2023

深圳祥博一科技有限公司

Shenzhen Xiangboyi Technology Co. Ltd

Second Floor, Room B, Room B, Block B, Zhongfeng Runfeng Pioneer Park, Minzhi Road, Longhua New District, Shenzhen, China

天线测试报告

Antenna report

TEST REPORT

01 客户名称/Customer：和天创

02 项目名称/Project：D070

03 立项编号/Project NO：XBY230451

04 工 程 师/Engineer：何国荣
电话/Phone： 18123875607

PART 1

测试报告版本/Report version

日期 **Date**	天线版本 Antenna version	主板版本 **PCB** version	变更描述 **D**escription of Change
2023-11-13			**天线测试数据**

PART 2

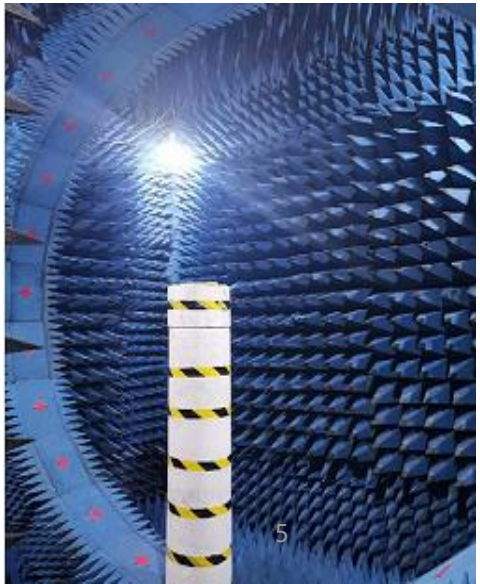
项目信息/Project brief

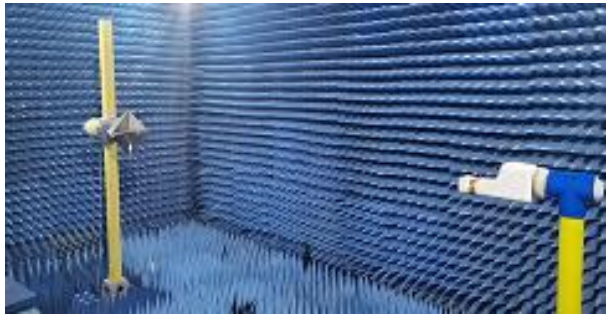
NO	ITEMS	DETAILS
1	**工作频段** **Operating band**	WIFI：B/G/N/A模
2	**频率范围** **Frequency band**	WIFI： 2400-2500Mhz；5180-5850Mhz
3	**天线类型** **Antenna type**	MAIN： monopole
4	**天线材质及实现形状** Material and implementation shape	PCB+焊线 PCB welding wire

