天线测试报告
Test report

无源驻波及匹配（Passive and Matching）

无源测试示意图 (Diagram of passive testing)

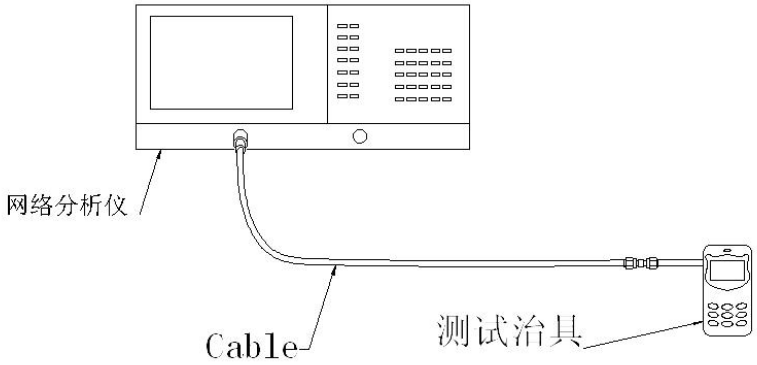
S11测试方法说明(Description of Test method)

测试设备：(Test equipment)

网络分析仪(E5071C 30k-8.5Ghz)测试方法：
(Network analyzer (E5071C 30k-8.5Ghz) test method)

用一根50欧姆CABLE电缆从仪器测试端口导出，使用校准件校准后连接样机制具的SMA接头，记录相关频点对应的回波损耗和驻波比。

A 50 ohm CABLE was exported from the instrument's test port, and the SMA connector of the sample mechanism was used to record the return loss and standing wave ratio corresponding to the relevant frequency points.



有源测试示意图(Active test diagram)

3D测试系统: 屏蔽暗室
测试环境: 温度 22℃±3℃，湿度 50%±15%
测试设备: 测试无源数据时，使用网络分析仪 Agilent E5071C
测试有源数据时，使用综测仪8960/CMW500

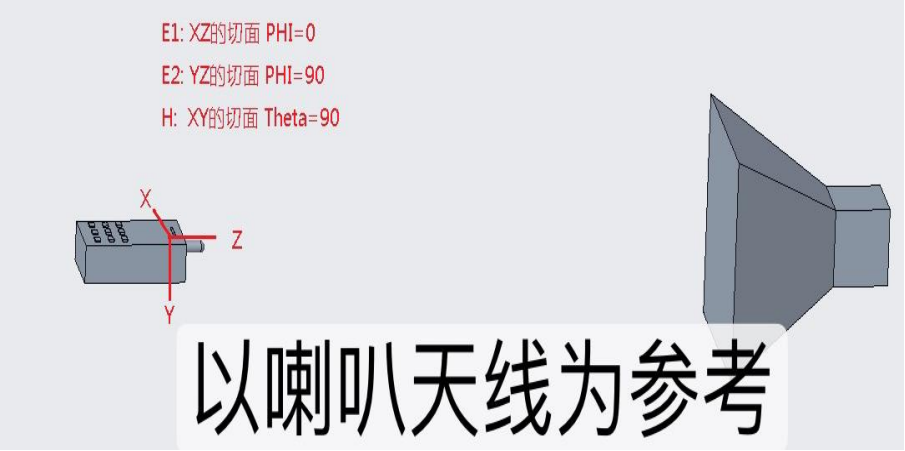
3D test system: shielded darkroom
Test environment: temperature 22℃±3℃, humidity 50%±15%
Test equipment: When testing passive data, use the network analyzer Agilent E5071C
When testing active data, use synthesizer 8960/CMW500

