

天线规格书

Antenna specification for approval

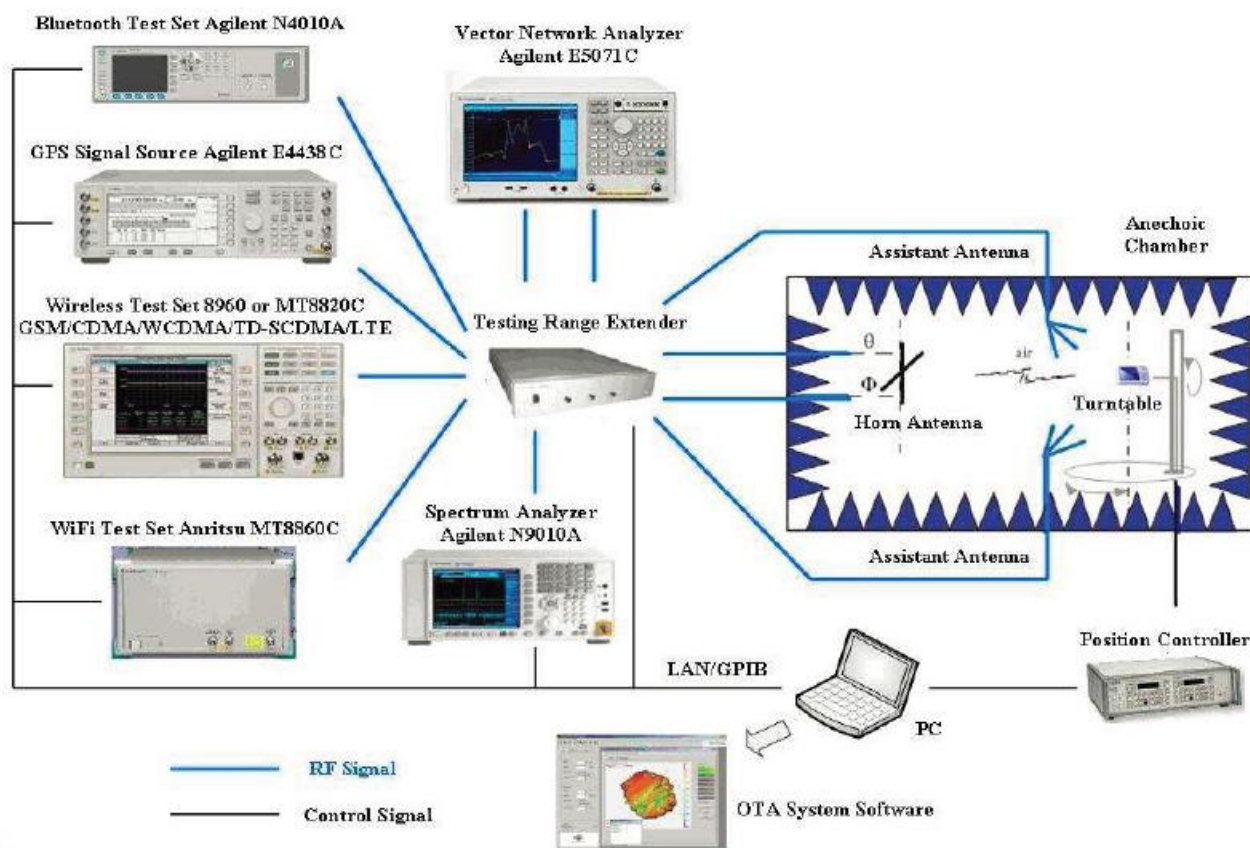
客户名称 Customer name	Hank		
机型 Model	DCP225R-WIFI Riflescope-Military		
天线频段 Antenna frequency	2.4GHZ		
天线功能 Antenna function	WIFI antenna		
天线材质 Antenna material	FPC	FPC 颜色 FPC color	黑色
型号 model	SF2303A-1B2-A		
料号 Material number	SF2303A-1L22B-060-A		
客户料号 Customer Part Number			

