



求是 价值 双赢

深圳市千目通讯科技有限公司

Shenzhen Qianmu Communication Technology Co., Ltd.

客 户 (Customer) : 道格DOOGEE
项 目 (Item) : R01Lite
日 期 (Date) : 2025.03.17
射 频 (Frequency) : ZHANG LI

制造商地址: 固戍街道华丰智谷航程高科技产
业园A2座425Manufacturer's Address: Room
425, Building A2, Hangcheng High-tech
Industrial Park, Huafeng Zhigu, Gushu Street



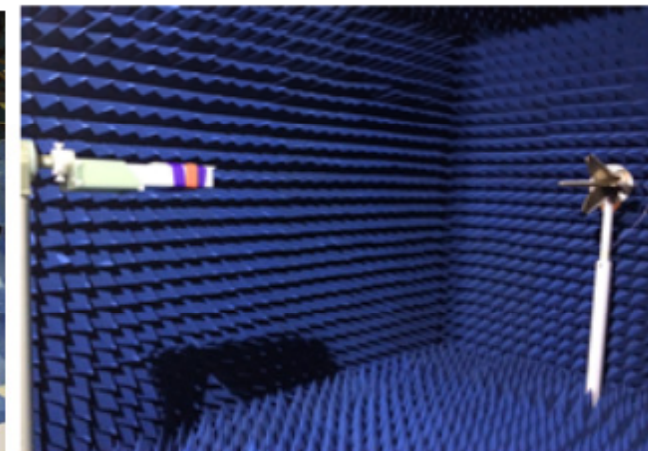
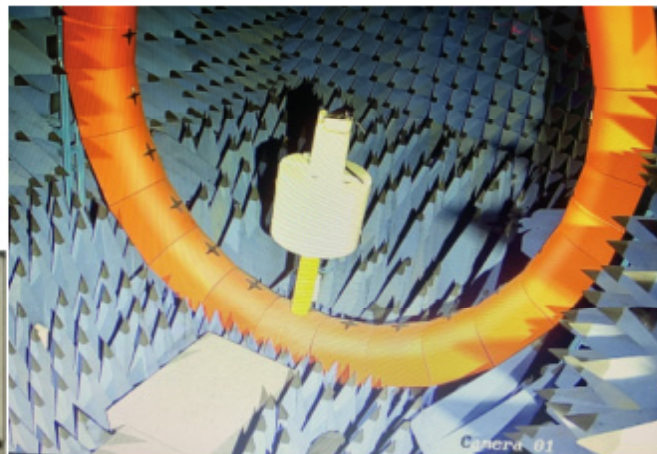
目 录 (Contents)

1. 测试环境 (testing environment)
2. 历次调试记录说明 (Records and Explanations of Previous Debugging Sessions)
3. 匹配电路说明 (Matching Circuit Description)
4. 有源测试数据 (Active test data)
5. 传导测试数据 (Conduct test data)
6. 通话电流声模拟测试 (Call current sound simulation test)
7. 环境处理说明 (Environmental Disposal Instructions)
8. GPS/WIFI/BT无源参数 (Passive parameters of GPS/WIFI/BT)
9. GPS/WIFI/BT实测效果 (GPS/WIFI/BT Actual Test Results)
10. 总结 (sum up)



测试环境（testing environment）

	测试项目	设备
1. S参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B ×2 HP 8753D PROTEK A338
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS) 3. 频率误差 4. 屏灭、屏亮	1. 暗室: 飞图 7x4x3 m (24探头 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 ×2 CMW500 ×3/CMU200
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: 飞图 7x4x3 m (24探头 3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B





整机调试说明（Overall Machine Debugging Instructions）

机型type	手表watch						
版型model	主板mainboard						
天线概况 Antenna Overview	主天线 main antenna	天线状态Antenna status		天线状态Antenna status	天线形式Antenna form	设计区域Design area	匹配改动Match modifications
		BT	2.4GHz~2.5GHz	金属框 metal frame	IFA	壳料 Shell materia	有 YES
样机状态 Prototype status	试产样机Prototype machine for trial production			环境处理 Environmental treatment	多处multiple		