PART 3

Test system and equipment

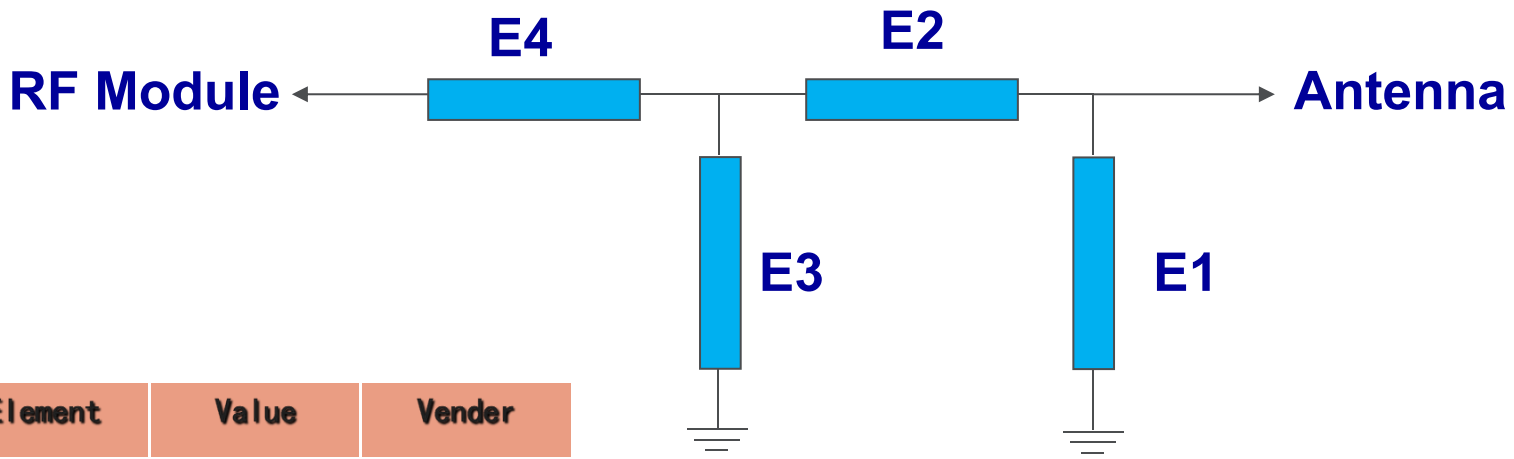
	测试项目/Test items	设备/equipment
1：S参数 S parameter	1. 回波损耗 Return loss 2. 驻波比 VSWR	网络分析仪/Network analyzer: A338/A333
2：耦合功率测试 Active test	1. 发射功率 Transmitting power 2. 接收灵敏度Receiving sensitivity	综合测试仪/Comprehensive test instrument: Agilent 8960/ CMW500
3：辐射模式与增益 Radiation mode and gain	1. 辐射模式 Radiation mode 2. 天线增益 Gain	1. 暗室/Shielding room： 7x4x3 m (ETS-3D) 2. 网络分析仪/Network analyzer： HP 8753D





PART 4

匹配电路/Matching Circuits



Element	Value	Vender
E1 (0402)	NA	
E2 (0402)	0 Ohm	
E3 (0402)	NA	
E4 (0402)	0 Ohm	

Original match unchanged.

PART 5

有源测试数据/Active Test data

WIFI BAND	802.11a : 54MBps (5G)					
Channel	CH36	CH149	CH161			
TRP	16.64	17.45	17.57			
TIS			-70.44			

WIFI BAND	802.11b : 11MBps(2.4G)			802.11g : 54MBps(2.4G)		
Channel	CH1	CH6	CH11	CH1	CH6	CH11
TRP	17.60	18.25	18.12	16.16	16.47	16.82
TIS			-85.21			-69.13

WIFI BAND	802.11n : MCS7(2.4G)					
Channel	CH1	CH6	CH11			
TRP	15.64	16.23	16.54			
TIS			-71.53			

PART 6 无源测试效率/Passive test efficiency

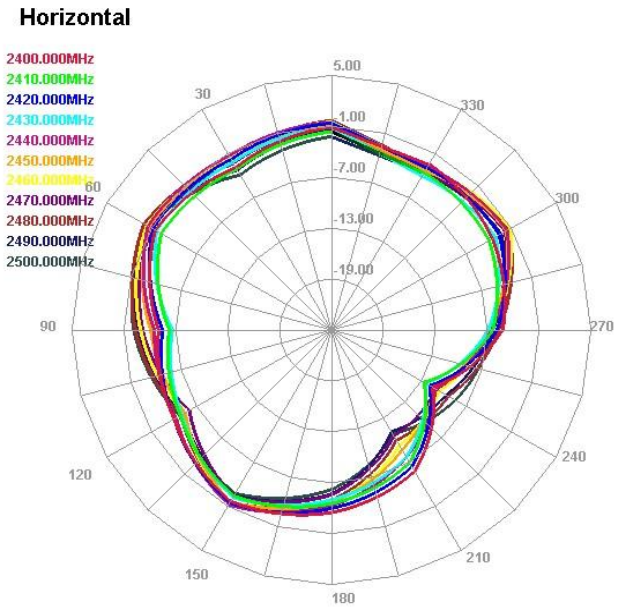
WiFi 2.4G		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	44.52	1.97
2410	34.24	0.88
2420	43.5	1.67
2430	34.44	0.73
2440	44.79	1.52
2450	40.16	1.3
2460	44.41	1.97
2470	37.58	1.51
2480	47.41	2.33
2490	40.11	1.66
2500	40.74	1.71

