深圳市星源创科技有限公司
SHENZHEN Xingyuanchuang TECHNOLOGY CO.,LTD
ANTENNA

天线测试报告

Antenna Test Report

TC：美迪飞
MN：A10
RF：刘磊确
MD：黄清清
MP：13005478517

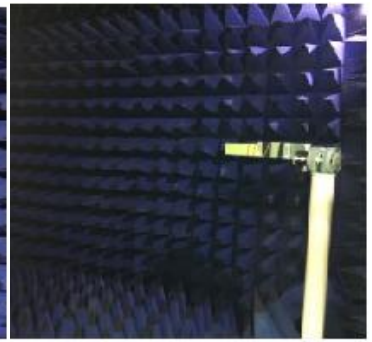
Date：2024.5.31
REV :V1.0

测试信息
Test information

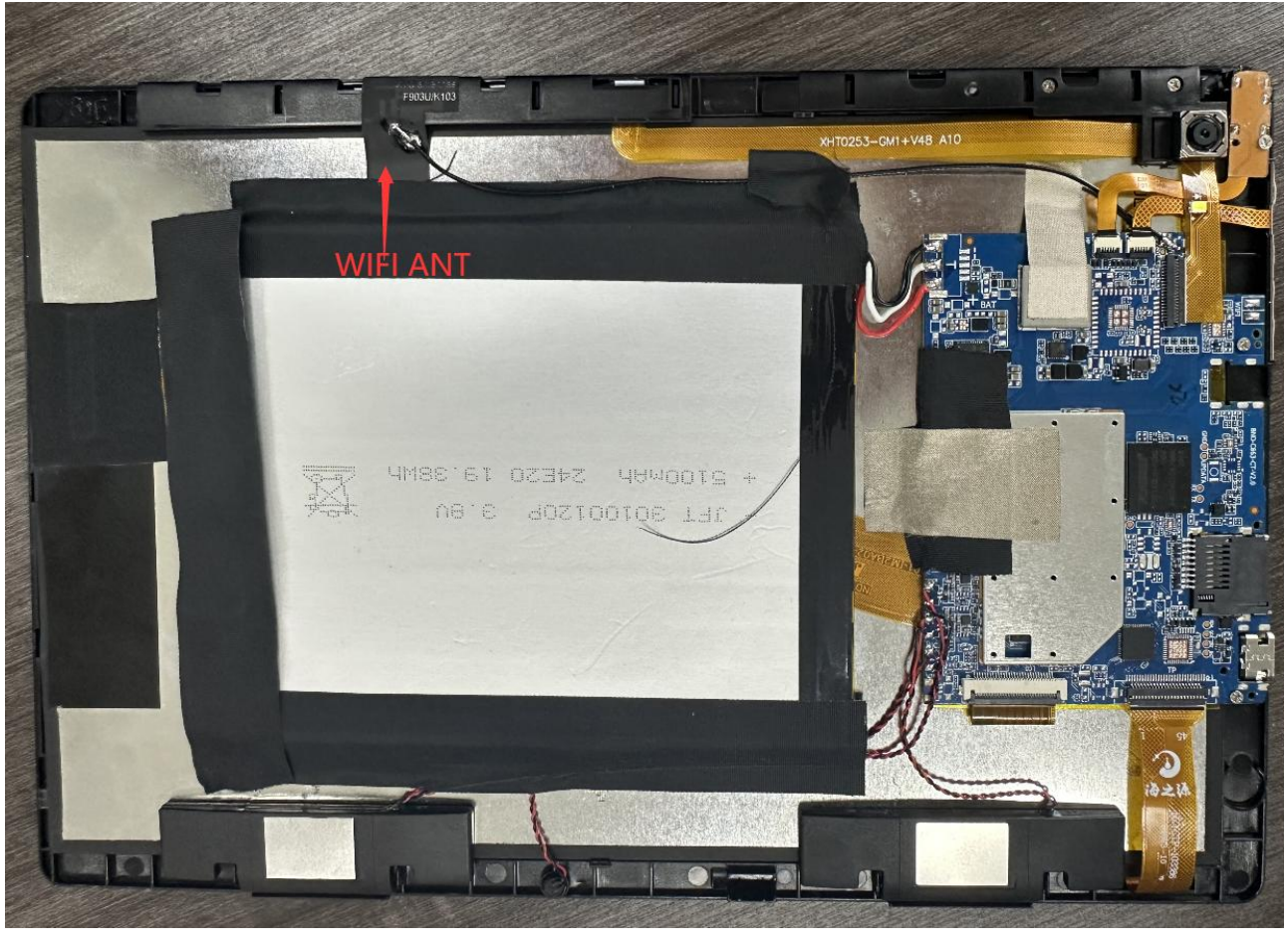
	Antenna band		Antenna state	Antenna form	Matchc hanges	Note
Main ANT	2G					
	3G				NO	
	4G					
AUX ANT	BT/WIFI	2.4G/5G	FPC	PIFA	NO	
	GPS		FPC	PIFA	NO	
	DIV				NO	