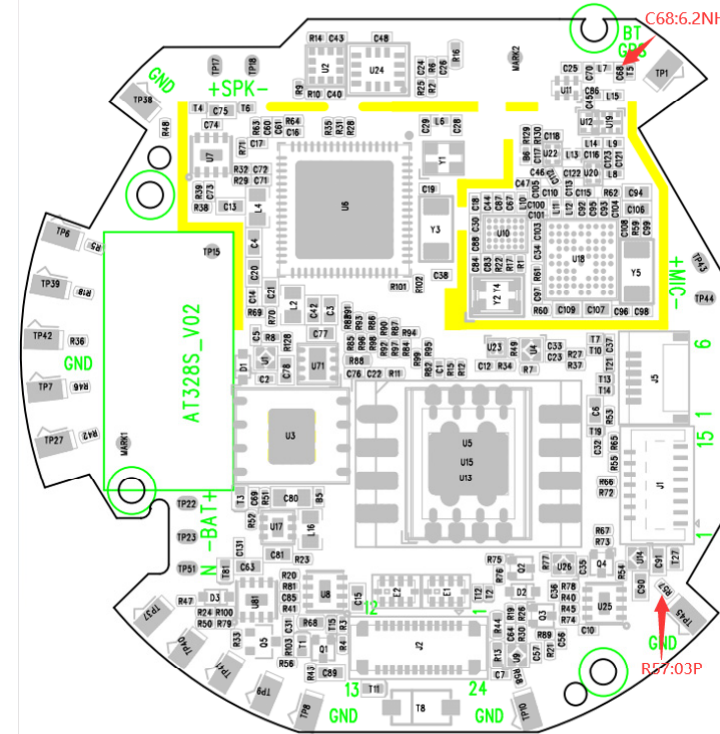
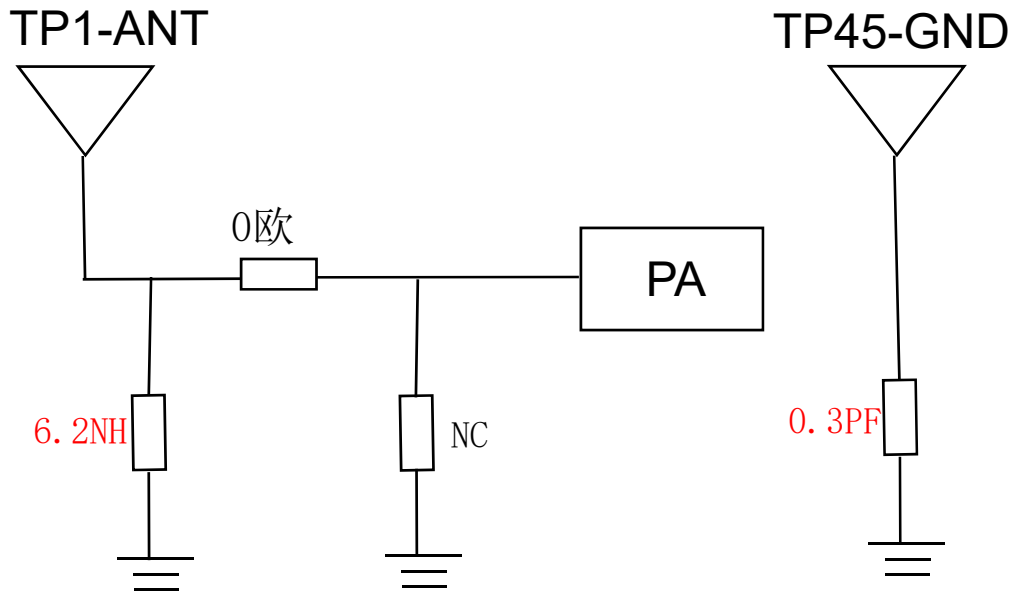


历次调试记录说明 (Previous debugging records explain)

日期date	版本 (versions)	调试记录说明 (Debugging Record Explanation)
2025-06-06	T:A	金属框做天线，调试样机 (Metal frames are used as antennas, and the prototype is being debugged) .



