



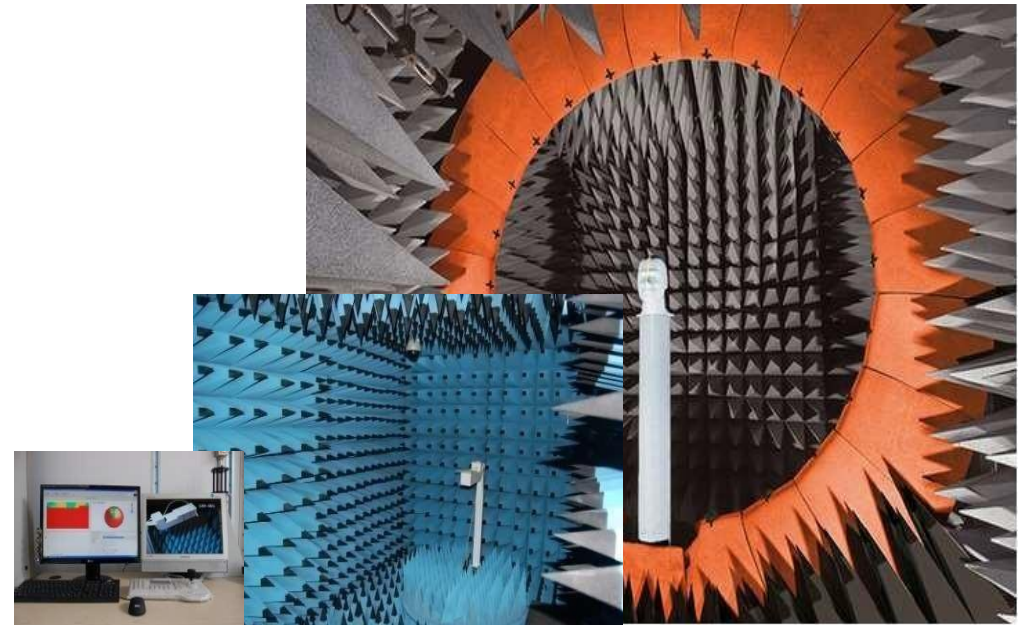
Antenna Testing Report

Model Name:T0922

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Project Information

Sample status					Product type			
Antenna overview								
	Frequency		Structural style	Type	Location	Matching modification	Antenna version	
Main antenna	2G	GSM850/900/1800/1900	FPC			no	sample	
	3G	WCDMA1/2/4/5/8						
	4G	B1/2/3/4/5/7/8/12/17/20/28/38/40/ 41						
Other antennas	WIFI	GPS+2.4G+5G	FPC			no	sample	
	DIV	B1/2/3/4/5/7/8/20/28/38/40/41	FPC			no	sample	
Environment adjustment				NO				

Report Version and Remarks

Version	Report date	Remark
A0	October 23, 2023	Active test data
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		
A10		
A11		

