



深圳市星源创科技有限公司

SHENZHEN Xingyuanchuang TECHNOLOGY CO., LTD

天线测试报告

Antenna Test Report

TC: 英卡

MN: T60-PRO

RF: 戴进平

MD: 黄清清

MP: 19918388579

Address : Room 610-614, Building C, Jinsheng Fortune Plaza, Ma'anshan Community,
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Province,

Date: 2025. 6. 18.

REV :V1. 1



ANTENNA

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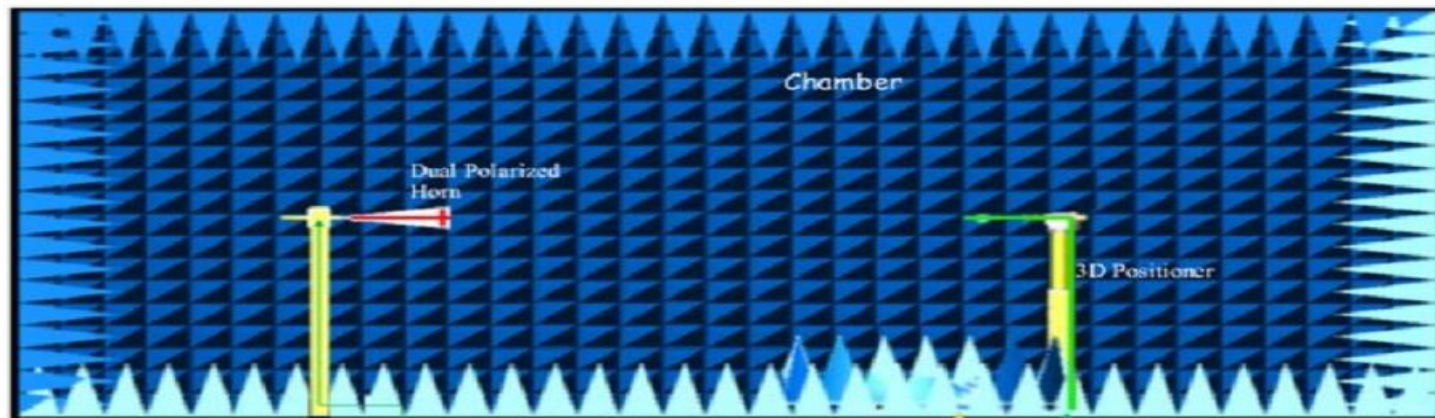
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测试信息

Test information

Antenna band		Antenna state	Antenna form	Match changes	Note
Main ANT	2G	FPC	PIFA	NO	
	3G				
	4G				
AUX ANT	BT/WIFI	2.4/5G	FPC	PIFA	NO
	GPS	1.575G	FPC	PIFA	NO
	DIV		FPC	PIFA	NO

OTA Chamber Overview

0.1~12.5Ghz
RF Switch BoxWireless
Communications
Test Set 1Wireless
Communications
Test Set 2Network
Analyzer

Standard	
Passive	Agilent HP8753/E5062/E5071
GSM	Agilent 8960
CDMA2000	Agilent 8960
WCDMA	Agilent 8960
TDSCDMA	Agilent 8960
LTE	RS CMW500
BT	RS CMU500/200
WIFI	Agilent N4010