序号	认证编号	材质类型	发证日期	备注
1	A2230173541101001E	镀锡铜线	2023-04-24	一年
2	CANEC2227657305	卤素	2023-05-30	一年
3	CANEC2227657306	背胶	2023-05-30	一年
4	SHAEC23021984701	FEP 护套	2024-01-04	一年
5	SHAEC23020095573	FEP 绝缘	2023-12-12	一年
6	SZXEC23001647204	锡线	2023-07-28	一年
7	SZXEC23001647208	锡条	2023-07-28	一年
8	ETR23701480	印刷油墨	2023-07-13	一年
9	A2230173918101001E	基材	2023-04-18	一年
10	CANEC23017402018	EVA 泡棉	2024-01-03	一年
11	A2230383826101003	导电布	2023-08-04	一年
12	CANEC23002609908	金镀层	2023-05-11	一年

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1. Device support & testable antenna types



天线功能	频率范围	测试仪器	测试方式	测试标准
2G天线 (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B、8960、 OTA暗室	有源测试、无源测试	索沃德标准、客户要求
3G天线 (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B、8960、 OTA暗室	有源测试、无源测试	索沃德标准、客户要求
4G天线 (LTE-FDD/LTE-TDD)		5071B、CMW500、 SP8011、OTA暗室	有源测试、无源测试	索沃德标准、客户要求
WIFI天线	2.4GHz-2.48GHz, 5.15GHz-5.35GHz, 5.725GHz-5.825GHz	5071B、CMW500、 OTA暗室、路由器、 PC	有源测试、无源测试、 APK实测、吞吐量 测试	索沃德标准、客户要求
BT天线	2.4GHz-2.48GHz	5071B、OTA暗室、 蓝牙音箱	无源测试、实测	索沃德标准、客户要求
定位天线 (GPS、GLONASS、北斗、伽利略)	1575.42MHz±10MHz 1602MHz+0.5625MHz 1561MHz+2.046MHz	5071B、OTA暗室、 APK	无源测试、实测	索沃德标准、客户要求
NFC天线	13.56MHz	5071B、专用测试 治具、OTA暗室、 APK	无源测试、实测	索沃德标准、客户要求
遥控天线	433MHz	5071B、OTA暗室	无源测试、实测	索沃德标准、客户要求

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:

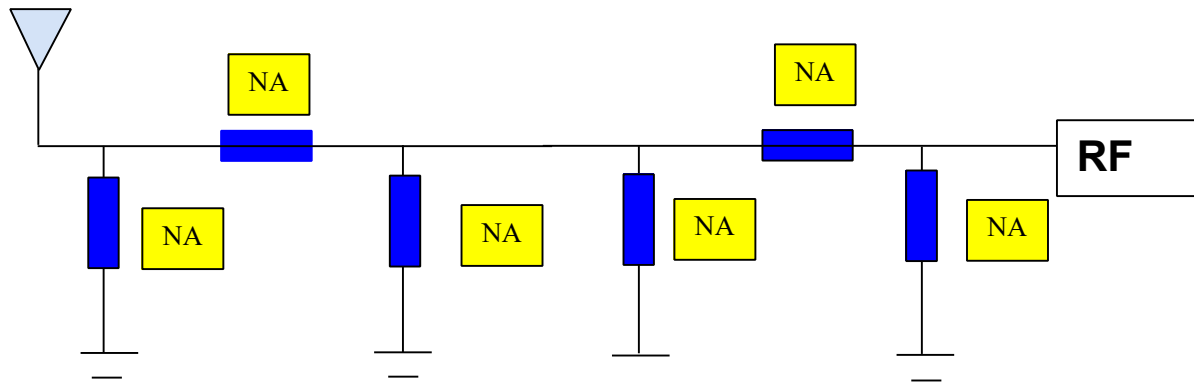
Description	2. 4GHZ~2. 5GHz	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

