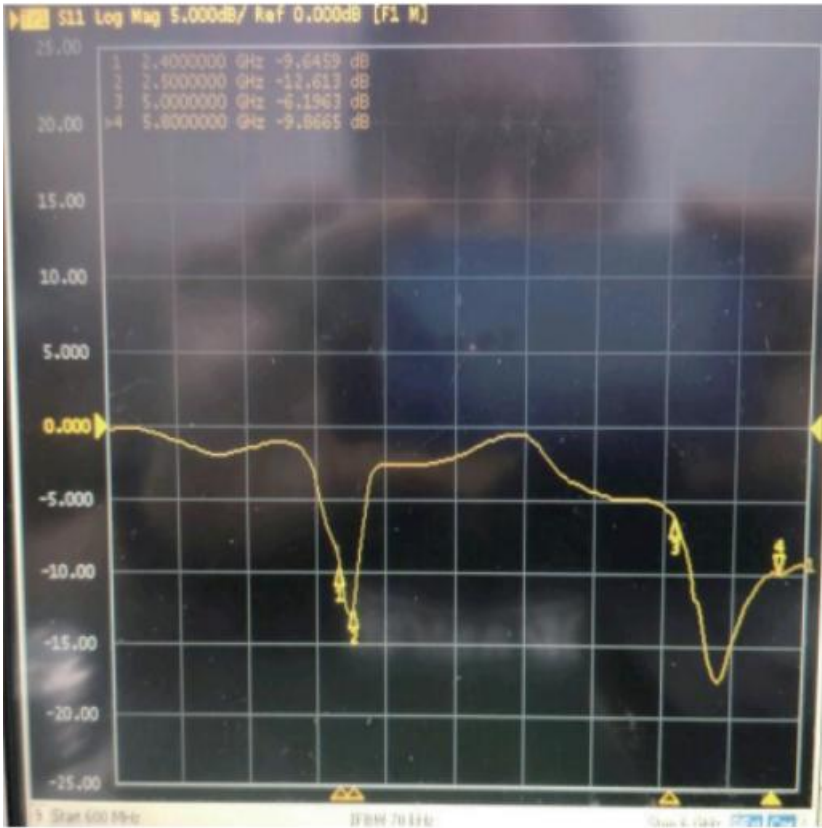
3: Matching circuit diagram & machine picture & antenna picture

Matching circuit



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4: Antenna standing wave ratio & antenna efficiency (VSWR)



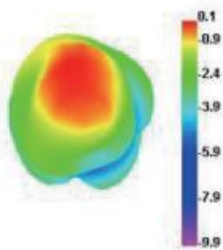
Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	27.36	-5.63	0.14	-2.01	15.074	12.282	0.14	-22.39
2410	26.85	-5.71	0.25	-1.9	15.074	11.78	0.25	-23.38
2420	26.18	-5.82	0.39	-1.76	15.006	11.17	0.39	-23.95
2430	25.13	-6	0.47	-1.68	14.736	10.391	0.47	-23.33
2440	24.88	-6.04	0.51	-1.64	14.914	9.97	0.51	-22.17
2450	24.53	-6.1	0.52	-1.63	14.99	9.538	0.52	-21.79
2460	23.25	-6.33	0.21	-1.94	14.357	8.898	0.21	-20.75
2470	21.37	-6.7	-0.34	-2.49	13.214	8.154	-0.34	-20.61
2480	21.97	-6.58	-0.42	-2.57	13.67	8.297	-0.42	-20.3
2490	21.52	-6.67	-0.69	-2.84	13.448	8.074	-0.69	-20.02
2500	21.39	-6.7	-0.76	-2.91	13.336	8.058	-0.76	-21.22

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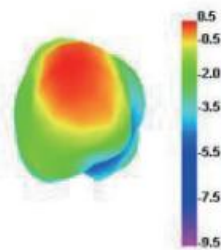
Real Test	
NO	1
Test Place	Soward Research Base
Test Equipment	Redmi K20 pro
Test Distance	> 10m

5: 3D pattern

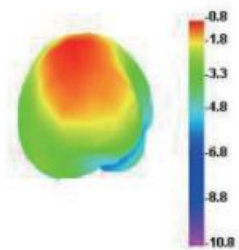
2400.000MHz



2450.000MHz

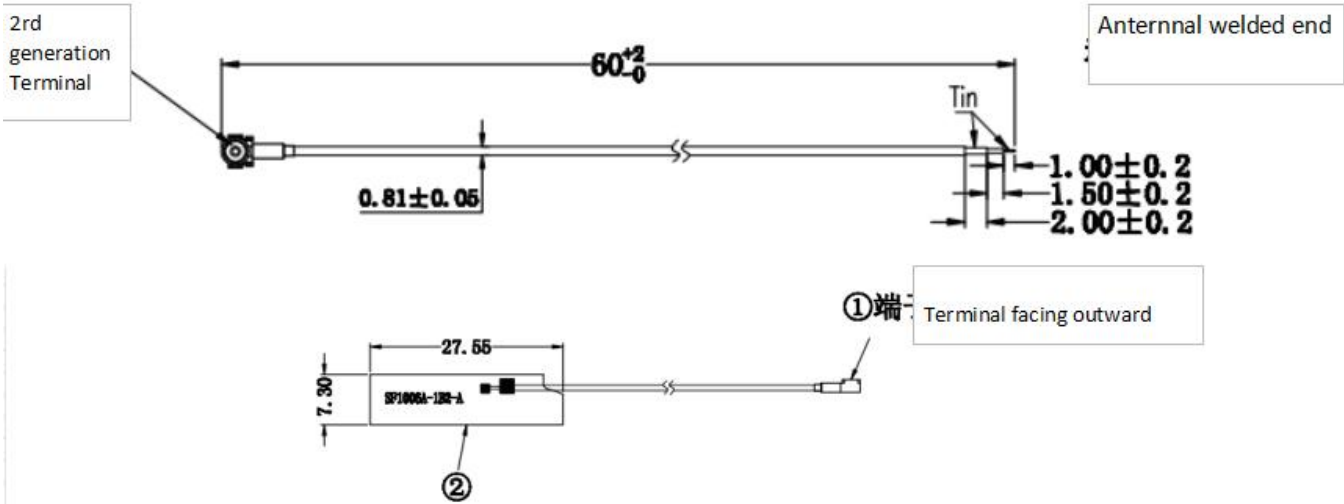


2500.000MHz



6: Structural drawings

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Skills Requirement

Marked * is the key size

There are no false welds or false welds in the solder joints.

The network score test passed (the specified waveform appears)

Linear dimensions are not marked with tolerances. According to SJ/T 10628 1995 Level 6, the tolerance value is divided equally by the upper and lower deviations.

5										<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>Soward Communication Technology Co., Ltd</p> <p>SF1006A-1R22B-060-A</p> </div> </div>
4										
3										
2	FOC		Black	1	SF1006A-1B2-A	RD	YWD	2021-8-23		
1	coaxial line	2nd generation Terminal	Black	1	φ=0.81mm	RF				
No.	Name	Material	Color	QTY	Description	Verify				