测试环境
Test environment

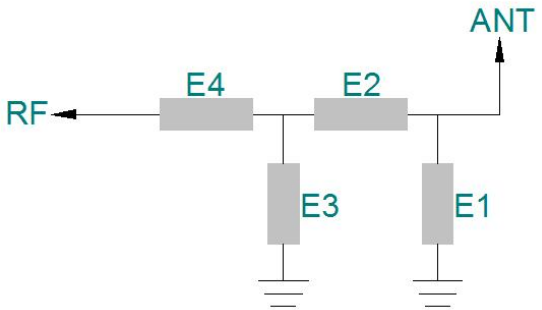
	测试项目	测试设备
S参数 （S-parameter）	1.电压驻波比(VSWR) 2.回波损耗（Rrtun Loss）	网络分析仪：Agilent8753ES
2.有源测试 (Active)	1.发射功率（TRP） 2.接收灵敏度（TIS） 3.屏灭/屏亮	1.暗室：5*3*3m（3D）Chamber 2.综测仪：Agilent8960 CMW500
3.无源测试 （Passive）	1.天线增益(Gain) 2.天线效率（Efficiency）	1.暗室：5*3*3m（3D）Chamber 2.网络分析仪：Agilent 8753ES



天线位置
Antenna position



匹配电路
Matching circuit



	电容（PF）	电感（NH）
E1(0402)		
E2(0402)		
E3(0402)		
E4(0402)		

匹配电路原理图&位号图

有源测试数据
Active test data

	Frequency	TRP		TIS	
802.11b	2412	CH1 11Mbps	15.89	CH1 11Mbps	-82.61
	2437	CH6 11Mbps	15.27	CH6 11Mbps	-82.12
	2467	CH11 11Mbps	14.85	CH11 11Mbps	-82.8
802.11a		TRP		TIS	
	5180	CH36 6Mbps	13	CH36 54Mbps	-71.05
	5300	CH60 6Mbps	13.41	CH60 54Mbps	-71.15
	5805	CH161 6Mbps	13.06	CH161 54Mbps	-71.49

