天 线 规 格 书
Antenna specification for approval

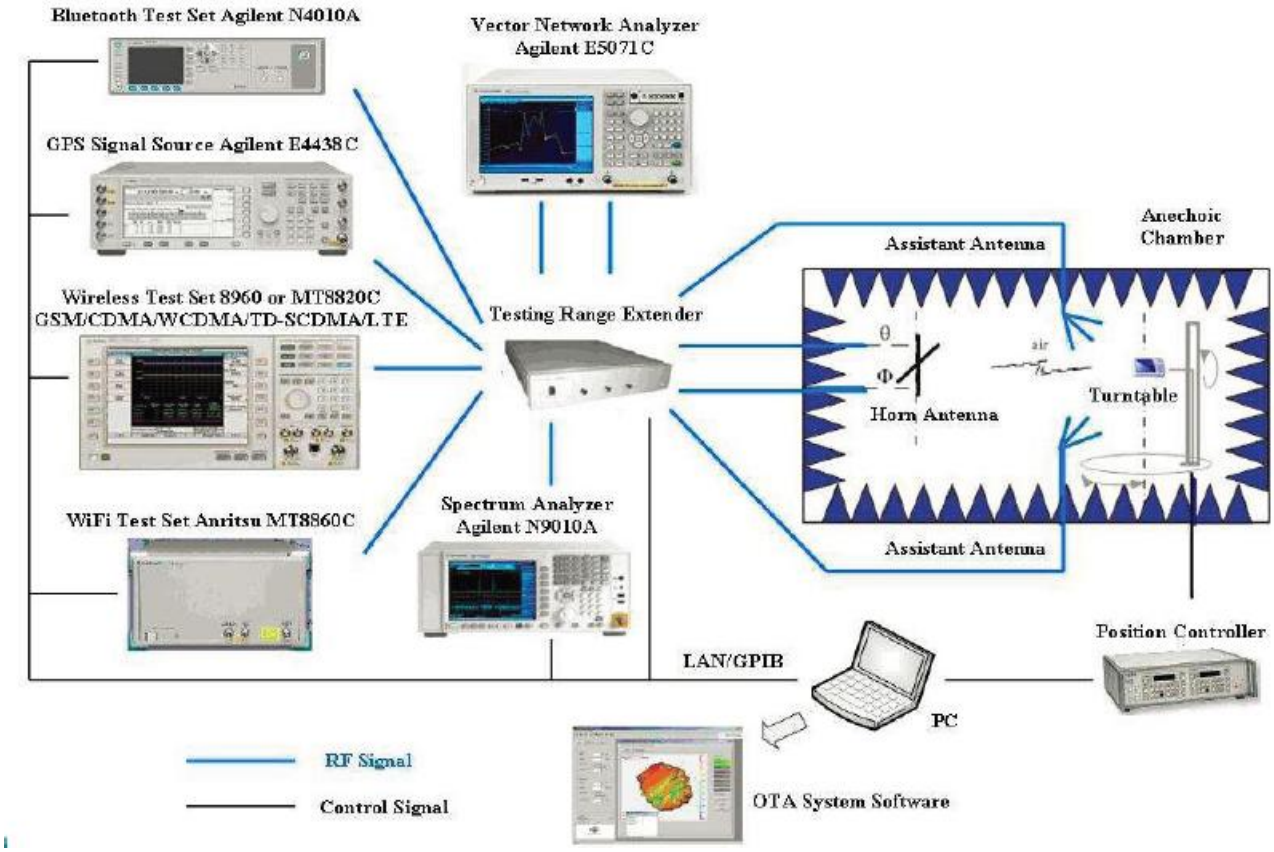
客户名称 Customer name	阿达视Shenzhen Adas High Tech. Co., Ltd.		
机型 Model	EVA21-M12-98529-Hidden recorder		
天线频段 Antenna frequency	2.4GHZ&5GHz		
天线功能 Antenna function	WIFI&5Gwifi antenna		
天线材质 Antenna material	FPC	FPC 颜色 FPC color	Black
型号 model	SF1955A-1B2-A		
料号 Material number	SF1955A-1L23B-040-A		
客户料号 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		审核 To examine	
日期 date 2022.09.28	盖章区 Seal area	日期 date 2022.09.28	盖章区 Seal area