匹配电路-BT天线Matching circuit - BT antenna

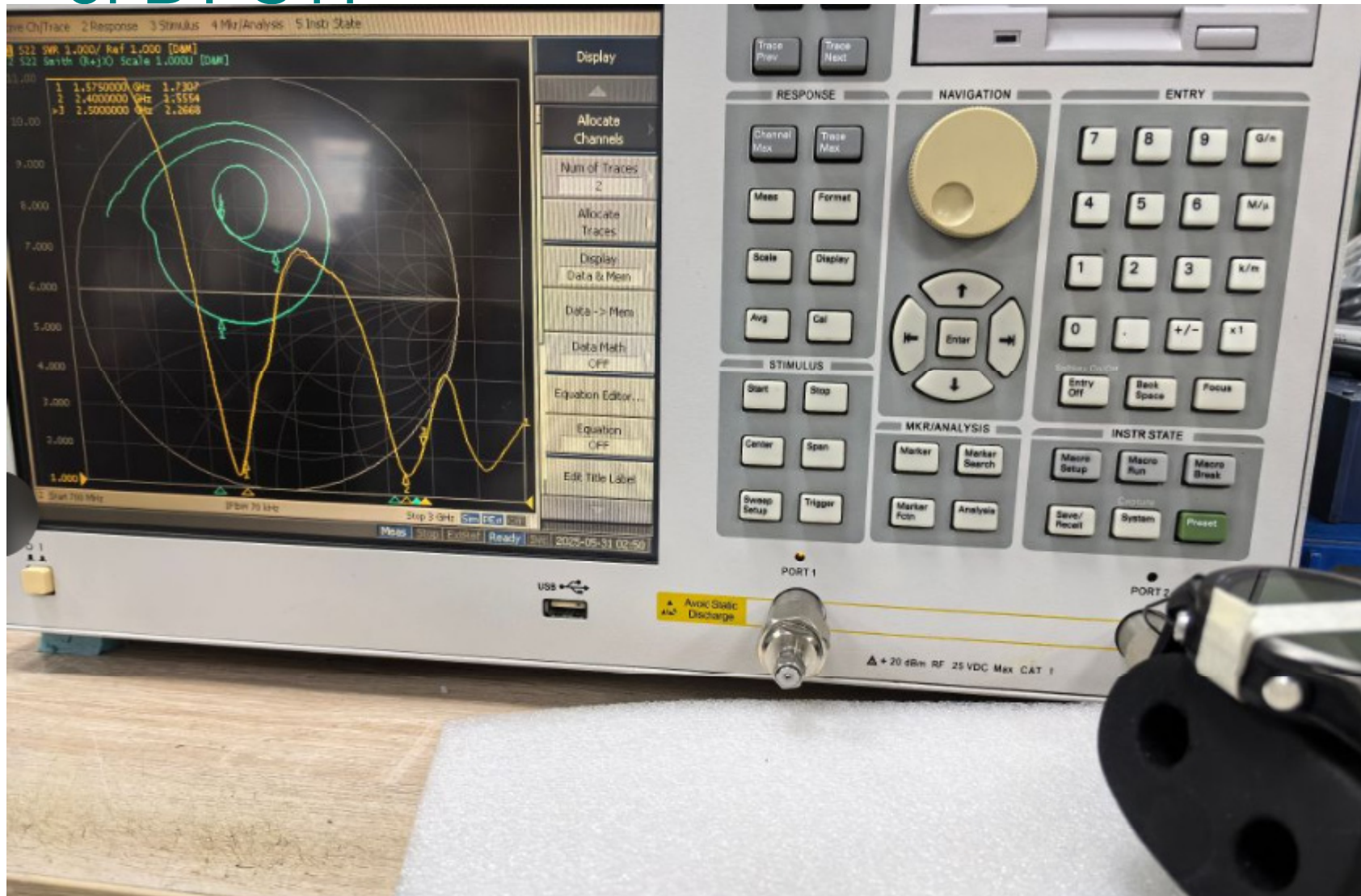


贵司请按以上匹配电路去做更改
Please make the changes
according to the above
matching circuit.