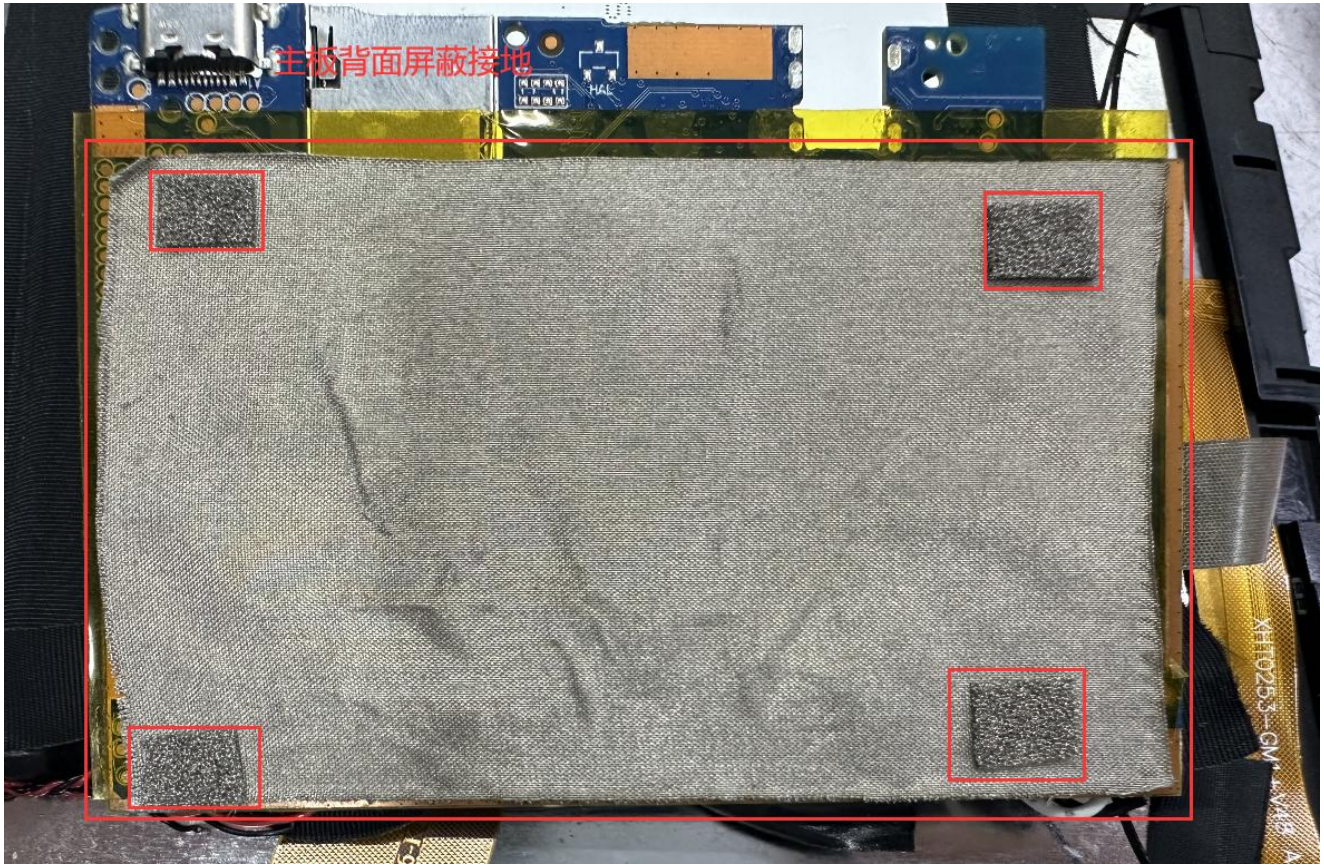
Wifi/BT天线实测
Wifi Antenna test

WIFI
测试环境：开放空间
测试工具：Wifi Analytical Assistant
测试距离：10m
信号强度：2.4G :-47dBm　5G：-50dBm
测试结果如右图