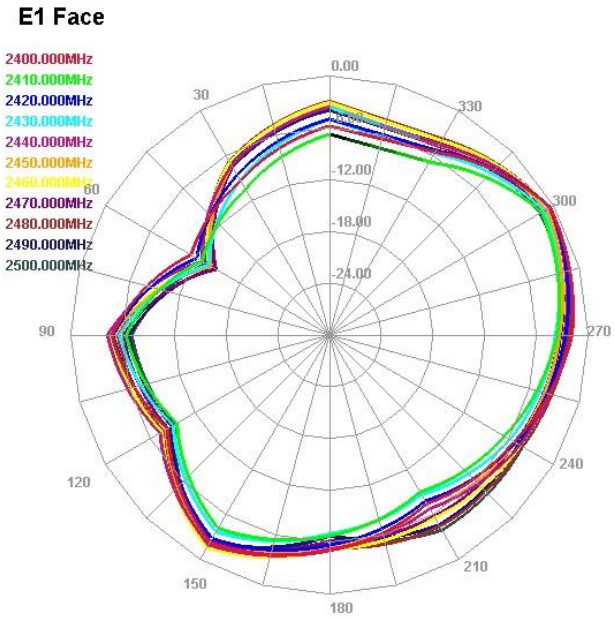
WiFi 5.8G		
Freq (MHz)	Effi (%)	Gain (dBi)
5000	45.42	1.33
5100	48.13	0.92
5200	41.08	-0.25
5300	36.42	-0.69
5400	41.32	0.6
5500	39.48	1.23
5600	44.53	1.42
5700	40.18	0.68
5800	38.35	0.11
5900	35.78	-0.95
6000	30.82	-1.51

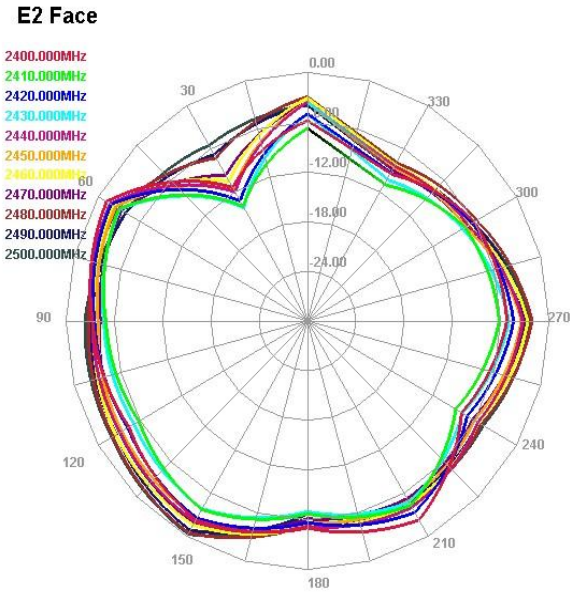
BT		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	28.31	-1.35
2410	23.6	-1.09
2420	31.63	-0.74
2430	28.52	-0.87
2440	35.88	0.59
2450	34.14	0.57
2460	38.55	1.44
2470	33.51	0.79
2480	33.24	1.87
2490	32.2	0.76
2500	35.07	1.14