总全向辐射功率（TIRP）

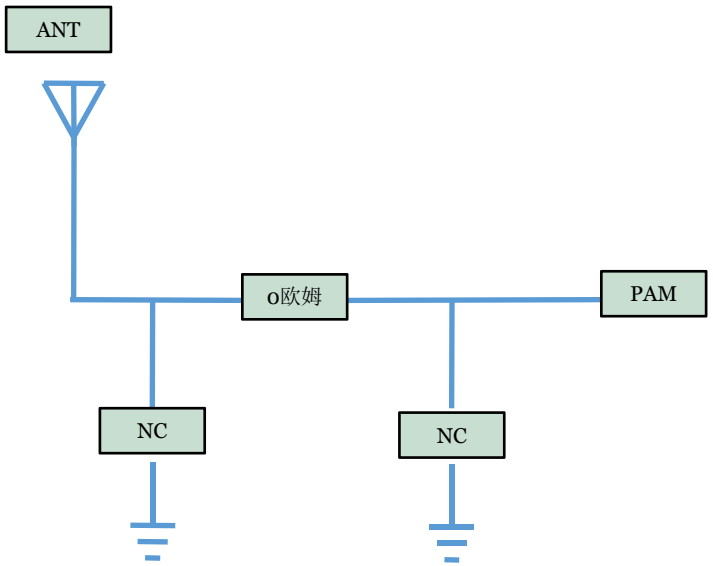
$$TIRP \cong \frac{\pi}{2NM}\sum_{i=1}^{N-1}\sum_{j=0}^{M-1}\left[Eirp_{\theta}(\theta_i,\phi_j)+Eirp_{\phi}(\theta_i,\phi_j)\right]\sin(\theta_i)$$

总全向辐射灵敏度（TIRS）

$$TIRS \cong \frac{2NM}{\pi\sum_{i=1}^{N-1}\sum_{j=0}^{M-1}\left[\frac{1}{EIS_{\theta}(\theta_i,\phi_j)}+\frac{1}{EIS_{\phi}(\theta_i,\phi_j)}\right]\sin(\theta_i)}$$



天线匹配（Matching Circuit）



主板匹配没有做更改。

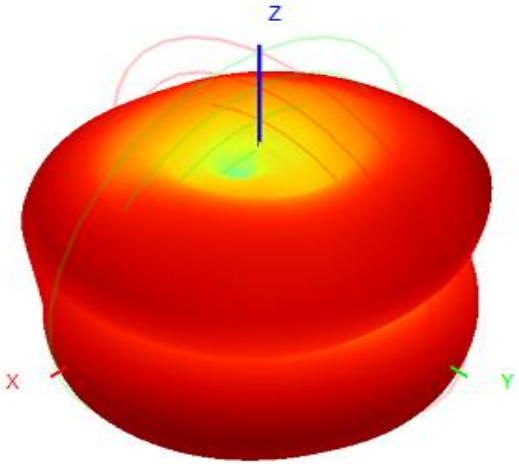
Motherboard matching has not been changed.

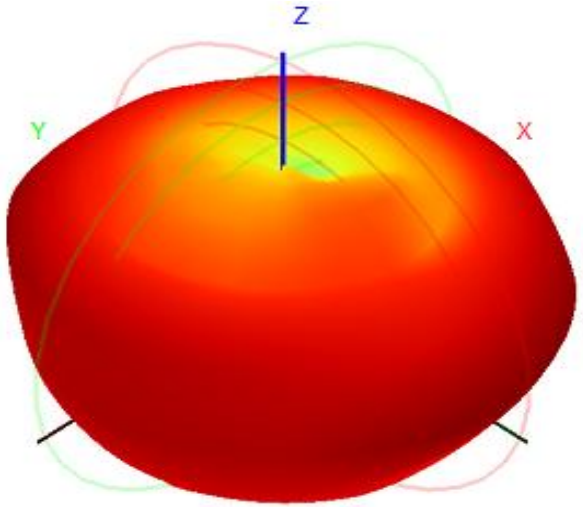
注：原串0欧姆，从天线-----串0欧姆电阻 -----PA

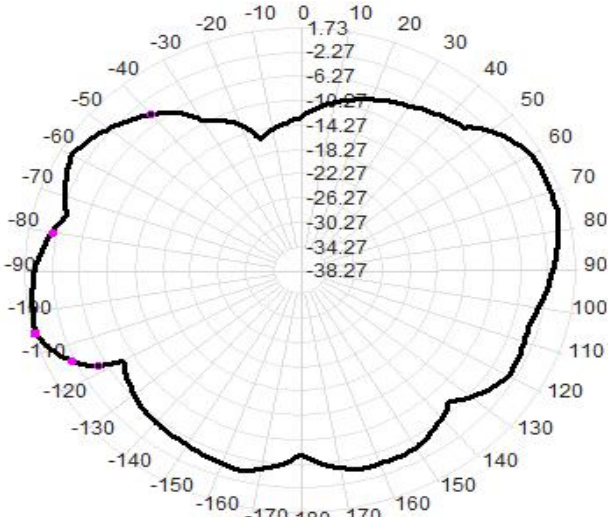
天线有源测试数据(Antenna active test data)