Company Profile and Test Environment

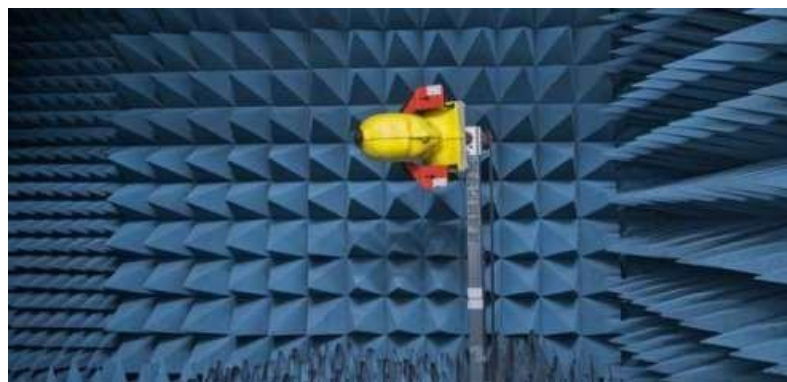
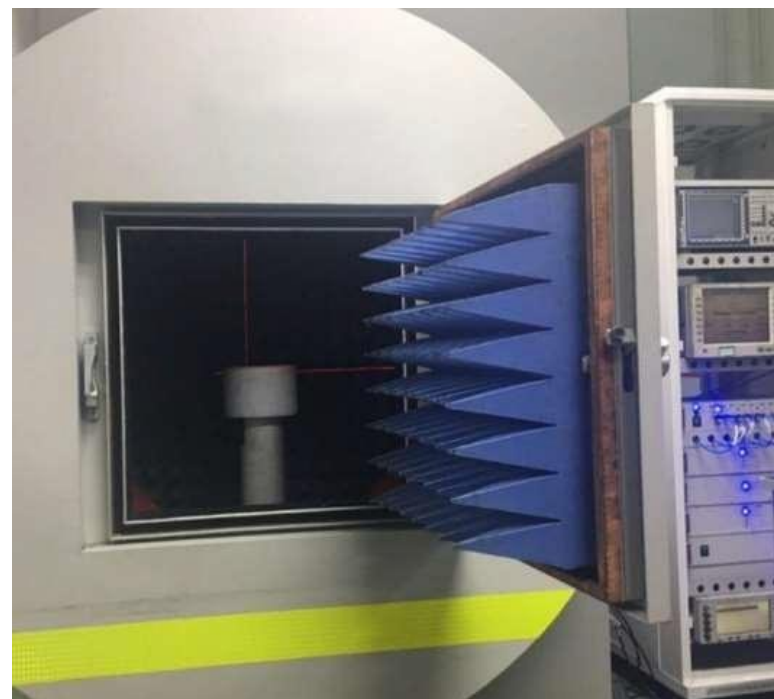


Sunnyway Technology (China) Co., Ltd. (hereafter referred to as Sunnyway) was founded in 2009. The brand operation center is located in Shanghai (Shanghai Shouyuan Communication Technology Co., Ltd.), Shanghai, Shenzhen, Taiwan all have R&D bases and **8 OTA Chambers** which are dedicated to provide antenna's R&D, design, production, and sales services for Internet of Things/cell phones to domestic and foreign users. Sunnyway is gradually becoming the first brand of the Internet of Things antenna industry.