RF Link

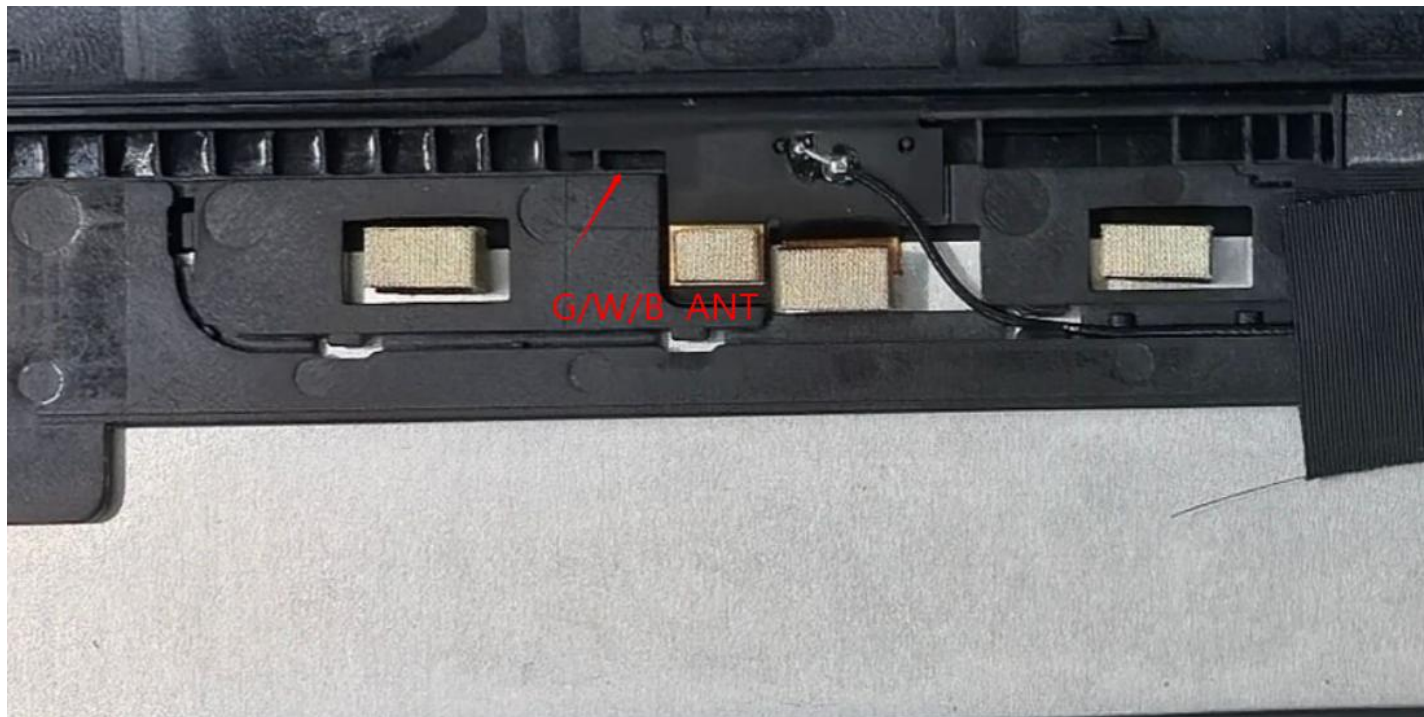
GPIB Link

Optical Link

Serial Link

天线位置

Antenna position



802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	13.74	CH1 11Mbps	-82.47
	2437	CH6 11Mbps	13.65	CH6 11Mbps	-83.38
	2467	CH11 11Mbps	14.68	CH11 11Mbps	-83.07
802.11g		TRP		TIS	
	2412	CH1 54Mbps	10.29	CH36 54Mbps	-70.08
	2437	CH6 54Mbps	10.03	CH60 54Mbps	-71.01
	2467	CH11 54Mbps	10.64	CH161 54Mbps	-70.93
802.11a		TRP		TIS	
	5180	CH36 54Mbps	10.52	CH36 54Mbps	-71.38
	5300	CH60 54Mbps	10.83	CH60 54Mbps	-72.86
	5805	CH161 54Mbps	10.75	CH161 54Mbps	-71.94
802.11g/n		TRP		TIS	
	2412	CH1 MCS7	10.15	CH1 MCS7	-64.82
	2437	CH6 MCS7	10.03	CH6 MCS7	-65.37
	2467	CH11 MCS7	10.23	CH11 MCS7	-65.58

GPS搜星测试 GPS star search test



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GPS冷启动实测效果以下：CN值40以上3+颗
CN值35以上5+颗
实际定位8+颗

