深圳众城无线技术有限公司

Shenzhen unity wireless technology co., ltd

地址: 深圳市宝安区西乡街道南昌社区深圳前弯硬科技产业园 B 栋 601-603

电话: 0755-23285621 传真: 0755-23285621

Antenna Test Report

产品型号Product Model :M1-C

频段 Frequency band : 2.4G/5.8G

Table prepared : Wen Caihui TEL :0755-23285621	RF engineer: Wen Caihui TEL: 0755-23285621	
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Revision date	Revised content	Subscribers	Original version
2024.7.30	Initial debugging	Wen Caihui	V1.0

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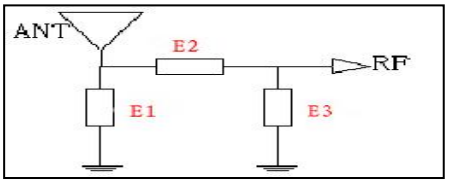
2 天线匹配(原天线匹配)Antenna matching (formerly antenna matching)

	E1	E2	E3
	N/A	0 欧	N/A

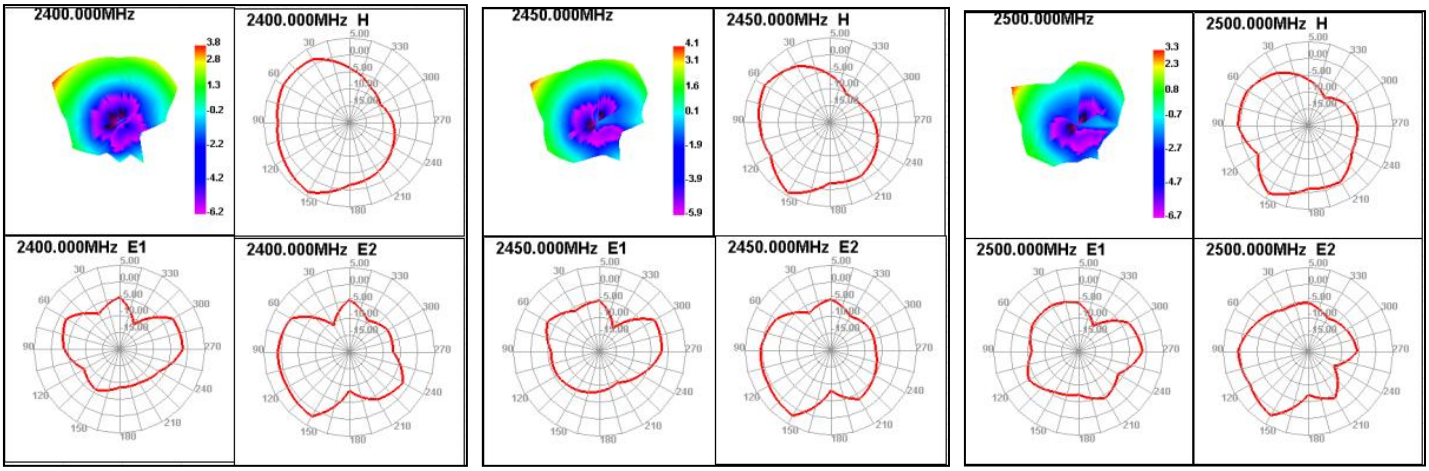


WIFI2.4-5.8G 无源测试结果WIFI2.4-5.8G Passive test results:

Freq (MHz)	Effi (%)	Gain (dBi)
2400	59.39	2.79
2410	57.92	2.95
2420	58.66	2.27
2430	55.26	2.19
2440	58.39	2.51
2450	53.88	2.1
2460	56.84	2.34
2470	55.16	2.1
2480	55.17	2.01
2490	56.81	2.98
2500	50.5	2.26

Freq (MHz)	Effi (%)	Gain (dBi)
5000	53.32	2.61
5100	56.35	2.57
5200	58.56	2.55
5300	53.78	2.48
5400	55.14	2.11
5500	54.1	2.73
5600	54.07	2.91
5700	56.97	2.05
5800	54.79	2

天线方向图 antenna pattern :