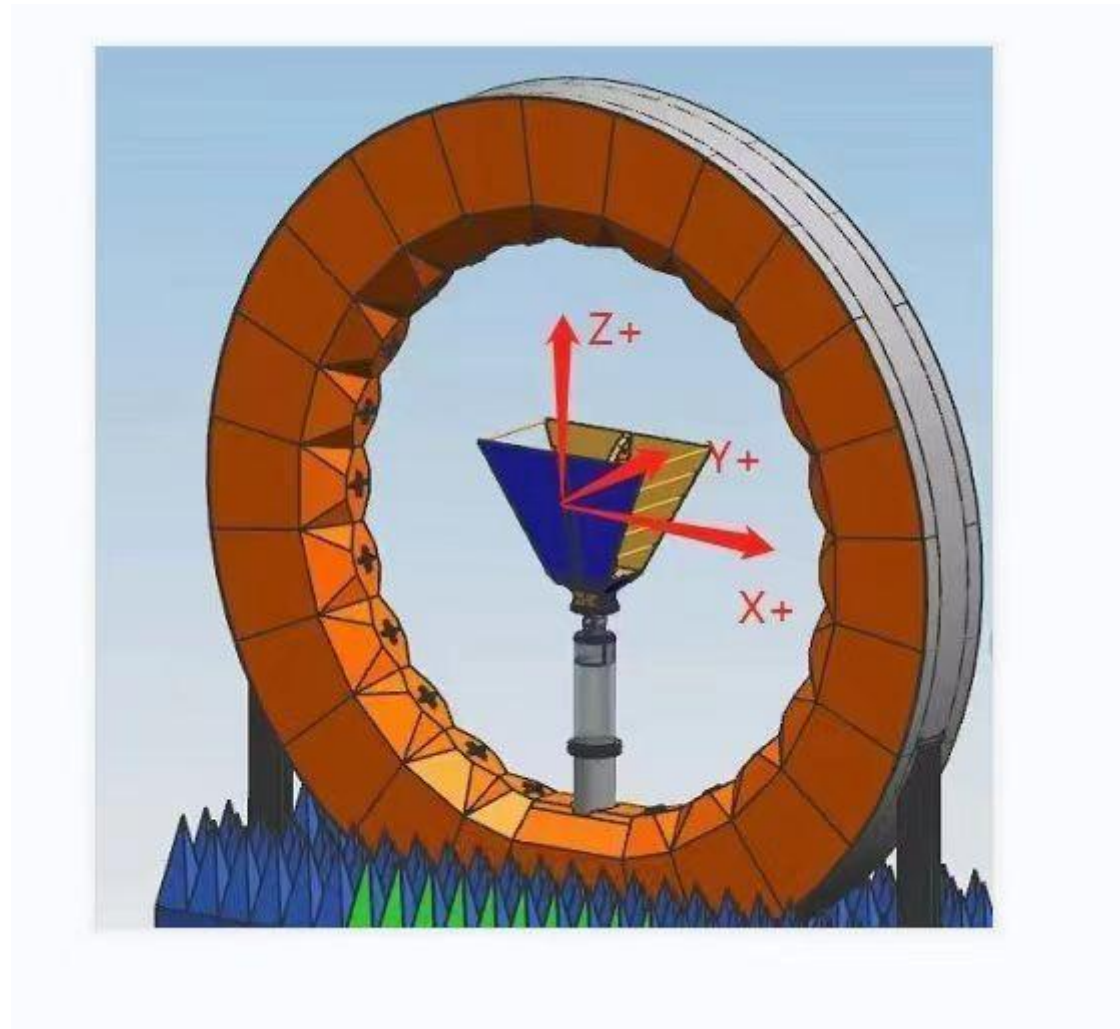
Sunnyway Technology R&D and sales products are mainly used in consumer electronics products such as smart phones/tablets/notebooks/smart wear, etc., and are deeply involved in the field of Internet of Things products, and are gradually expanding to smart cities (smart water meters/smart covers, etc.). Smart traffic (smart car lock/smart parking/4G cloud rearview mirror, etc.), smart home (smart door lock/smart lamp), security protection (smart monitor/smart alarm), smart medical, stuff tracking, industrial control (equipment monitoring, production Monitoring, etc.,) help the intelligent development of the Internet of Things.