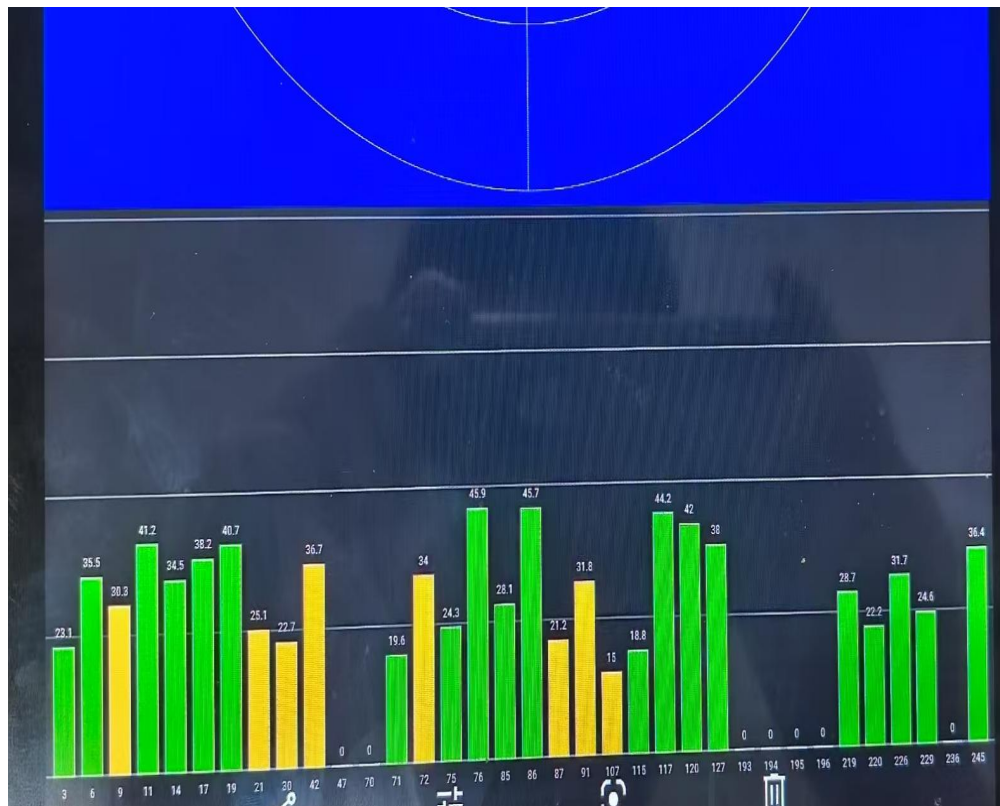
The actual test results of GPS cold start are as follows:

More than 3 satellites with CN value above 40
More than 5 satellites with CN value above 35
More than 8 satellites for actual positioning

备注：

GPS搜星测试。会因时间段及地域而存在差异。
以上数据为我司测试（空旷地带）最佳数据

Note: The GPS satellite search test results may vary depending on the time of day and location. The above data represents the best results obtained by our company in an open area.