SN.	Certification number	Material type	Date of issuance	notes
1	A2220186128101ER1	Tinned Copper	2022-05-17	1year
2	SHAEC2118730103	halogen	2021-09-04	1year
3	SHAEC2118730101	Adhesive backing	2021-09-04	1year
4	SHAEC2200415801	FEP sheath	2022-01-15	1year
5	SHAEC2127178503	FEP insulation	2021-12-21	1year
6	SZXEC2102819406	Tin wire	2021-09-08	1year
7	SZXEC2102819402	Solder bar	2021-09-08	1year
8	ETR22300684	printing ink	2022-03-09	1year
9	EKR22501369	base material	2022-06-27	1year
10	CANEC2124348308	EVAFoam	2022-01-14	1year
11	SZXEC2202709609	conductive fabric	2022-08-16	1year
12	A221039443610100C	gold plate	2021-09-27	1year

目录directory

一:设备支持&可测试天线类型Device support&testable antenna types



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: 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:

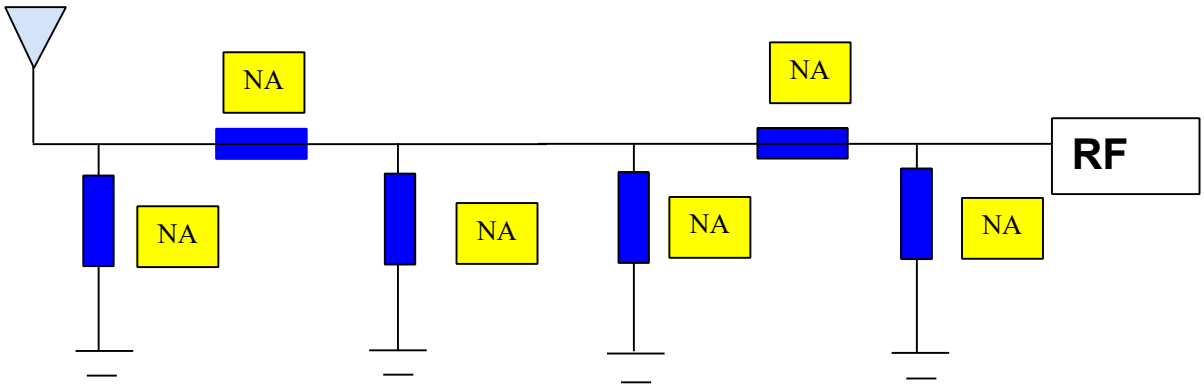
Description	2.4GHz~5GHz	Units
VSWR	≤2.0	
Average Antenna Gain	≥-4.5	dB
Antenna Efficiency	≥40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

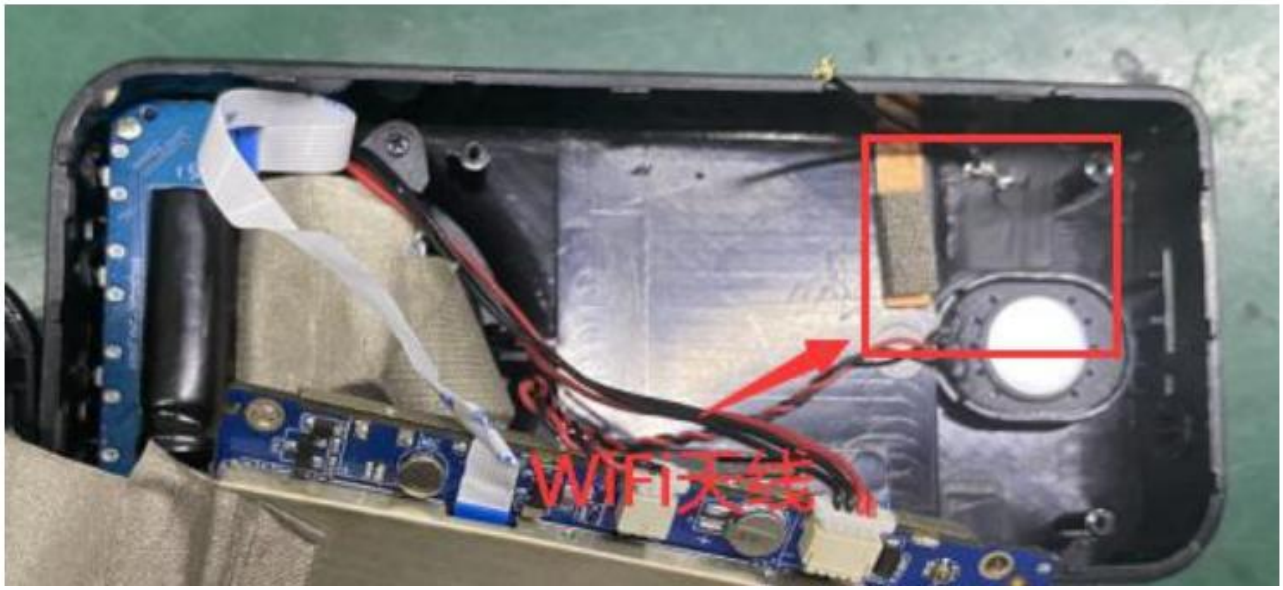
Mechanical Dimension	
Cable Length	040mm/BLACK
Description	WIFI antenna
Material	FPC
Coaxial Cable	500hm/O.D.0.81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