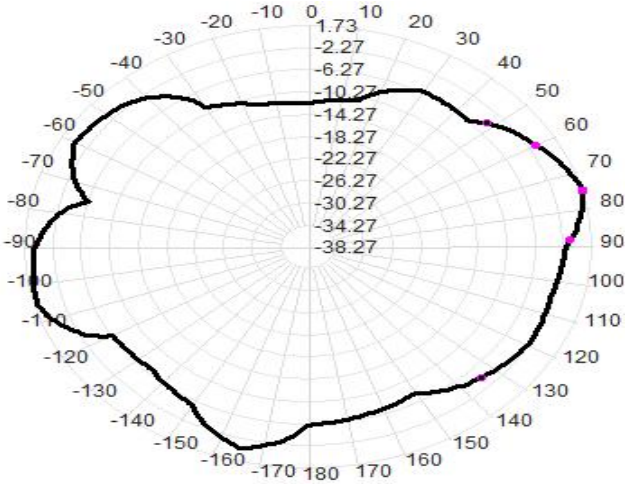
测试数据： Test data		
WIFI 2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	40.5	1.27
2410	41.3	1.30
2420	45.6	1.25
2430	44.6	1.34
2440	46.3	1.25
2450	47.8	1.35
2460	48.6	1.01
2470	44.5	1.09
2480	45.6	1.51
2490	46.1	1.23
2500	41.5	1.14

2.4G无源(2.4G passive)





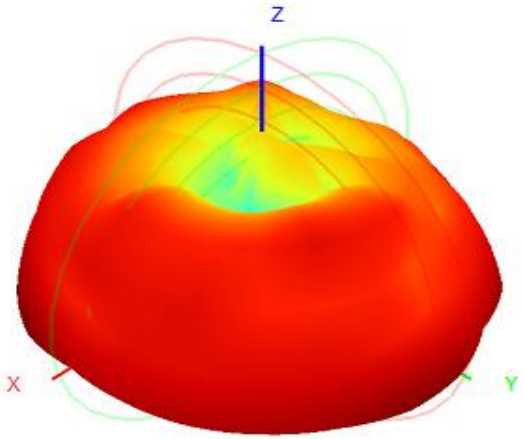


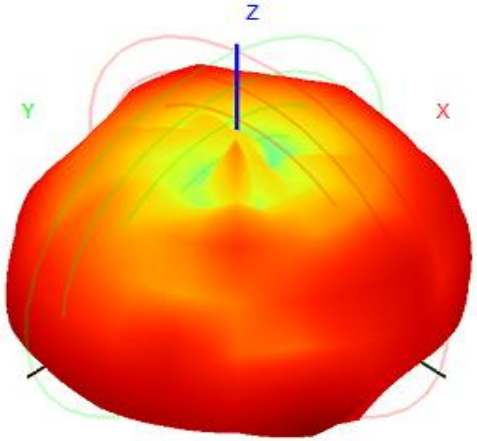


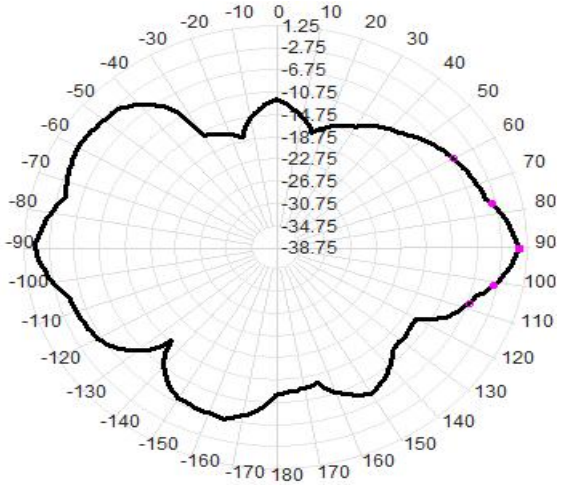
天线有源测试数据(Antenna active test data)