环境处理

Environmental treatment



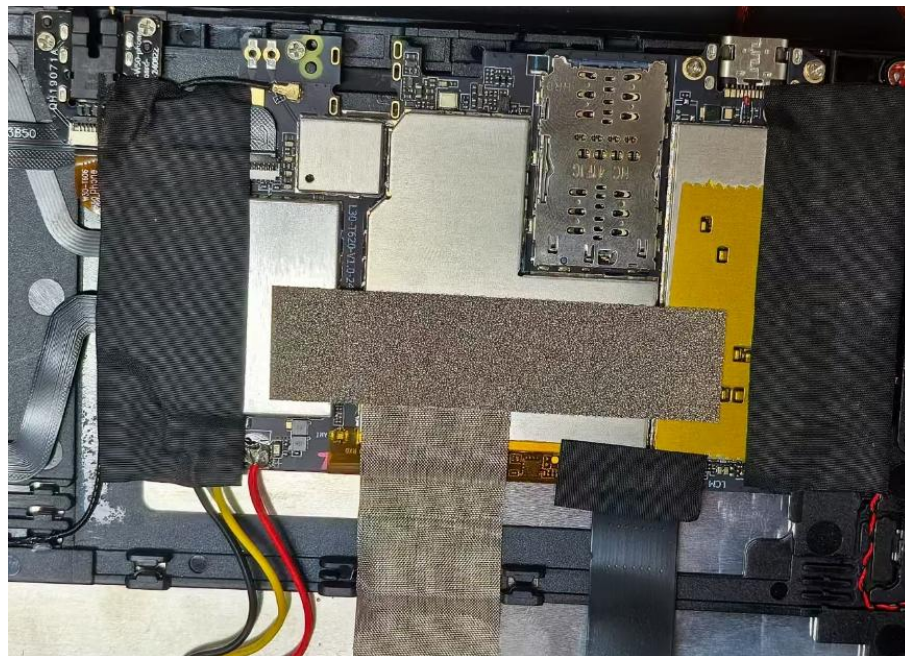
环境处理

Environmental treatment



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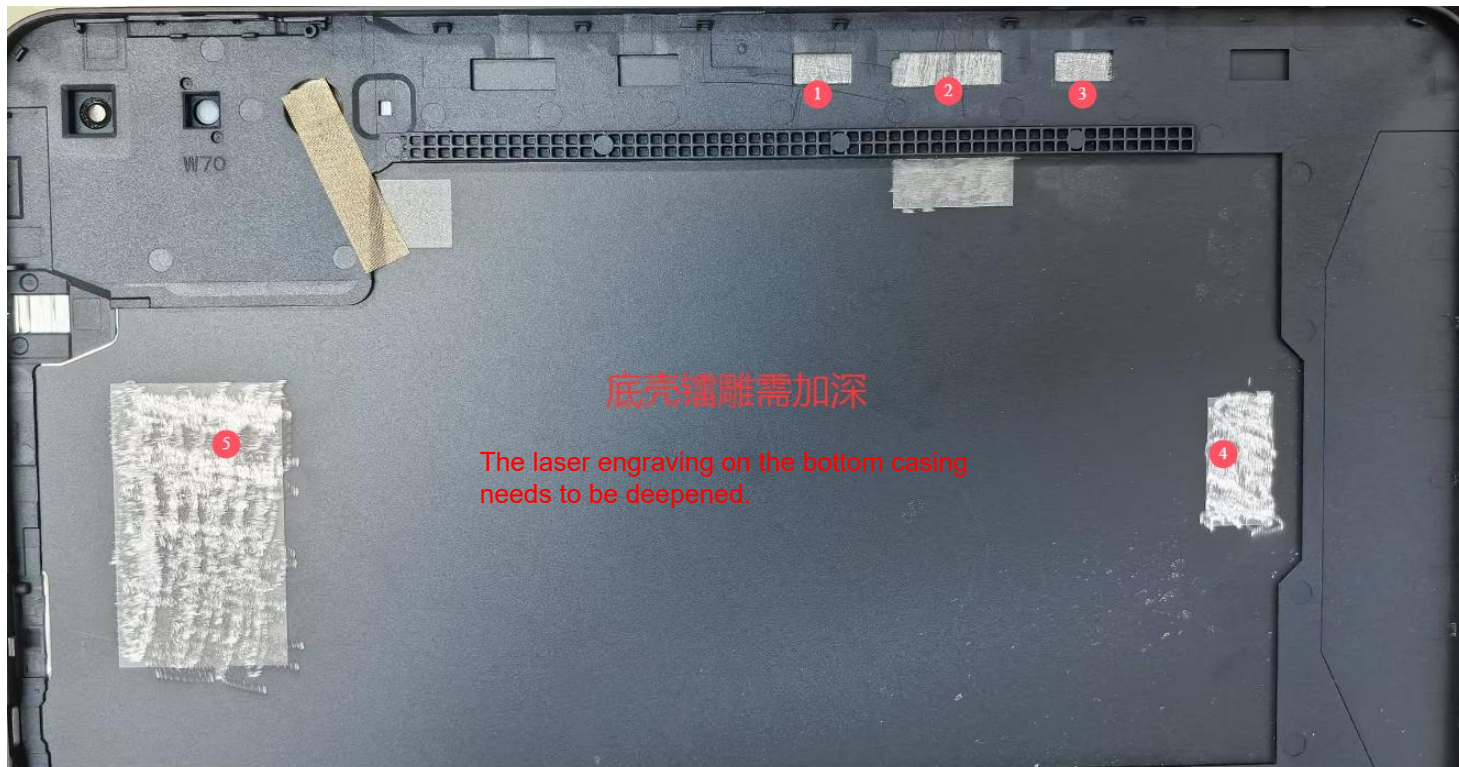
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环境处理

Environmental treatment





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Environmental treatment



此接地同时接天线、屏、B壳金属

This ground connection is simultaneously connected to the antenna, the screen, and the metal casing of the B-shell.

备注：接地泡棉宽度需作控制
太宽了容易顶到B壳上的塑胶面。

Note: The width of the grounding foam needs to be controlled.