BT
测试环境：开放空间(通道）
测试工具：蓝牙音响
测试距离：10m
结果：播放音乐流畅，无杂音。

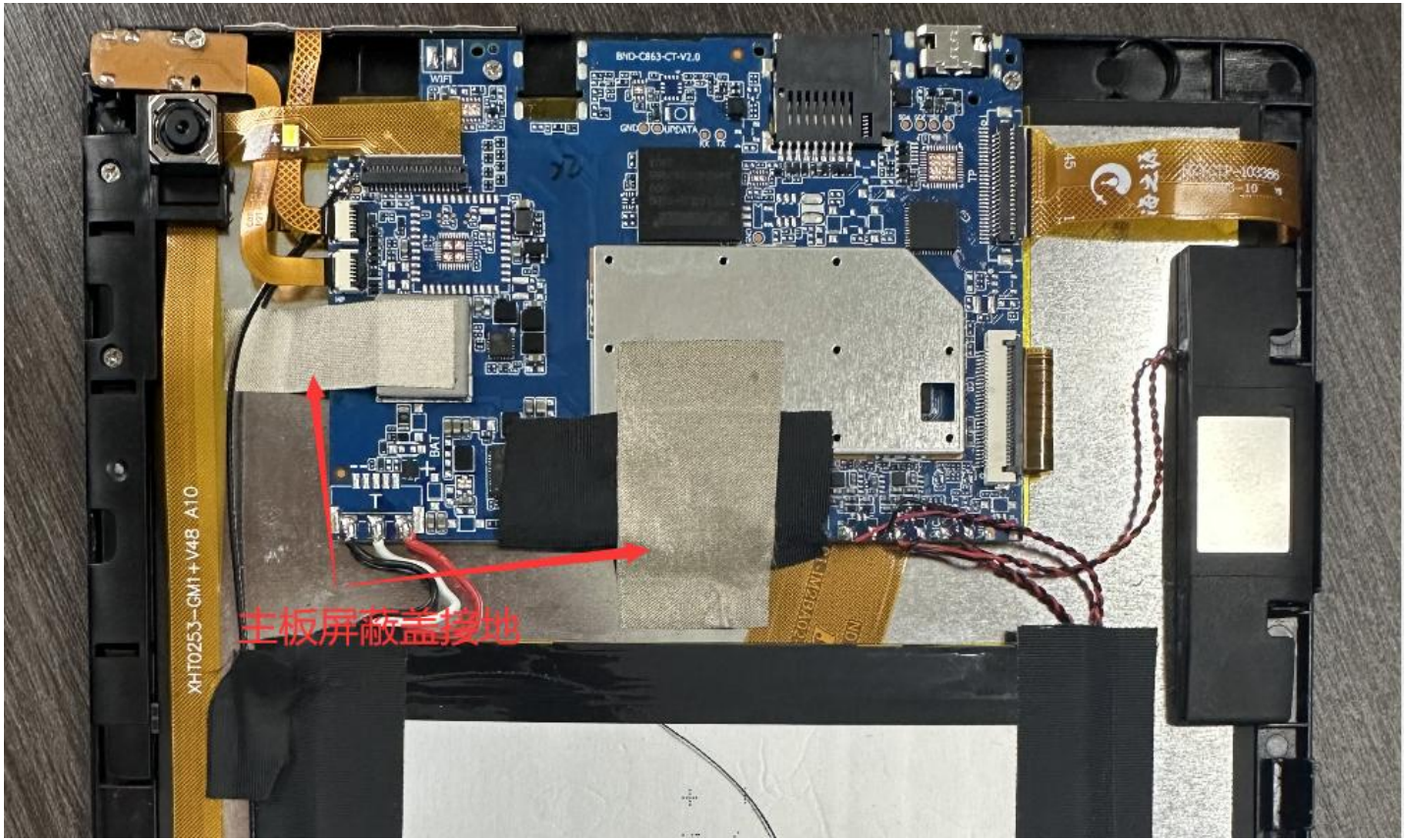
环境处理

Environmental treatment



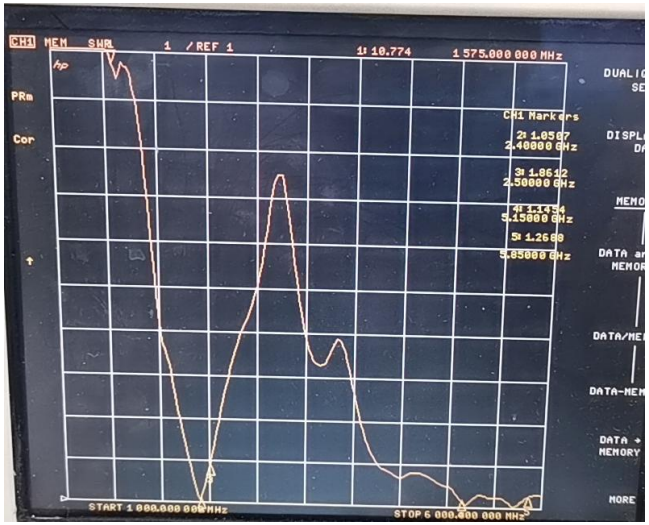
环境处理

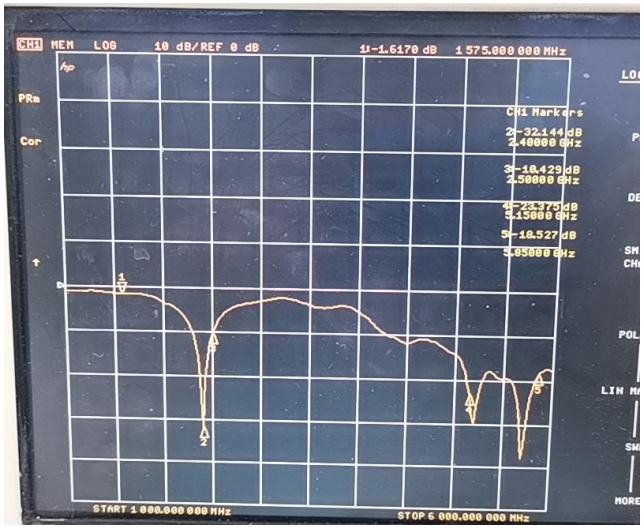
Environmental treatment



无源测试数据
Passive test data

ANT1 S11-VSWR&Return Loss





Frequency(MHZ)	2400	2450	2483	5150	5490	5850
VSWR	1.05		1.86	1.14		1.26
Return Loss(DB)	-32.10		-10.42	-23.37		-18.53