PART 7 无源方向图/Passive directional graph

WiFi 2.4G



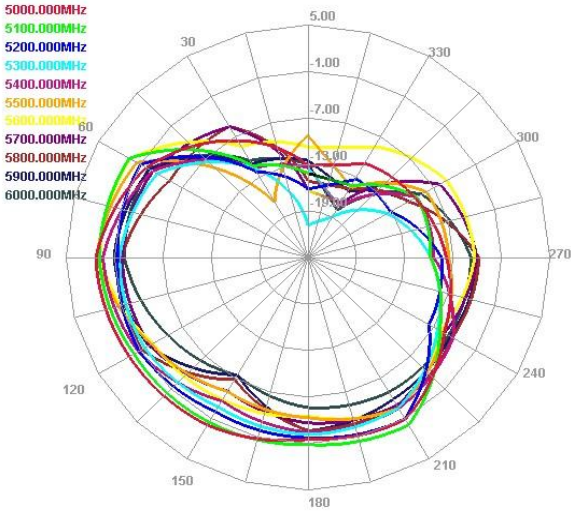




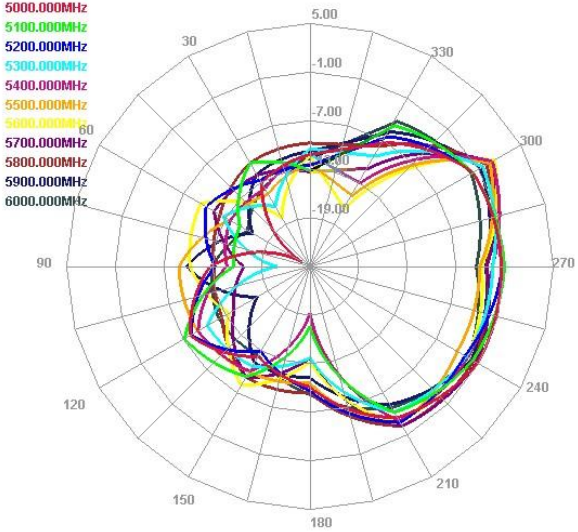
PART 7 无源方向图/Passive directional graph

WiFi 5.8G

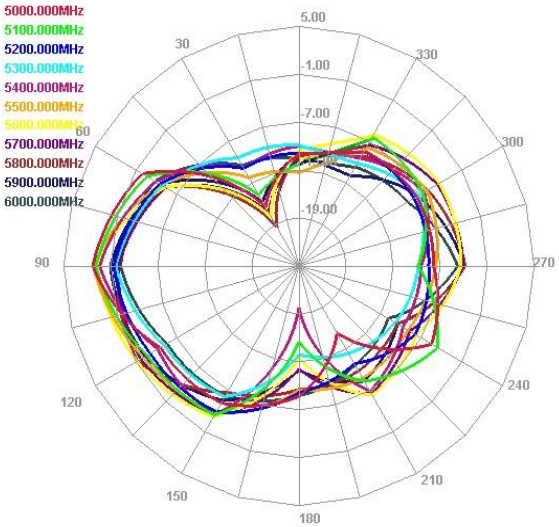
Horizontal



E1 Face



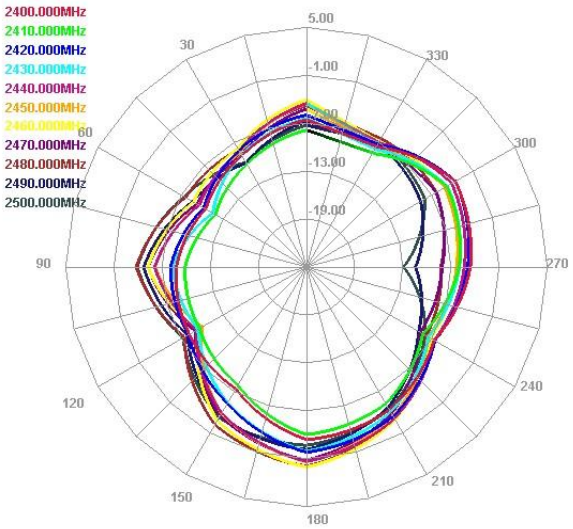