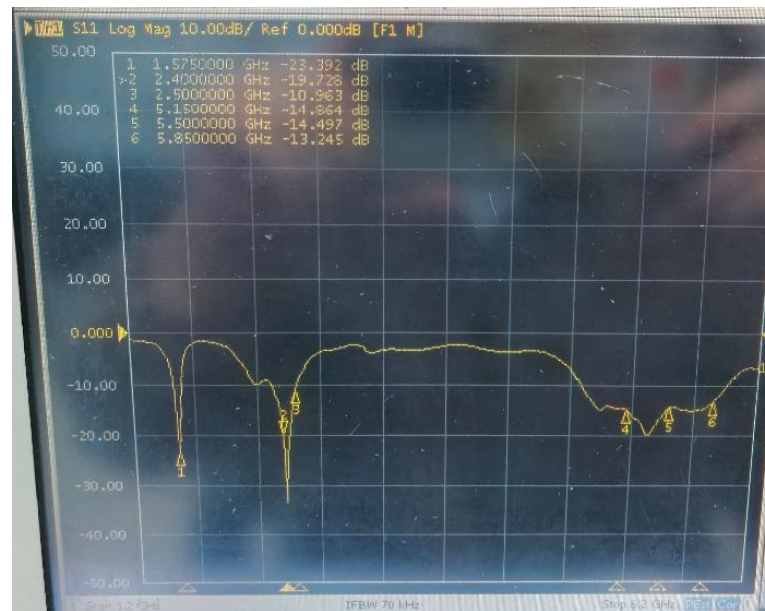
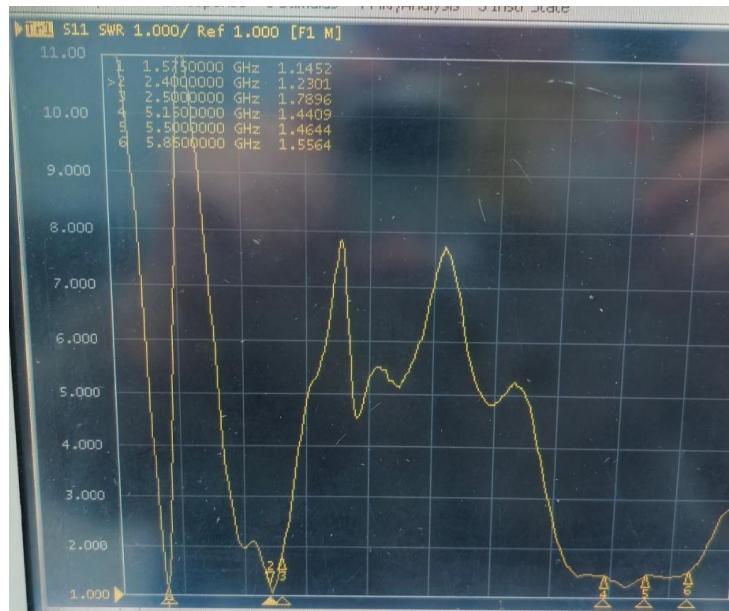
If it's too wide, it can easily come into contact with the plastic surface of the B-shell.



无源测试数据

Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	1575	2400	2500	5150	5500	5850
VSWR	1.14	1.23	1.78	1.44	1.46	1.55
Return Loss (DB)	-23.39	-19.73	-10.96	-14.86	-14.49	-13.24



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无源测试数据

Passive test data

ANT GAIN&Efficiency-GPS

Passive Test For GPS												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
1560	33.44	-4.76	-0.22	-2.37	17.487	15.949	-0.22	-28.49	4.53	0	41.34	40.88
1565	33.62	-4.73	0.01	-2.14	17.632	15.985	0.01	-30.34	4.75	0	41.42	40.95
1570	32.32	-4.91	-0.02	-2.17	16.909	15.41	-0.02	-29.73	4.89	0	41.5	41.03
1575	30.81	-5.11	-0.16	-2.31	16.183	14.625	-0.16	-28.53	4.96	0	41.68	41.23
1580	30.06	-5.22	-0.21	-2.36	15.834	14.226	-0.21	-26.35	5.01	30	41.78	41.35
1585	30.1	-5.21	-0.18	-2.33	15.89	14.208	-0.18	-25.43	5.03	30	41.85	41.4
1590	30.64	-5.14	-0.11	-2.26	16.168	14.472	-0.11	-23.72	5.03	30	41.99	41.53
1595	31.83	-4.97	0	-2.15	16.823	15.011	0	-22.69	4.97	30	42.09	41.67
1600	31.51	-5.02	-0.05	-2.2	16.7	14.813	-0.05	-23.14	4.97	30	42.04	41.62



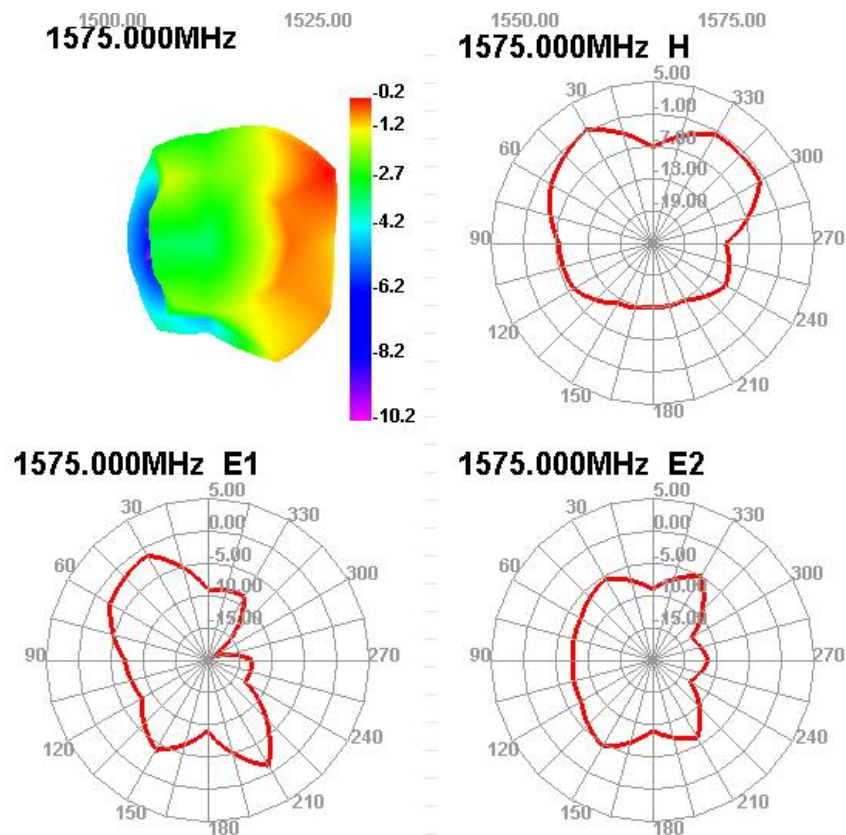
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无源测试数据
Passive test data