ALCj



BT S11无源参数: Passive Parameters of BT S11





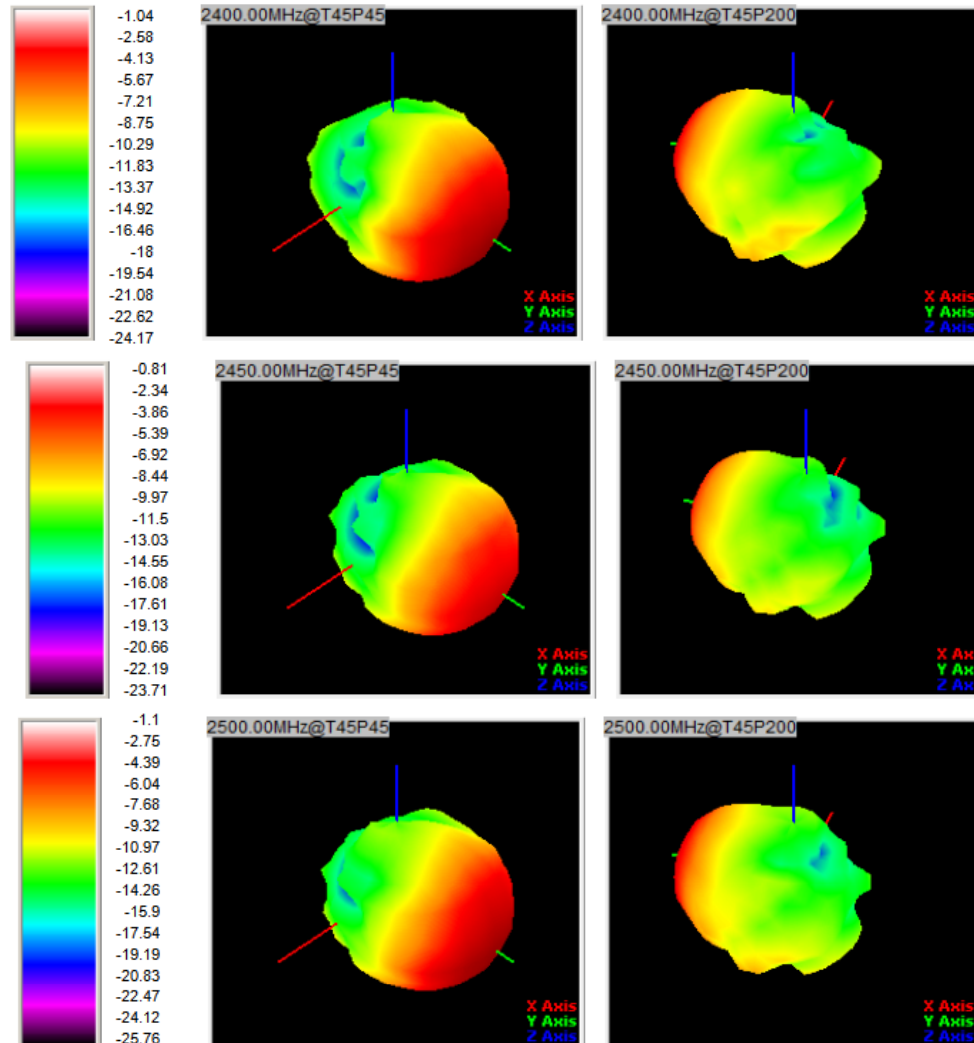
BT 天线效率与增益(BT Antenna Efficiency and Gain):

FEITUKEJI														
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Frequency (MHz)	1570.0	1575.0	1580.0	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values														
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-10.77	-10.84	-10.98	-8.60	-8.48	-8.56	-8.60	-8.50	-8.60	-8.61	-8.58	-8.61	-8.58	-8.58
Peak EIRP (dBm)	-3.97	-4.09	-4.34	-1.04	-0.84	-0.91	-0.91	-0.81	-0.99	-1.04	-0.99	-1.10	-1.11	-1.10
Directivity (dBi)	6.80	6.74	6.63	7.55	7.64	7.65	7.68	7.69	7.62	7.57	7.58	7.52	7.47	7.47
Efficiency (dB)	-10.77	-10.84	-10.98	-8.60	-8.48	-8.56	-8.60	-8.50	-8.60	-8.61	-8.58	-8.61	-8.58	-8.58
Efficiency (%)	8.40	8.20	8.00	13.80	14.20	13.90	13.80	14.10	13.80	13.80	13.90	13.80	13.90	13.90
Gain (dBi)	-3.97	-4.09	-4.34	-1.04	-0.84	-0.91	-0.91	-0.81	-0.99	-1.04	-0.99	-1.10	-1.11	-1.10
NHPRP $\pm\pi/4$ (dBm)	-11.91	-11.98	-12.13	-9.48	-9.36	-9.45	-9.48	-9.38	-9.50	-9.52	-9.49	-9.53	-9.51	-9.51
NHPRP $\pm\pi/6$ (dBm)	-13.27	-13.35	-13.51	-10.75	-10.63	-10.73	-10.77	-10.67	-10.81	-10.84	-10.79	-10.84	-10.81	-10.81
NHPRP $\pm\pi/8$ (dBm)	-14.30	-14.38	-14.55	-11.75	-11.64	-11.74	-11.79	-11.70	-11.85	-11.88	-11.84	-11.88	-11.84	-11.82
Upper Hem. PRP (dBm)	-15.35	-15.41	-15.54	-12.45	-12.35	-12.45	-12.49	-12.41	-12.53	-12.55	-12.52	-12.55	-12.52	-12.54
Lower Hem. PRP (dBm)	-12.63	-12.70	-12.85	-10.90	-10.77	-10.84	-10.87	-10.76	-10.85	-10.86	-10.82	-10.85	-10.82	-10.81
Upper Hem. PRP (%)	2.92	2.88	2.79	5.69	5.81	5.69	5.63	5.74	5.58	5.55	5.60	5.55	5.59	5.58
Lower Hem. PRP (%)	5.46	5.37	5.19	8.13	8.38	8.25	8.19	8.40	8.22	8.20	8.28	8.22	8.27	8.30