E2 Face



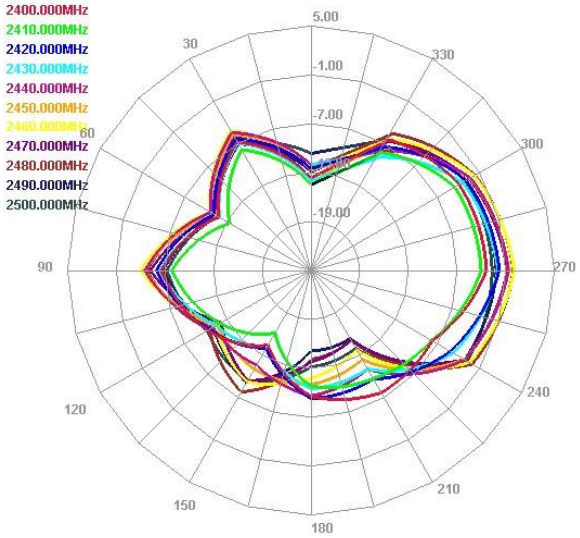
PART 7 无源方向图/Passive directional graph

BT

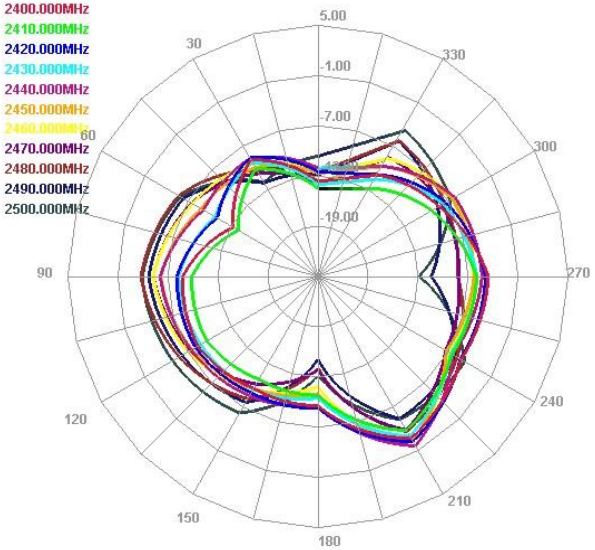
Horizontal



E1 Face



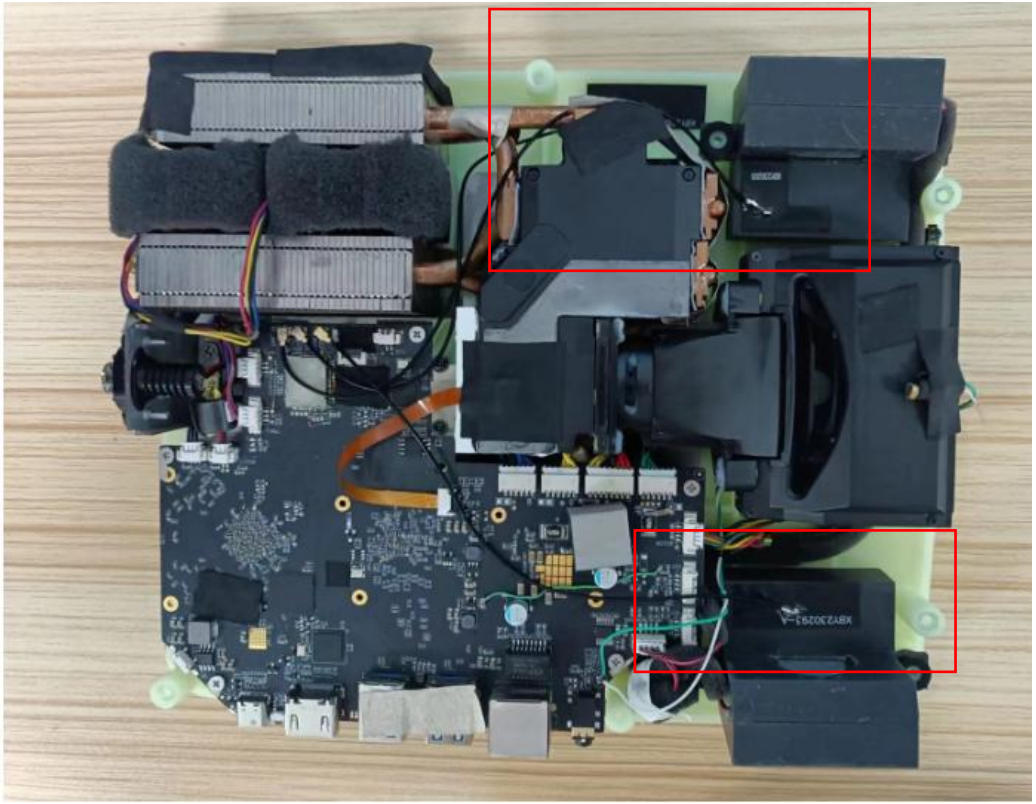
E2 Face



PART 8

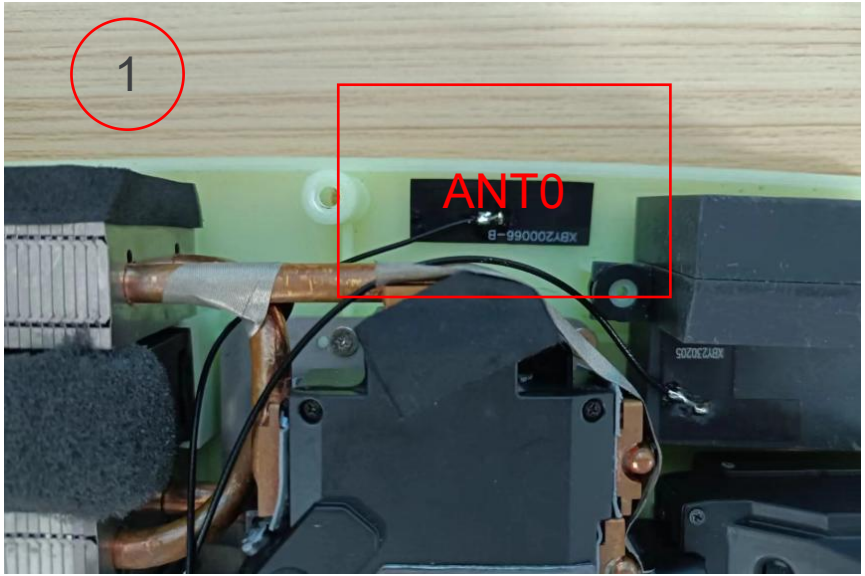
组装方式/Assembly method