Sunnyway Technology, a senior IoT antenna expert nearby you.

Sunnyway has a number of OTA chambers, the frequency range covers 400MHz~8.5GHz, can provide complete machine OTA test (TRP/TIS), WIFI active test (supports 11b/11g/11n mode test items), Bluetooth/GPS active test items, can provide antenna gain and efficiency, 2D pattern / Apple map analysis and upper and lower hemisphere efficiency values, mutual interference correlation coefficient test items.

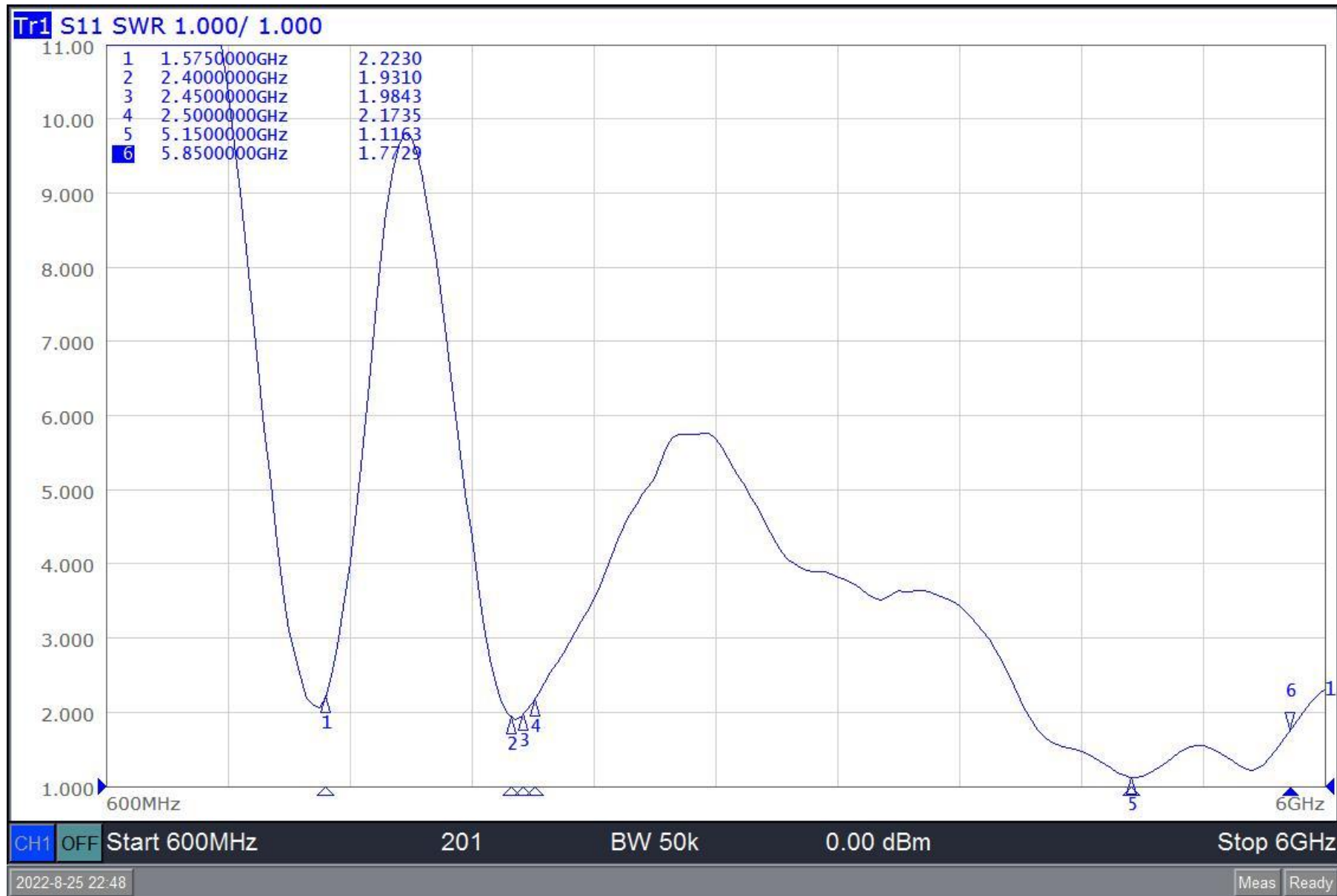


Schematic diagram of darkroom coordinate system