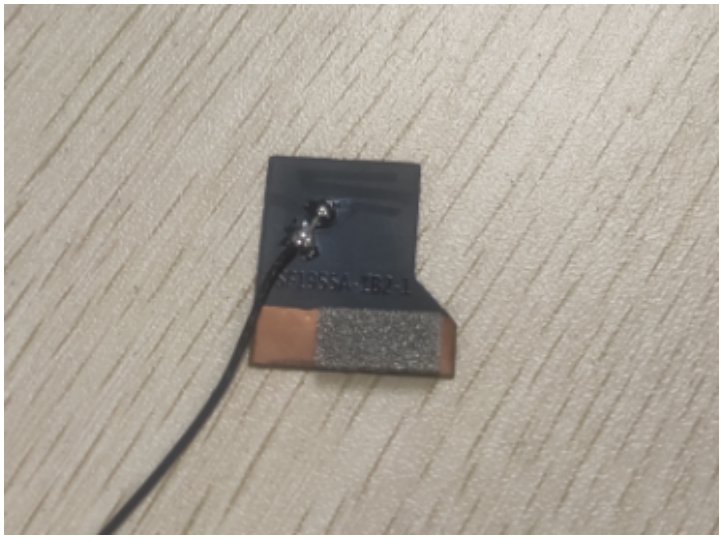
三:匹配电路图&机器图片&天线图片Matching circuit diagram&machine image&antenna image

(1)匹配电路matching circuit



(2) 机器图片&天线图片Machine image&antenna image





四:天线驻波比&天线效率Antenna Standing Wave Ratio&Antenna Efficiency（VSWR）

Passive Test For 2.4G-WiFi-BT										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
2400	33.65	-4.73	-1.47	-3.62	17.894	15.753	-1.47	-9.32	3.26	240
2410	33.89	-4.7	-1.54	-3.69	18.093	15.797	-1.54	-9.21	3.16	240
2420	32.99	-4.82	-1.43	-3.58	17.759	15.232	-1.43	-9.33	3.39	240
2430	32.03	-4.94	-1.57	-3.72	17.333	14.702	-1.57	-9.89	3.37	240
2440	32.88	-4.83	-1.27	-3.42	17.782	15.099	-1.27	-9.97	3.56	240
2450	35.3	-4.52	-1.22	-3.37	18.93	16.369	-1.22	-9.84	3.3	240
2460	36.98	-4.32	-1.13	-3.28	19.635	17.34	-1.13	-9.25	3.19	240
2470	38.66	-4.13	-1.36	-3.51	20.444	18.217	-1.36	-8.62	2.77	240
2480	40.42	-3.93	-1.37	-3.52	21.269	19.155	-1.37	-8.25	2.56	240
2490	42.72	-3.69	-1.28	-3.43	22.402	20.315	-1.28	-8.57	2.41	240
2500	40.89	-3.88	-1.45	-3.6	21.233	19.659	-1.45	-9.69	2.43	240