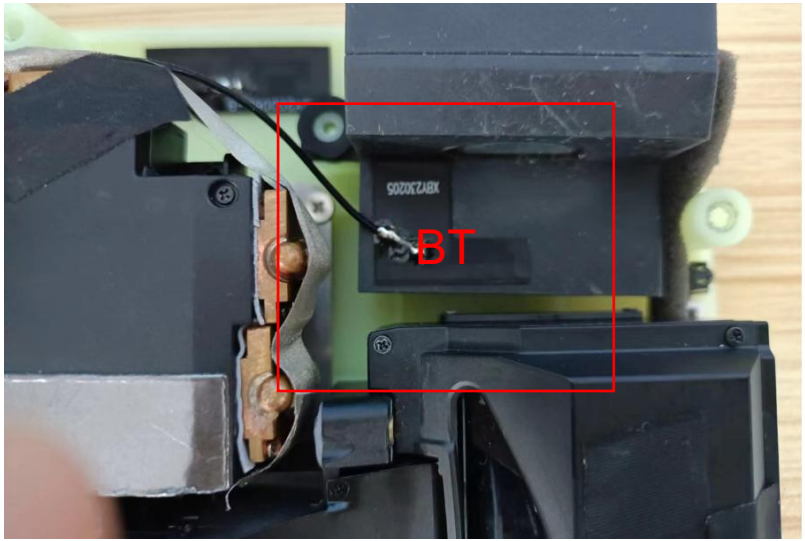
1



PART 8

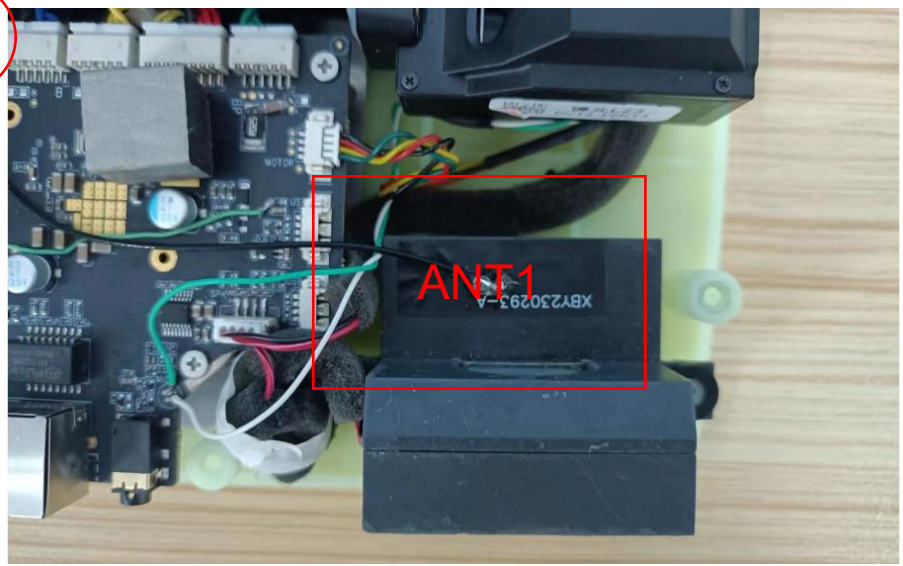
组装方式/Assembly method





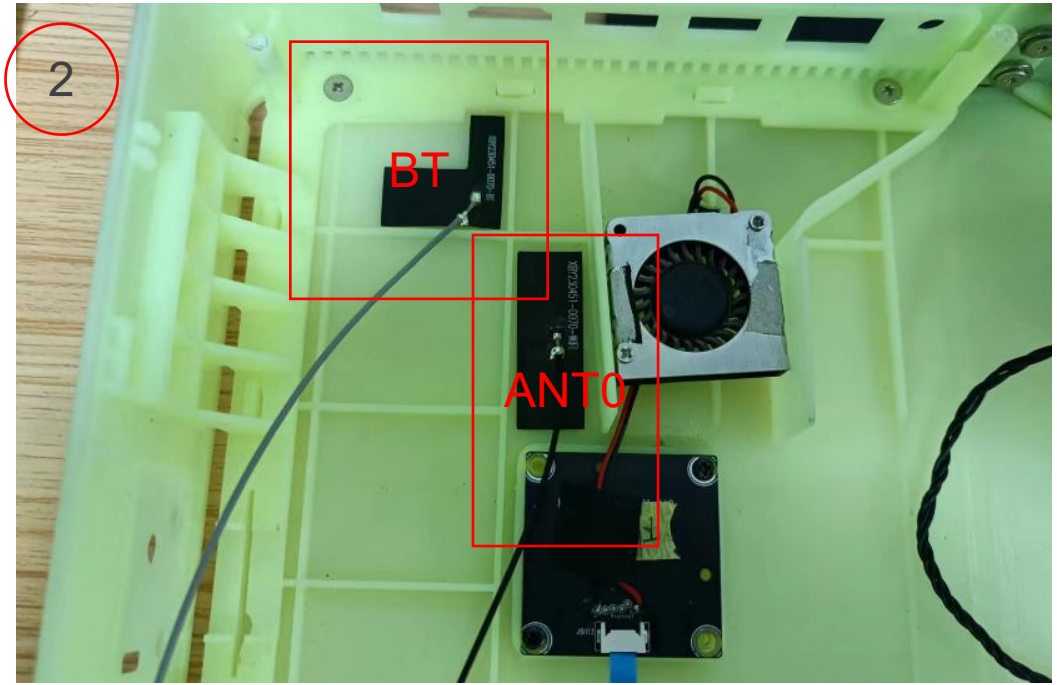
组装方式/Assembly method

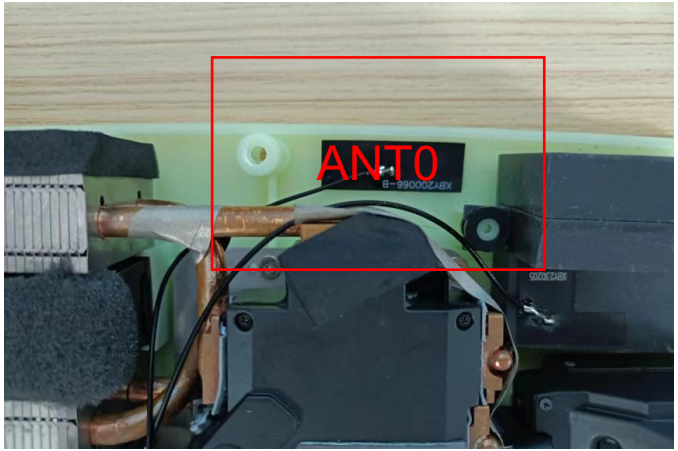
1



PART 8

2#组装方式/Assembly method