Efficiency test

Three in one antenna S11



Three in one antenna efficiency

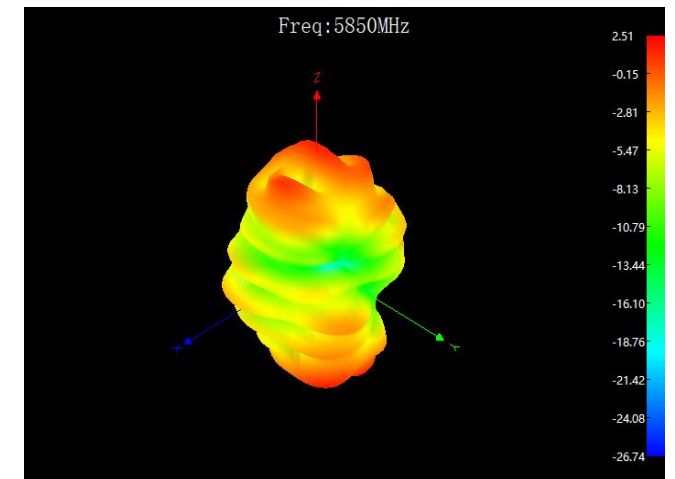
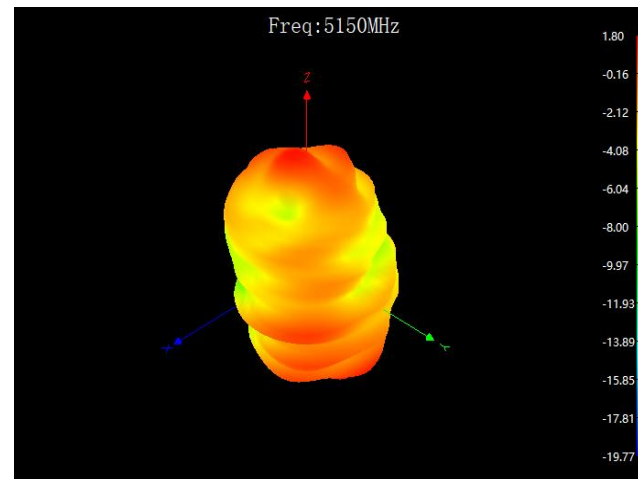
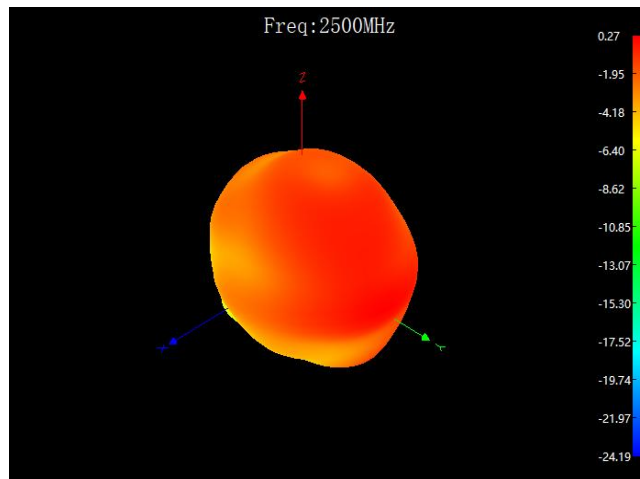
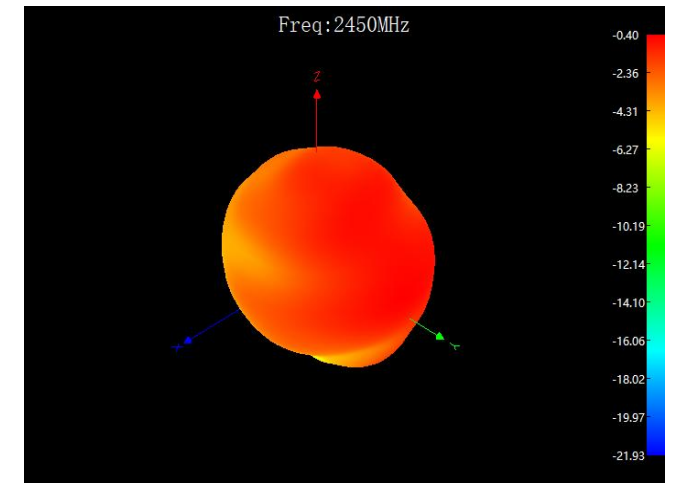
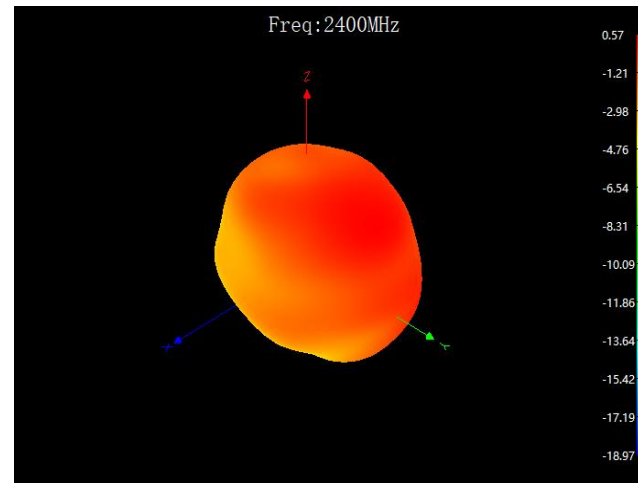
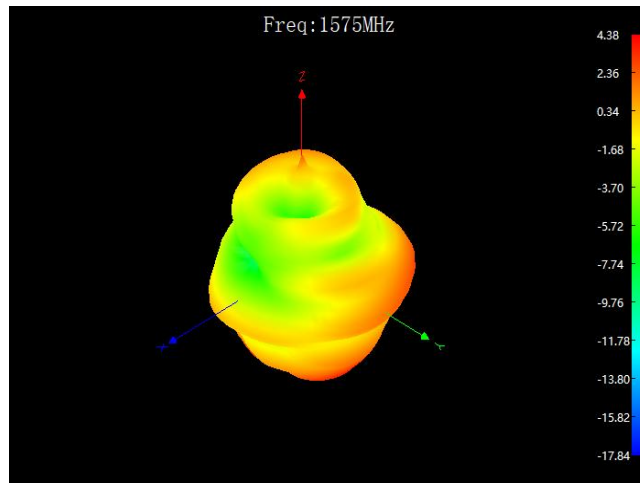
2.4G		
Frequency/Mhz	Gain(dBi)	Efficiency/%
2400	-4.92	32.21
2410	-4.83	32.89
2420	-4.67	34.12
2430	-4.78	33.27
2440	-4.76	33.42
2450	-4.66	34.2
2460	-4.93	32.14
2470	-4.76	33.42
2480	-4.69	33.96
2490	-4.83	32.89
2500	-4.64	34.36