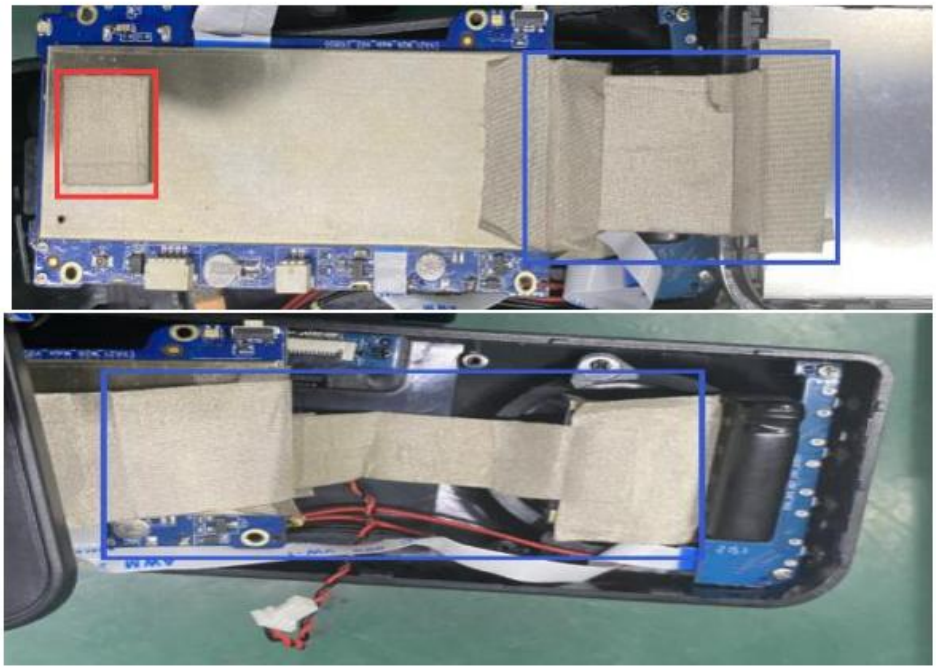
Passive Test For 5G-WiFi										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
5000	35.01	-4.56	1.68	-0.47	17.987	17.026	1.68	-13.45	6.24	120
5100	33.84	-4.71	1.81	-0.34	17.506	16.332	1.81	-13.18	6.52	150
5200	33.95	-4.69	1.86	-0.29	18.046	15.903	1.86	-14.23	6.55	90
5300	35.19	-4.54	1.1	-1.05	18.298	16.891	1.1	-16.44	5.63	210
5400	46.95	-3.28	2.84	0.69	22.525	24.427	2.84	-12.65	6.12	210
5500	46.08	-3.37	1.74	-0.41	22.706	23.372	1.74	-12.15	5.11	150
5600	51.66	-2.87	2.58	0.43	26.125	25.53	2.58	-11.25	5.45	150
5700	55.66	-2.54	2.71	0.56	30.25	25.411	2.71	-14.69	5.25	210
5800	57.27	-2.42	2.85	0.7	30.893	26.381	2.85	-16.21	5.27	120
5900	55.09	-2.59	3.08	0.93	30.399	24.695	3.08	-15.23	5.67	90
6000	70.48	-1.52	4.75	2.6	39.007	31.474	4.75	-19.36	6.27	90