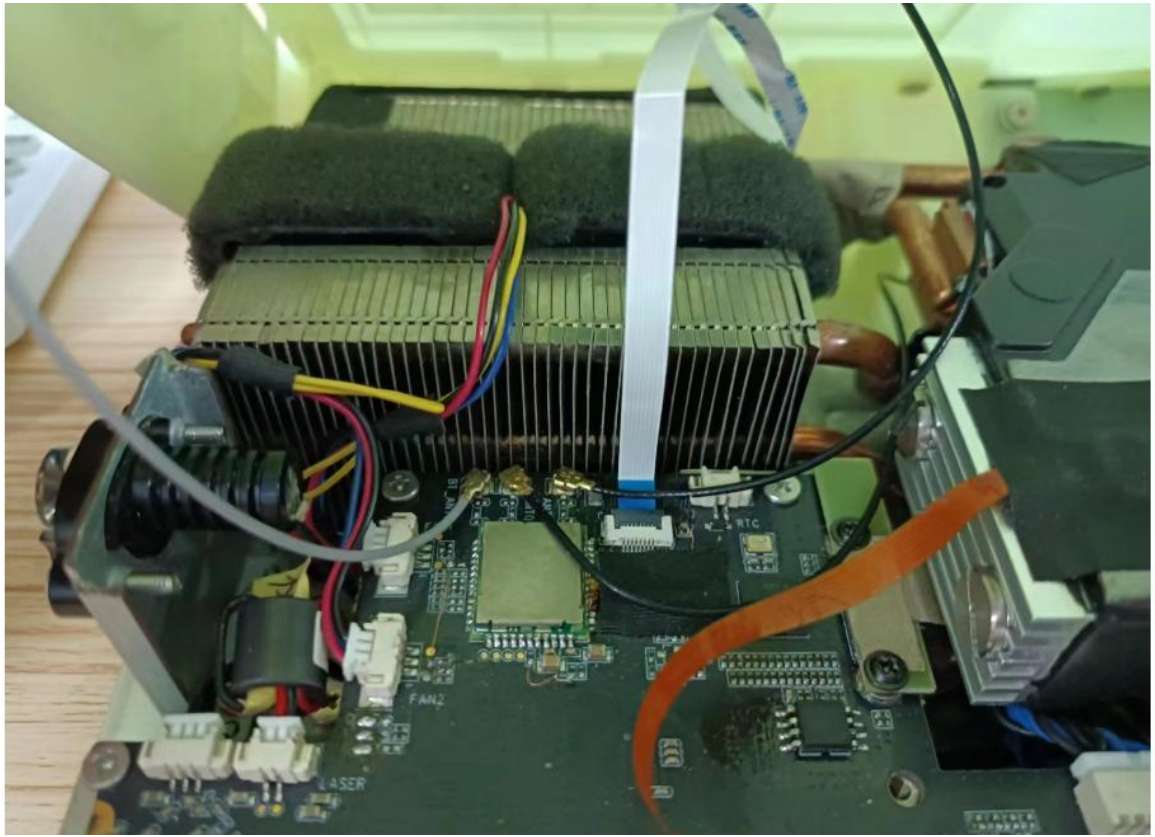




PART 8

2#组装方式/Assembly method

2



PART 8

2#有源测试数据/Active Test data

2

WIFI BAND	802.11a : 54MBps (5G)					
Channel	CH36	CH149	CH161			
TRP	16.75	17.58	16.23			
TIS			-69.30			

WIFI BAND	802.11b : 11MBps(2.4G)			802.11g : 54MBps(2.4G)		
Channel	CH1	CH6	CH11	CH1	CH6	CH11
TRP	17.88	17.28	17.37	17.51	17.83	16.48
TIS			-81.36			-68.47

WIFI BAND	802.11n : MCS7(2.4G)					
Channel	CH1	CH6	CH11			
TRP	16.69	17.31	17.12			
TIS			-70.23			

PART 9

整机图片
Picture of complete machine

2023

Thanks!

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