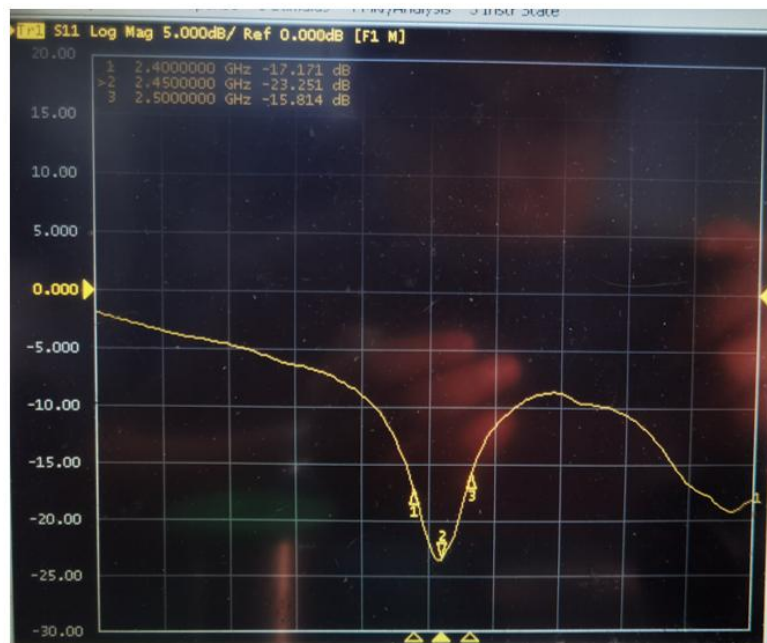
Mechanical Dimension	
Cable Length	060mm/BLACK
Description	WIFI antenna
Material	FPC
Coaxial Cable	50 Ω /O. D. 0. 81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

3. Matching circuit diagram & machine picture & antenna picture

(1) 匹配电路

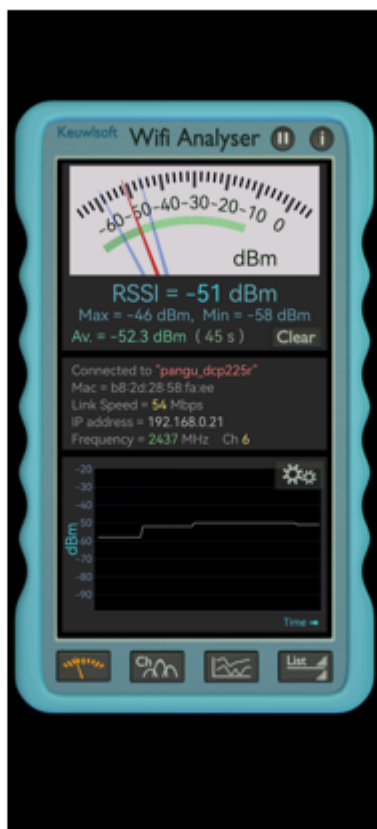
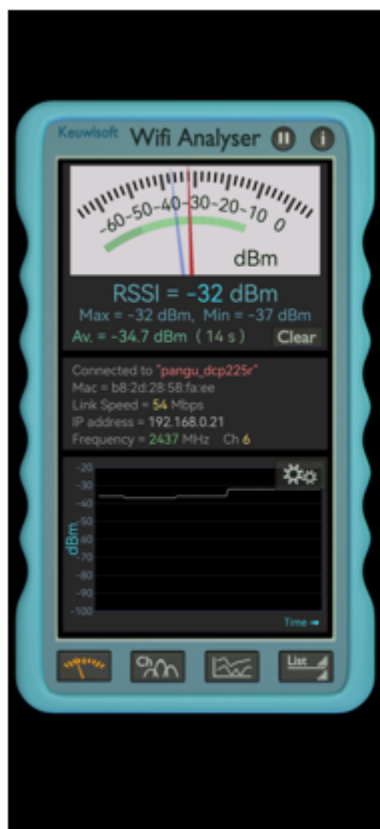


4. Antenna Standing Wave & Efficiency



Passive Test For 2.21-2.8G												
Freq	Effi	Effi	Gain	Gain	UHS	DHS	Max	Min	Directivity	Beamwidth	AttH	AttV
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)	(dBi)	(3dB)	(dB)	(dB)
2400	14.36	-8.43	-8.55	-10.7	1.642	2.198	-8.55	-25.02	5.61	30	48.71	48.41
2410	14.89	-8.27	-7.97	-10.12	1.763	2.383	-7.97	-24.04	5.85	90	48.63	48.4
2420	13.71	-8.63	-8.39	-10.54	1.591	2.212	-8.39	-23.81	5.81	90	48.85	48.58
2430	14.18	-8.48	-7.98	-10.13	1.641	2.3	-7.98	-21.56	6.06	90	48.6	48.33
2440	15.74	-8.03	-7.54	-9.69	1.736	2.478	-7.54	-21.41	6.21	90	48.83	48.54
2450	19	-7.21	-6.17	-8.32	2.366	3.384	-6.17	-19.63	6.23	90	49.13	48.81
2460	20.62	-6.86	-5.69	-7.84	2.621	3.775	-5.69	-19.01	6.25	90	48.89	48.7
2470	21.76	-6.62	-5.14	-7.29	2.862	4.147	-5.14	-18.98	6.4	90	48.95	48.79
2480	23.1	-6.36	-5.37	-7.52	2.667	3.909	-5.37	-19.08	6.45	90	49.53	49.35
2490	23.91	-6.22	-4.84	-6.99	2.873	4.333	-4.84	-18.62	6.58	90	49.19	49.14
2500	24.03	-6.19	-4.83	-6.98	2.804	4.336	-4.83	-18.61	6.63	90	49.69	49.65