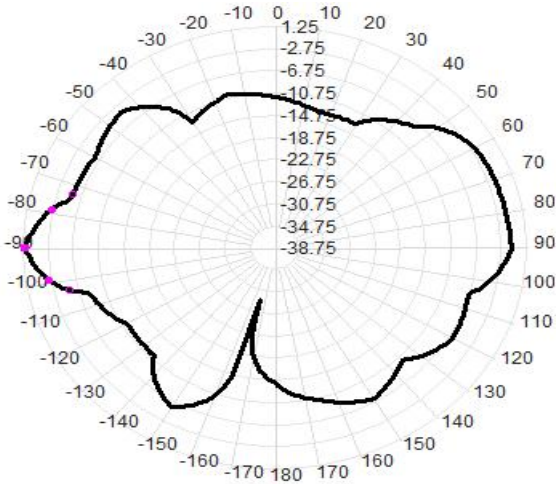
测试数据： Test data:		
WIFI 5.8G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
5100	50.5	0.98
5200	51.6	0.99
5300	48.6	1.24
5400	49.3	1.05
5500	47.5	1.30
5600	45.3	1.24
5700	43.8	1.14
5800	45.1	1.08
5900	44.2	1.09

5.8G无源(5.8G Passive)

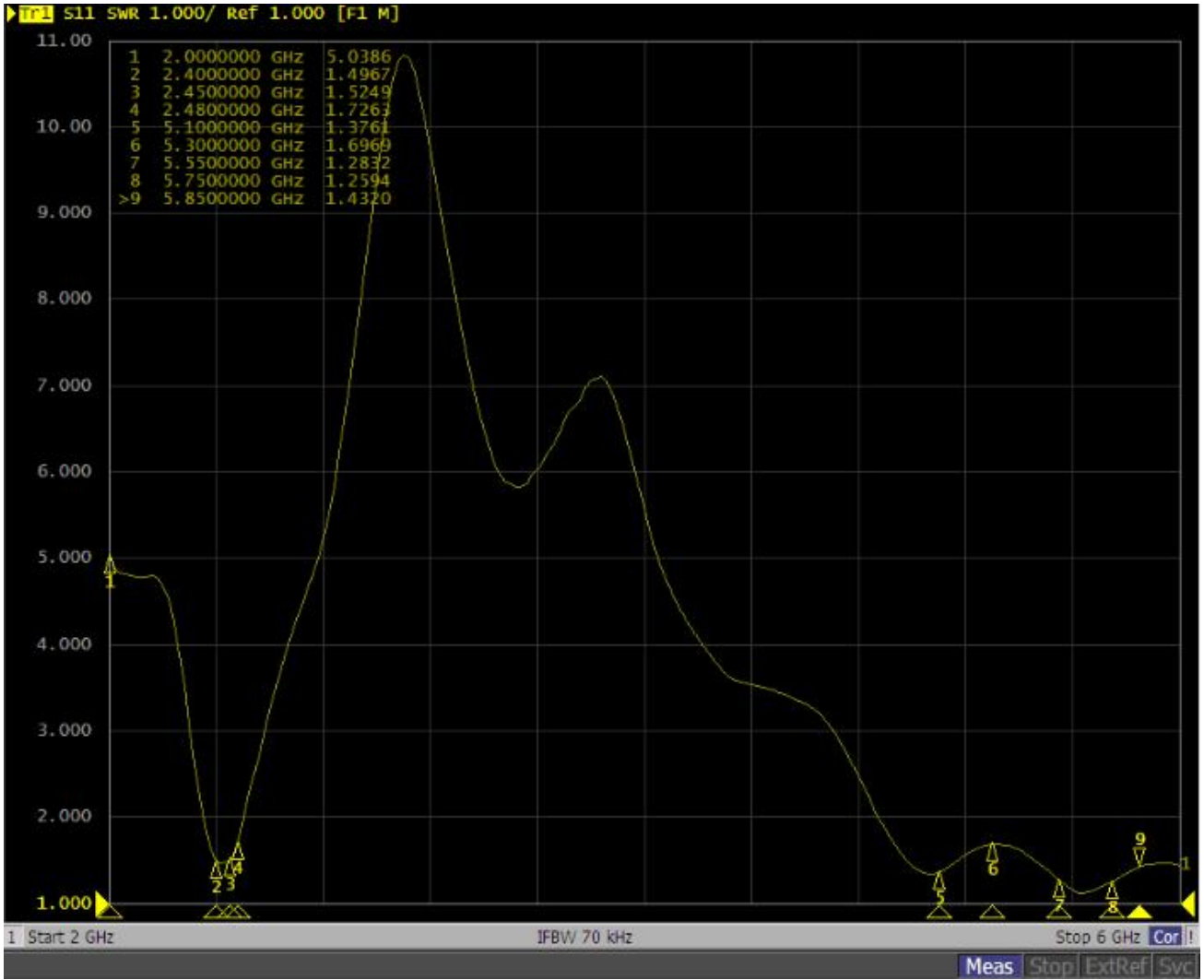
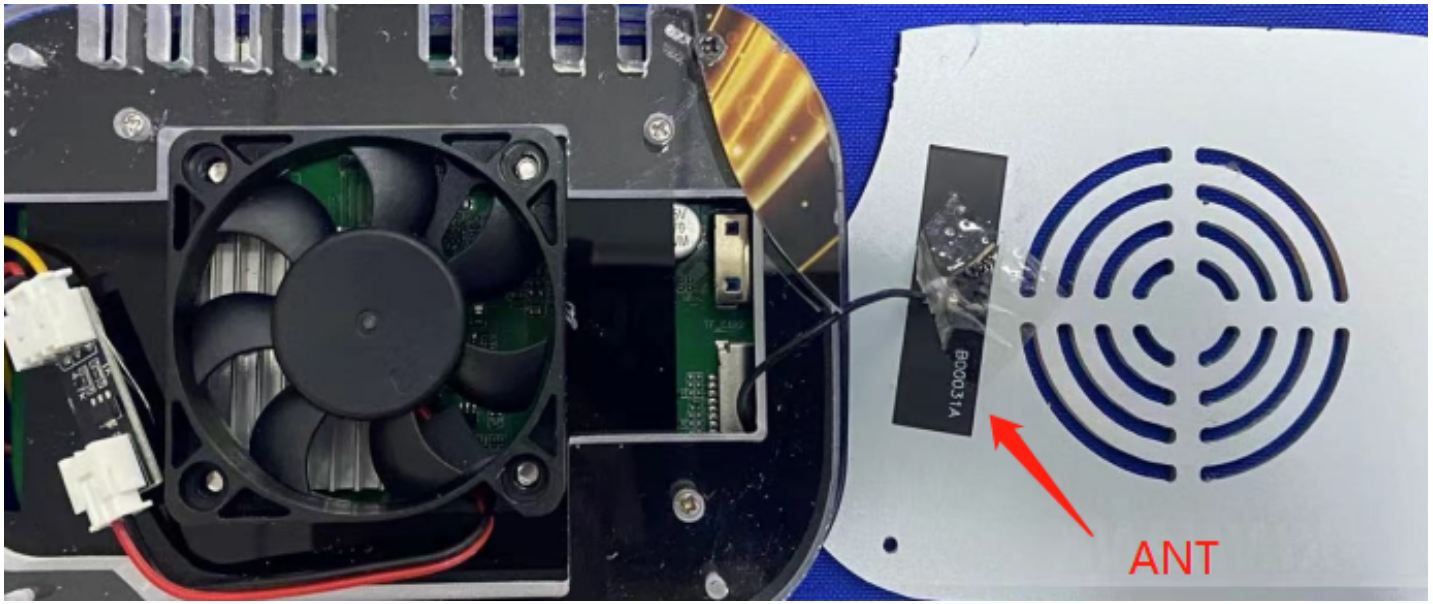








天线驻波比(Antenna standing wave ratio)



天线装配图(Antenna assembly drawing)