五:天线实测图Antenna measurement diagram

实测效果	
机型编号	1
测试环境	索沃德研发中心
测试设备	iPhone 11
测试距离	15 米

下载速率	
机型编号	1
测试环境	索沃德研发中心-1米
测试设备	iPhone 11
测试速率	7.8MBps~8.1MBps

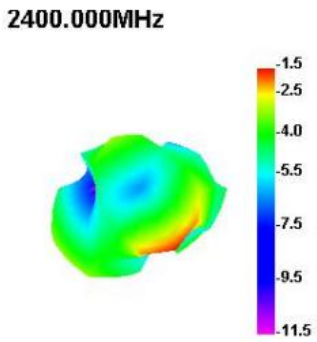
六:环境处理environmental treatment

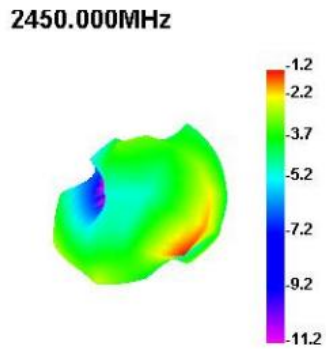


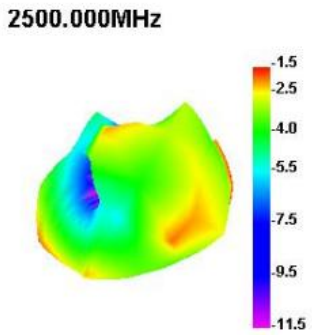
*红框使用导电泡棉使屏蔽盖与屏充分接地
*蓝框使用导电布将排线做屏蔽处理

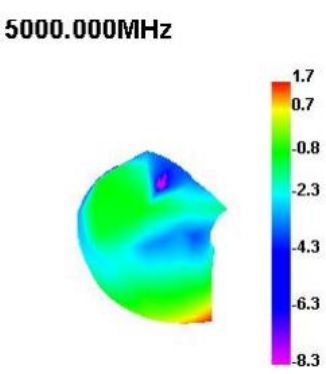
The red box uses conductive foam to fully ground the shielding cover and screen
Blue frame uses conductive cloth to shield the wiring

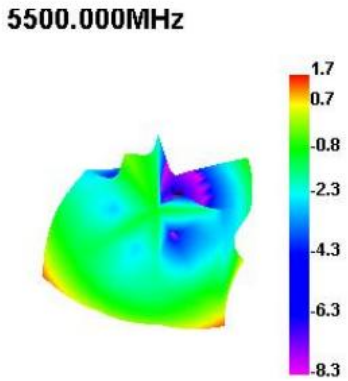
七:3D pattern

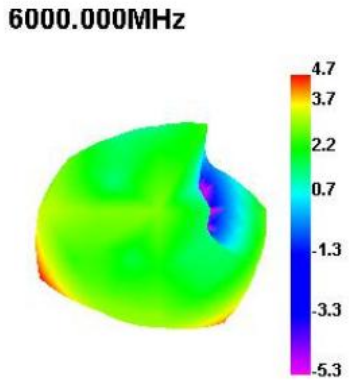




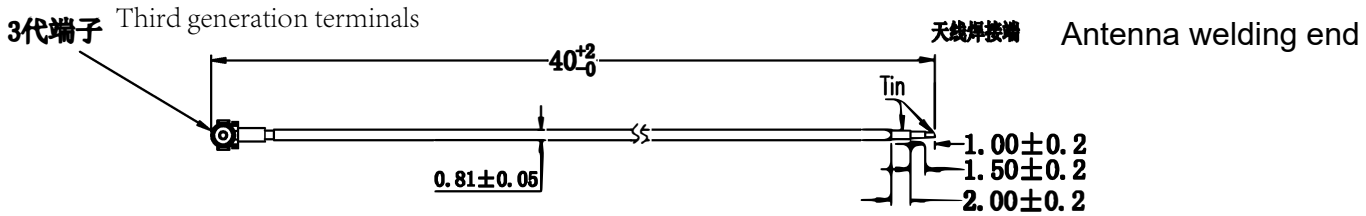


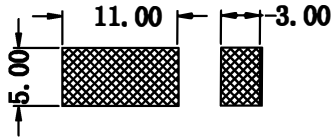




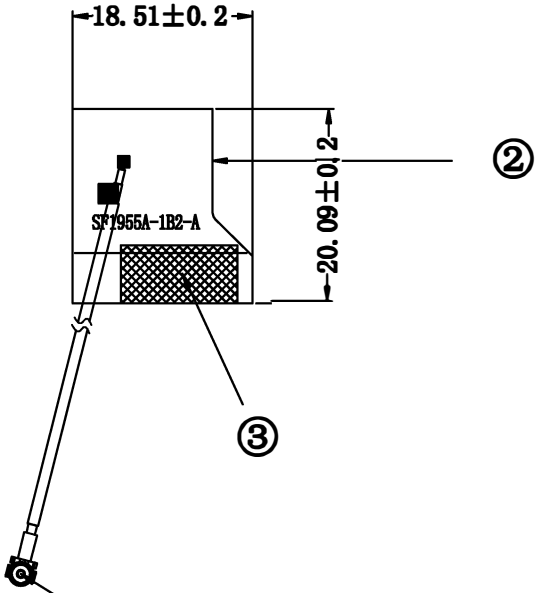


八:结构图纸structural drawings





导电海绵Conductive sponge



①端子朝外Terminal outward

5												
4												
3				1	11*5*3mm							
2				1	SF1955A-1B2-A	RD	YWD					
1				1	Φ=0.81mm	RF						

SWARD

索沃德通讯技术有限公司Shenzhen Suo Ward Communication Technology Co., Ltd.

SF1955A-1L23B-040-A

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ROHS