5. Antenna measurement diagram



6. Throughput data.

6:29

Magic iPerf

iPerf3 Stopped

Info: 192.168.0.22, <unknown ssid>, 02:00:00:00:00:00

-c 192.168.0.20 -t 30 -i 1 -w 1m

[4]	Interval	sec	Transfer	Bandwidth
[4]	6.00-7.00	sec	5.22 MBytes	43.8 Mbits/sec
[4]	7.00-8.00	sec	4.35 MBytes	36.5 Mbits/sec
[4]	8.00-9.00	sec	4.97 MBytes	41.7 Mbits/sec
[4]	9.00-10.00	sec	4.66 MBytes	39.1 Mbits/sec
[4]	10.00-11.00	sec	4.41 MBytes	37.0 Mbits/sec
[4]	11.00-12.00	sec	4.23 MBytes	35.4 Mbits/sec
[4]	12.00-13.00	sec	4.85 MBytes	40.7 Mbits/sec
[4]	13.00-14.00	sec	5.10 MBytes	42.7 Mbits/sec
[4]	14.00-15.00	sec	5.03 MBytes	42.3 Mbits/sec
[4]	15.00-16.00	sec	4.35 MBytes	36.5 Mbits/sec
[4]	16.00-17.00	sec	5.22 MBytes	43.8 Mbits/sec
[4]	17.00-18.00	sec	4.54 MBytes	38.0 Mbits/sec
[4]	18.00-19.00	sec	5.22 MBytes	43.8 Mbits/sec
[4]	19.00-20.00	sec	4.47 MBytes	37.5 Mbits/sec
[4]	20.00-21.00	sec	4.41 MBytes	37.0 Mbits/sec
[4]	21.00-22.00	sec	5.41 MBytes	45.4 Mbits/sec
[4]	22.00-23.00	sec	4.29 MBytes	36.0 Mbits/sec
[4]	23.00-24.00	sec	4.97 MBytes	41.7 Mbits/sec
[4]	24.00-25.00	sec	4.41 MBytes	37.0 Mbits/sec
[4]	25.00-26.00	sec	5.10 MBytes	42.7 Mbits/sec
[4]	26.00-27.00	sec	4.41 MBytes	37.0 Mbits/sec
[4]	27.00-28.00	sec	5.10 MBytes	42.8 Mbits/sec
[4]	28.00-29.00	sec	4.47 MBytes	37.5 Mbits/sec
[4]	29.00-30.00	sec	5.34 MBytes	44.8 Mbits/sec

[ID]	Interval	Transfer	Bandwidth
[4]	0.00-30.00 sec	144 MBytes	40.3 Mbits/sec

sender

[4]	Interval	Transfer	Bandwidth
[4]	0.00-30.00 sec	142 MBytes	39.8 Mbits/sec

receiver

iperf Done.