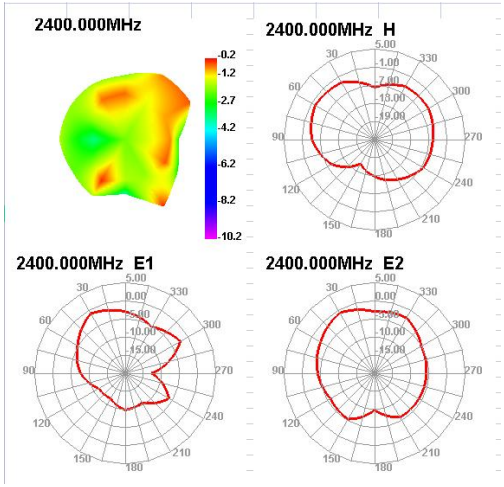
无源测试数据
Passive test data

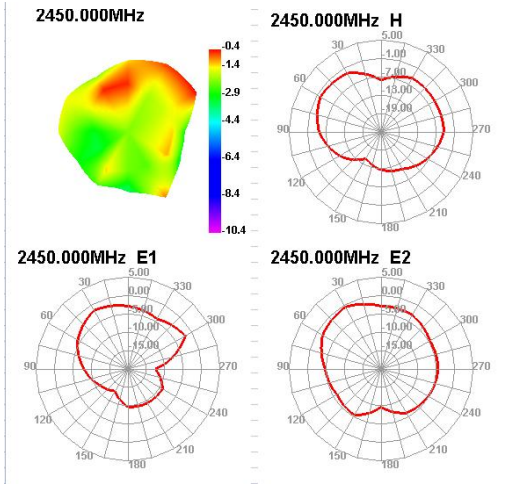
ANT1 GAIN&Efficiency-WIFI2.4G/BT

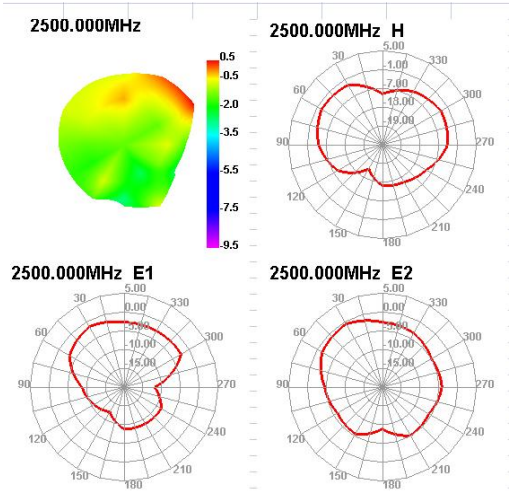
Passive Test For WIFI2.4						
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)
2400	40.06	-3.97	-0.17	-2.32	25.051	15.011
2410	37.52	-4.26	-0.65	-2.8	23.508	14.008
2420	39.68	-4.01	-0.47	-2.62	24.75	14.926
2430	40.02	-3.98	-0.52	-2.67	25.093	14.924
2440	39.43	-4.04	-0.47	-2.62	24.87	14.559
2450	38.58	-4.14	-0.39	-2.54	24.409	14.171
2460	38.9	-4.1	-0.06	-2.21	24.58	14.318
2470	40.59	-3.92	0.31	-1.84	25.643	14.948
2480	42.13	-3.75	0.57	-1.58	26.599	15.531
2490	42.88	-3.68	0.66	-1.49	26.972	15.911
2500	40.52	-3.92	0.46	-1.69	25.513	15.005

无源测试数据
Passive test data

ANT1 Direction of figure(2.4/BT)