ANT Direction of figure(GPS)





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无源测试数据

Passive test data

ANT1 GAIN&Efficiency-WIFI2.4&BT

Passive Test For WIFI2.4												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	34.63	-4.61	0.13	-2.02	17.139	17.49	0.13	-11.54	4.73	30	45.78	46.01
2410	34.12	-4.67	0.01	-2.14	16.972	17.148	0.01	-12.32	4.68	30	46.01	46.29
2420	34.56	-4.61	-0.07	-2.22	17.436	17.127	-0.07	-12.99	4.55	30	45.73	46
2430	32.2	-4.92	-0.39	-2.54	16.503	15.701	-0.39	-13.46	4.53	30	46.01	46.36
2440	31.67	-4.99	-0.45	-2.6	16.342	15.329	-0.45	-13.29	4.54	30	46.12	46.48
2450	34.1	-4.67	-0.31	-2.46	17.488	16.612	-0.31	-12.53	4.36	30	46.12	46.54
2460	38.04	-4.2	-0.06	-2.21	19.146	18.894	-0.06	-11.45	4.14	30	46.14	46.52
2470	35.29	-4.52	-0.11	-2.26	17.381	17.914	-0.11	-10.81	4.41	30	46.4	46.8
2480	34.63	-4.61	-0.18	-2.33	16.869	17.758	-0.18	-9.86	4.42	30	46.26	46.64
2490	36.21	-4.41	0.06	-2.09	17.41	18.8	0.06	-9.07	4.47	30	46.51	46.91
2500	39.18	-4.07	0.12	-2.03	18.742	20.434	0.12	-9.44	4.19	30	46.47	46.86



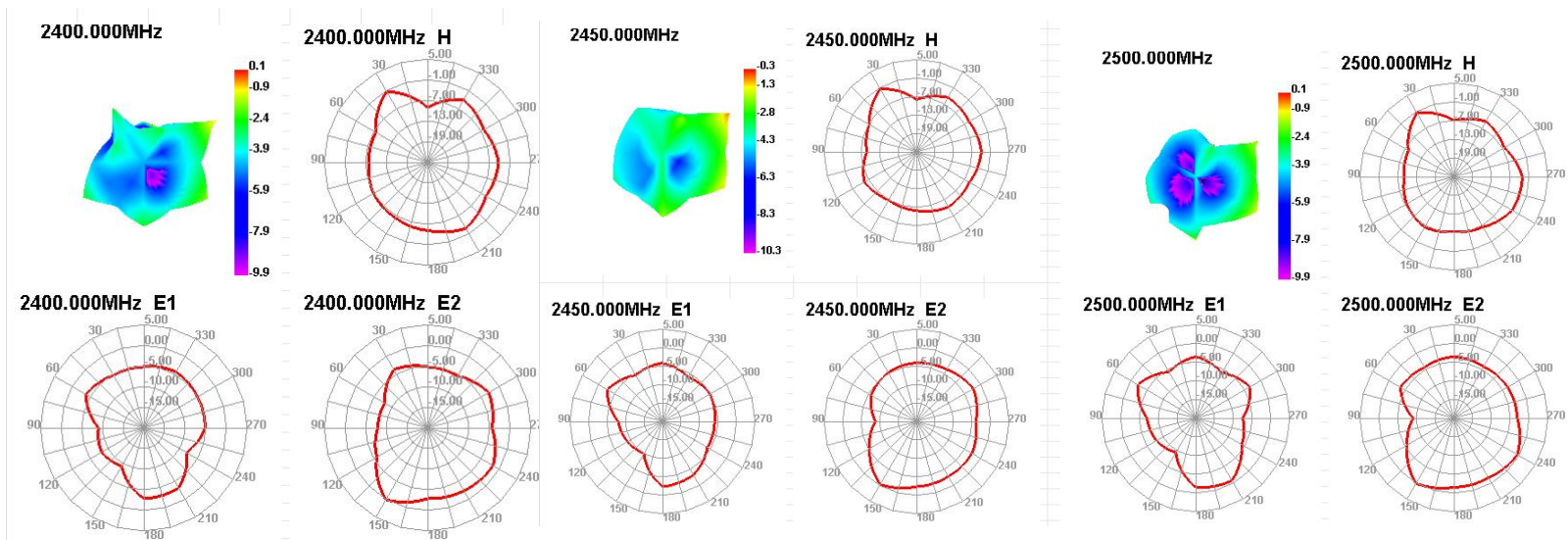
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无源测试数据
Passive test data