6:31

Magic iPerf

iPerf3 Started

Info: 192.168.0.22, <unknown ssid>, 02:00:00:00:00:00

-S

Server listening on 5201

Accepted connection from 192.168.0.20, port 57660

[5] local 192.168.0.22 port 5201 connected to 192.168.0.20 port 57660

[ID]	Interval	Transfer	Bandwidth
[5]	0.00-1.00	sec	3.13 MBytes 26.3 Mbits/sec
[5]	1.00-2.00	sec	3.60 MBytes 30.2 Mbits/sec
[5]	2.00-3.00	sec	3.68 MBytes 30.8 Mbits/sec
[5]	3.00-4.00	sec	3.75 MBytes 31.5 Mbits/sec
[5]	4.00-5.00	sec	3.76 MBytes 31.5 Mbits/sec
[5]	5.00-6.00	sec	3.74 MBytes 31.4 Mbits/sec
[5]	6.00-7.00	sec	3.79 MBytes 31.8 Mbits/sec
[5]	7.00-8.00	sec	3.86 MBytes 32.4 Mbits/sec
[5]	8.00-9.00	sec	3.79 MBytes 31.8 Mbits/sec
[5]	9.00-10.00	sec	3.64 MBytes 30.6 Mbits/sec
[5]	10.00-11.00	sec	3.56 MBytes 29.9 Mbits/sec
[5]	11.00-12.00	sec	3.86 MBytes 32.3 Mbits/sec
[5]	12.00-13.00	sec	3.70 MBytes 31.0 Mbits/sec
[5]	13.00-14.00	sec	3.45 MBytes 28.9 Mbits/sec
[5]	14.00-15.00	sec	3.65 MBytes 30.6 Mbits/sec
[5]	15.00-16.00	sec	3.82 MBytes 32.0 Mbits/sec
[5]	16.00-17.00	sec	3.72 MBytes 31.2 Mbits/sec
[5]	17.00-18.00	sec	3.61 MBytes 30.3 Mbits/sec
[5]	18.00-19.00	sec	3.74 MBytes 31.4 Mbits/sec
[5]	19.00-20.00	sec	3.77 MBytes 31.6 Mbits/sec
[5]	20.00-21.00	sec	3.74 MBytes 31.3 Mbits/sec
[5]	21.00-22.00	sec	3.70 MBytes 31.0 Mbits/sec
[5]	22.00-23.00	sec	3.75 MBytes 31.4 Mbits/sec
[5]	23.00-24.00	sec	3.70 MBytes 31.0 Mbits/sec
[5]	24.00-25.00	sec	3.82 MBytes 32.1 Mbits/sec
[5]	25.00-26.00	sec	3.80 MBytes 31.9 Mbits/sec
[5]	26.00-27.00	sec	3.78 MBytes 31.7 Mbits/sec
[5]	27.00-28.00	sec	3.58 MBytes 30.1 Mbits/sec
[5]	28.00-29.00	sec	3.94 MBytes 33.1 Mbits/sec
[5]	29.00-30.00	sec	3.67 MBytes 30.8 Mbits/sec
[5]	30.00-30.08	sec	298 KBytes 31.2 Mbits/sec

[ID]	Interval	Transfer	Bandwidth
[5]	0.00-30.08 sec	0.00 Bytes	0.00 bits/sec

sender

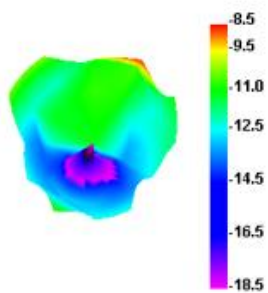
[5]	Interval	Transfer	Bandwidth
[5]	0.00-30.08 sec	111 MBytes	31.1 Mbits/sec

receiver

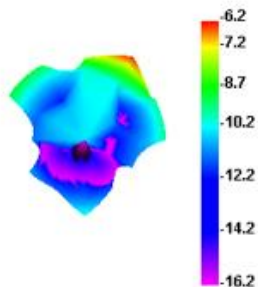
Server listening on 5201

7.3D pattern

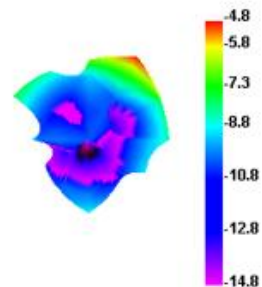
2400.000MHz



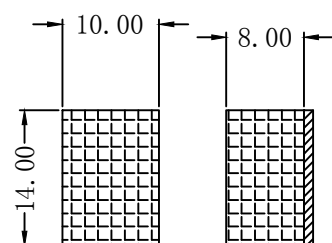
2450.000MHz



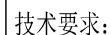
2500.000MHz



8. Structural drawings



③ Place the foam in the center and paste the ink surface on the front



1. 打*为重点尺寸;
2. 尺寸符合图纸要求;
3. 焊点无虚焊、假焊。要求圆润、饱满。
4. 网分测试通过（出现指定波形）。
5. 线形尺寸未注公差按照SJ/T 10628 1995 6级，公差值由上下偏差均分;

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