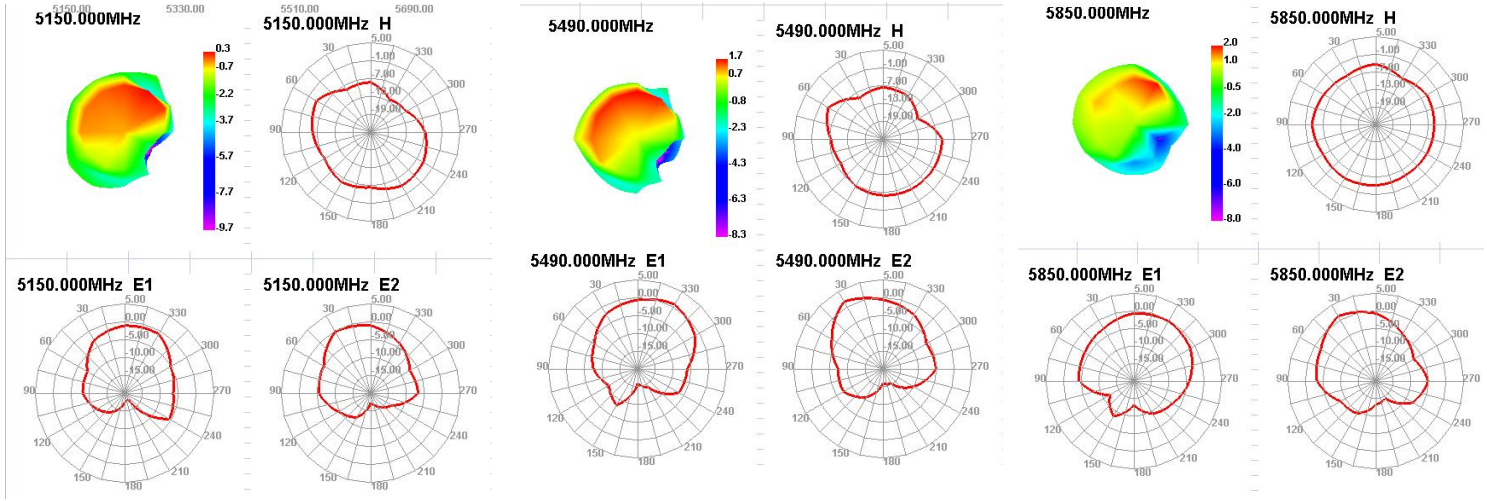
无源测试数据
Passive test data

ANT1 GAIN&Efficiency-WIFI5G

Passive Test For WIFI5G						
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)
5150	22.83	-6.41	0.29	-1.86	17.047	5.784
5170	24.42	-6.12	0.52	-1.63	18.373	6.049
5190	24.47	-6.11	0.39	-1.76	18.246	6.223
5210	28.91	-5.39	0.93	-1.22	21.506	7.402
5230	26.15	-5.82	0.46	-1.69	19.708	6.446
5250	30.3	-5.19	1.08	-1.07	23.142	7.159
5270	29.37	-5.32	0.82	-1.33	22.382	6.983
5290	31.76	-4.98	1.24	-0.91	23.941	7.818
5310	29.36	-5.32	0.93	-1.22	22.172	7.187
5330	29.46	-5.31	1.06	-1.09	22.561	6.894
5350	30.6	-5.14	1.26	-0.89	23.576	7.022
5370	29.3	-5.33	1.05	-1.1	22.234	7.067
5390	27.55	-5.6	0.83	-1.32	20.656	6.891
5410	31.54	-5.01	1.56	-0.59	23.889	7.649
5430	29.86	-5.25	1.56	-0.59	22.943	6.916
5450	30.89	-5.1	1.71	-0.44	23.703	7.19
5470	31.02	-5.08	1.64	-0.51	23.458	7.565
5490	30.15	-5.21	1.73	-0.42	22.803	7.346
5510	32.34	-4.9	2.13	-0.02	24.844	7.497
5530	31.58	-5.01	2.04	-0.11	24.362	7.217
5550	34.89	-4.57	2.46	0.31	26.711	8.182
5570	31.15	-5.07	1.85	-0.3	23.632	7.517
5590	32.68	-4.86	2.03	-0.12	24.906	7.771
5610	29.56	-5.29	1.68	-0.47	22.637	6.921
5630	31.69	-4.99	1.98	-0.17	24.226	7.466
5650	29.56	-5.29	1.72	-0.43	22.523	7.033
5670	29.35	-5.32	1.62	-0.53	22.378	6.975
5690	28.92	-5.39	1.69	-0.46	22.121	6.795
5710	26.27	-5.8	1.16	-0.99	19.983	6.291
5730	31.05	-5.08	1.95	-0.2	23.516	7.533
5750	26.26	-5.81	1.48	-0.67	19.817	6.445
5770	30.14	-5.21	2.19	0.04	22.826	7.31
5790	27.08	-5.67	1.67	-0.48	20.518	6.561
5810	30.41	-5.17	1.85	-0.3	22.955	7.45
5830	29.83	-5.25	1.57	-0.58	22.36	7.472
5850	33.83	-4.71	2.05	-0.1	25.277	8.549

无源测试数据
Passive test data

ANT1 Direction of figure(5G)



合作共赢