ANT1 Direction of figure(2. 4&BT)





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无源测试数据

Passive test data

ANT1 GAIN&Efficiency-WIFI 5G

Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	34.82	-4.58	1.03	-1.12	12.273	22.551	1.03	-17.44	5.61	60	49.82	49.4
5170	33.99	-4.69	0.98	-1.17	12.095	21.896	0.98	-17.84	5.66	60	50.13	49.77
5190	38.1	-4.19	1.55	-0.6	14.11	23.994	1.55	-17.52	5.75	60	50.42	49.95
5210	38.51	-4.14	1.76	-0.39	14.753	23.755	1.76	-19.69	5.9	60	50.88	50.49
5230	36.5	-4.38	1.54	-0.61	14.172	22.332	1.54	-21.88	5.91	60	50.42	50.08
5250	44.71	-3.5	2.15	0	17.556	27.151	2.15	-20.81	5.64	60	51.02	50.72
5270	41.49	-3.82	1.82	-0.33	16.652	24.835	1.82	-18.32	5.64	60	50.85	50.6
5290	51.55	-2.88	2.96	0.81	21.028	30.519	2.96	-15.79	5.84	60	51.34	51.12
5310	41.49	-3.82	1.81	-0.34	16.846	24.648	1.81	-15.28	5.63	60	50.44	50.36
5330	41.89	-3.78	1.61	-0.54	16.855	25.033	1.61	-16.38	5.39	60	51.08	51.01
5350	43.38	-3.63	1.97	-0.18	17.672	25.707	1.97	-19.05	5.6	60	51.02	51.01
5370	41.78	-3.79	2.03	-0.12	17.033	24.75	2.03	-16.62	5.82	60	50.91	50.95
5390	39.93	-3.99	1.52	-0.63	15.858	24.073	1.52	-16.04	5.51	60	50.46	50.43
5410	44.24	-3.54	1.94	-0.21	17.172	27.063	1.94	-15.43	5.48	60	51.18	51.09
5430	43.17	-3.65	2.09	-0.06	16.719	26.448	2.09	-17.16	5.74	30	50.69	50.7
5450	45.57	-3.41	2.67	0.52	17.798	27.771	2.67	-16.54	6.09	30	50.71	50.85
5470	44.98	-3.47	2.48	0.33	17.422	27.559	2.48	-16.57	5.95	30	50.93	50.83
5490	43.26	-3.64	2.15	0	16.549	26.714	2.15	-18.6	5.79	30	50.92	50.79
5510	44.27	-3.54	2.63	0.48	17.127	27.143	2.63	-20.78	6.17	30	51.18	51.16
5530	43.08	-3.66	2.72	0.57	16.933	26.142	2.72	-18.53	6.38	30	51.44	51.3
5550	45.53	-3.42	2.82	0.67	18.043	27.485	2.82	-16.77	6.24	60	51.89	51.76
5570	43.29	-3.64	2.25	0.1	17.102	26.187	2.25	-16.75	5.88	90	51.42	51.33
5590	39.63	-4.02	1.78	-0.37	15.762	23.866	1.78	-17.66	5.8	90	51.71	51.76
5610	40.33	-3.94	2.06	-0.09	16.409	23.923	2.06	-17.73	6.01	90	51.17	51.22
5630	34.17	-4.66	1.3	-0.85	14.111	20.063	1.3	-17.36	5.96	90	51.78	51.77
5650	44.35	-3.53	1.98	-0.17	18.176	26.172	1.98	-15.48	5.52	120	51.47	51.55
5670	40.86	-3.89	1.59	-0.56	16.631	24.227	1.59	-15.41	5.48	90	52.12	52.28
5690	45.16	-3.45	2.14	-0.01	18.401	26.759	2.14	-15.1	5.59	90	52.12	52.25
5710	43.79	-3.59	1.89	-0.26	17.823	25.963	1.89	-16.79	5.47	90	51.95	52.05
5730	47.93	-3.19	1.91	-0.24	19.506	28.427	1.91	-15.9	5.1	90	51.59	51.69
5750	41.48	-3.82	1.08	-1.07	16.925	24.557	1.08	-16.75	4.9	90	51.12	51.15
5770	45.52	-3.42	1.96	-0.19	18.548	26.974	1.96	-17.56	5.37	90	51.02	51.06
5790	39.61	-4.02	1.89	-0.26	16.123	23.482	1.89	-16.6	5.92	30	51.08	51.16
5810	42.26	-3.74	2.71	0.56	17.136	25.128	2.71	-16.29	6.45	0	51.36	51.43
5830	39.77	-4	3.09	0.94	16.118	23.65	3.09	-18.67	7.1	0	51.65	51.66
5850	42.5	-3.72	3.64	1.49	17.04	25.459	3.64	-17.92	7.36	30	51.88	52.05