GPS		
Frequency/Mhz	Gain(dBi)	Efficiency/%
1550	-3.69	42.76
1555	-3.56	44.06
1560	-3.48	44.87
1565	-3.34	46.34
1570	-3.26	47.21
1575	-3.14	48.53
1580	-3.22	47.64
1585	-3.39	45.81
1590	-3.54	44.26
1595	-3.71	42.56
1600	-3.86	41.11
1605	-3.99	39.9

5G		
Frequency/Mhz	Gain(dBi)	Efficiency/%
5150	-4.16	38.37
5170	-4.02	39.63
5190	-4.05	39.36
5210	-4.26	37.5
5230	-4.15	38.46
5250	-4.29	37.24
5270	-4.54	35.16
5290	-4.49	35.56
5310	-4.59	34.75
5330	-4.87	32.58
5350	-4.65	34.28
5370	-4.58	34.83
5390	-4.88	32.51
5410	-4.78	33.27
5430	-4.68	34.04
5450	-5.09	30.97
5470	-5.05	31.26
5490	-4.98	31.77
5510	-5.06	31.19
5530	-4.97	31.84
5550	-4.94	32.06
5570	-5.01	31.55
5590	-5.02	31.48
5610	-4.86	32.66
5630	-5.18	30.34
5650	-5.12	30.76
5670	-5.11	30.83
5690	-5.3	29.51
5710	-5.16	30.48
5730	-4.96	31.92
5750	-5.14	30.62
5770	-5.07	31.12
5790	-4.98	31.77
5810	-5.3	29.51
5830	-5.01	31.55
5850	-4.63	34.43

3D Etotal

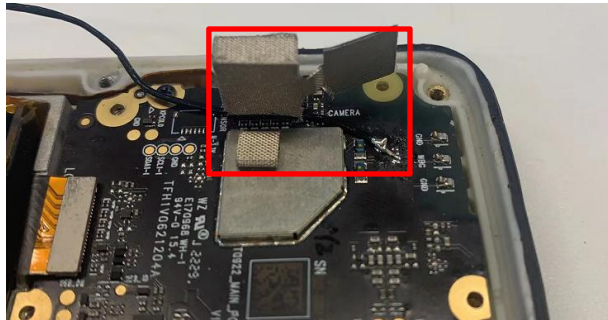
Three in one antenna 1575MHz 2400MHz 2500MHz



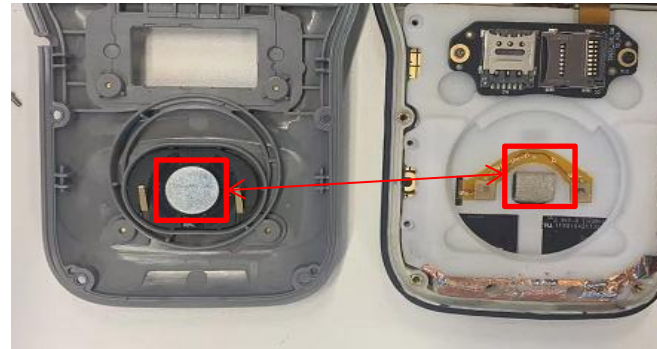
WiFi test data

亮屏					
制式	频段	信道	频率	测试数据	
				TRP	TIS
WiFi	802.11b (11Mbps)	1	2412	13.44	
		6	2442	14.03	
		11	2472	13.48	-83.33
	802.11a (54Mbps)	36	5180	12.38	
		64	5320	12.3	
		165	5825	11.72	-71.02
	频段	频率		测试数据	
GPS捕获灵敏度	GPS	1575.4		-147.31	

Environmental treatment:



The camera is encased and grounded with the shield



The horn and the lower motherboard do ground handling



The upper motherboard is grounded to the metal frame



Screen and metal frame do grounding treatment