方向图directional diagram:

BT





BT实际测试Actual test of GPS + BT:

人手manpower



BT实际测试： 楼顶空旷位置，背对十米通话无杂音无断续
BT actual test: In an open area on the rooftop, with the back facing a distance of ten meters, there was no noise or interruption during the call.



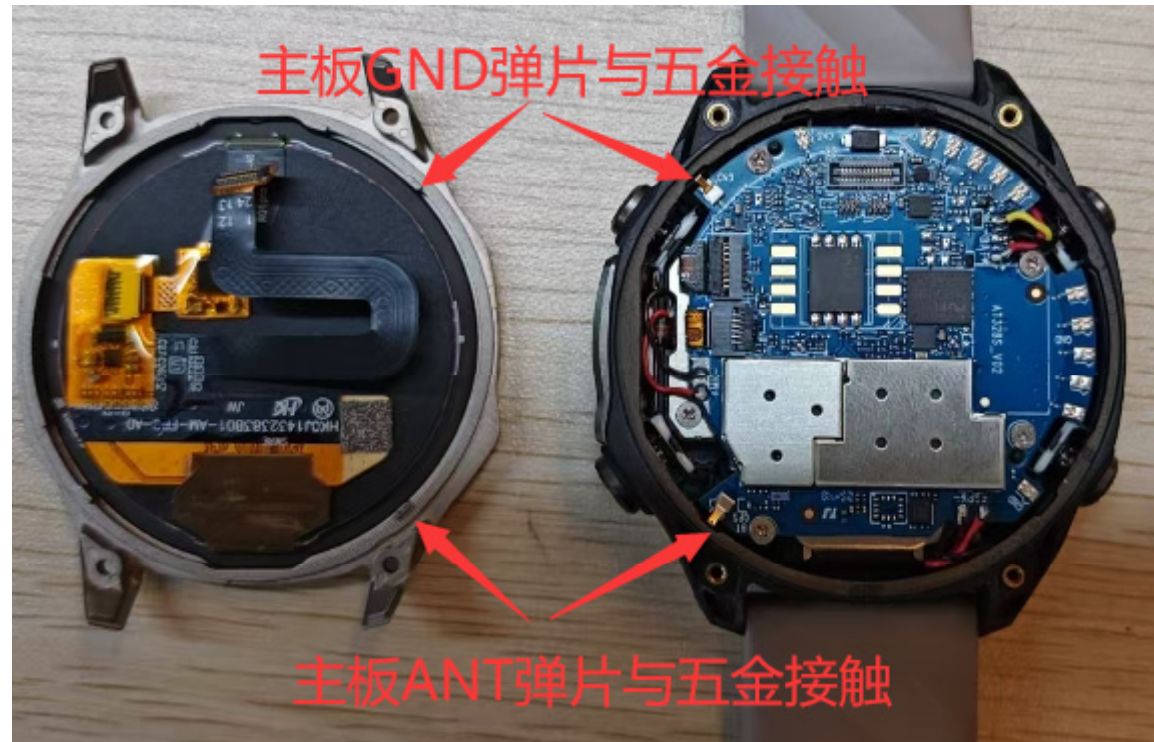
环境处理说明Environmental Treatment Instructions:



Attach conductive sponge to the area indicated by the arrow and ground it to the motherboard.



BT天线装配说明 BT Antenna Assembly Instructions:



The ANT pins on the motherboard are in contact with the hardware.



谢谢thanks!

此报告中所包含的一切信息、版权归我司所有，再未经我司许可的情况下，请勿散播给第三方
All the information contained in this report is the property of our company. Without our prior permission, please do not disseminate it to any third party.