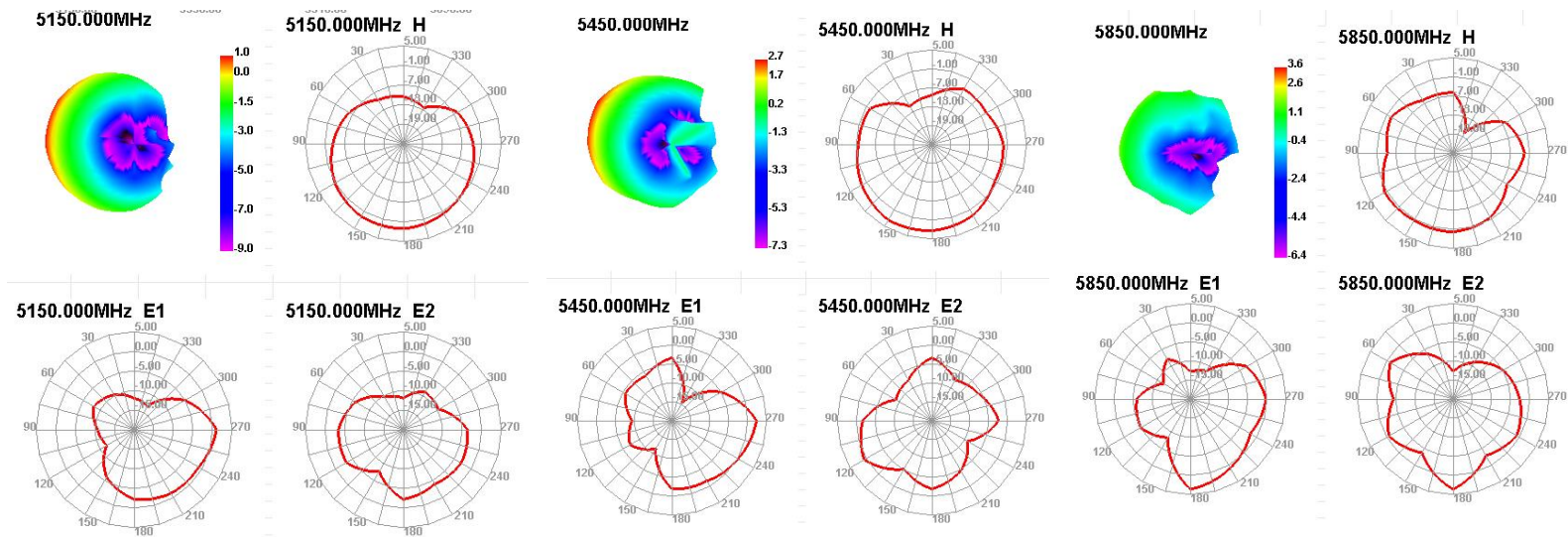
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无源测试数据
Passive test data

ANT1 Direction of figure(5G)



附加说明

Additional instructions



此处建议塑胶开孔，天线接地直接接到金属壳上，可省掉电池盖上的导电布，目前结构拉导电布接底壳的接地位离天线太远，有偶合杂波无法消除

It is recommended to make a plastic opening here, and connect the antenna ground directly to the metal casing. This will eliminate the need for conductive fabric on the battery cover. Currently, the connection point of the conductive fabric to the bottom casing is too far from the antenna, resulting in coupled noise that cannot be eliminated.



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附加说明

Additional instructions



合作共赢