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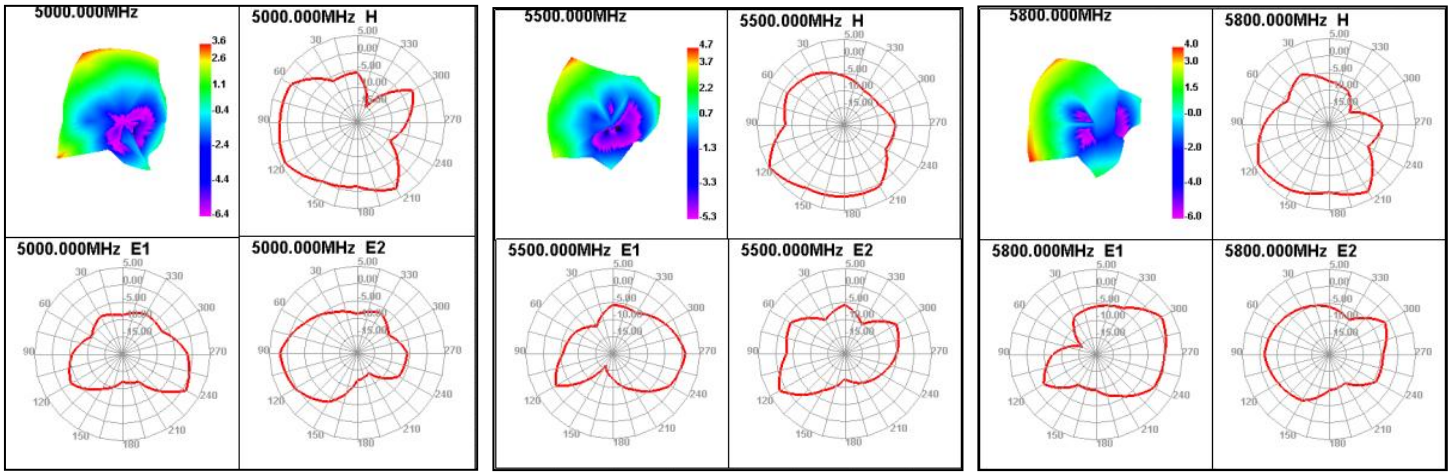
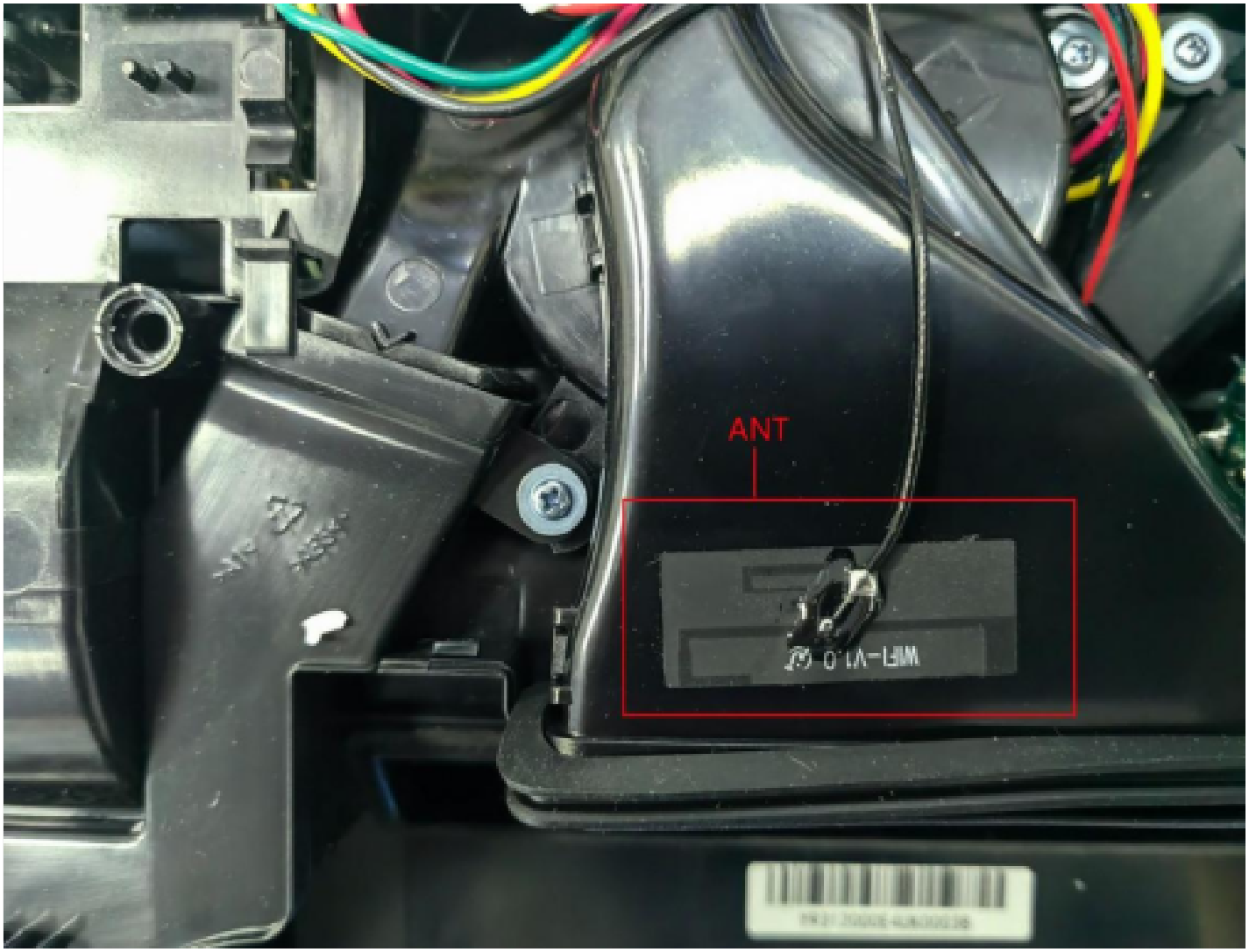


天线摆放图Antenna placement diagram:



3. 测试设备Test equipment

- **Measurement instruments:** microwave anechoic chamber, network analyzer, standard antenna.
- **Microwave anechoic chamber description:**

This is the microwave anechoic chamber set up by our company in Shenzhen. It is part of a far-field measurement system, with dimensions of 7.0 meters x4.0 meters x3.0 meters and a

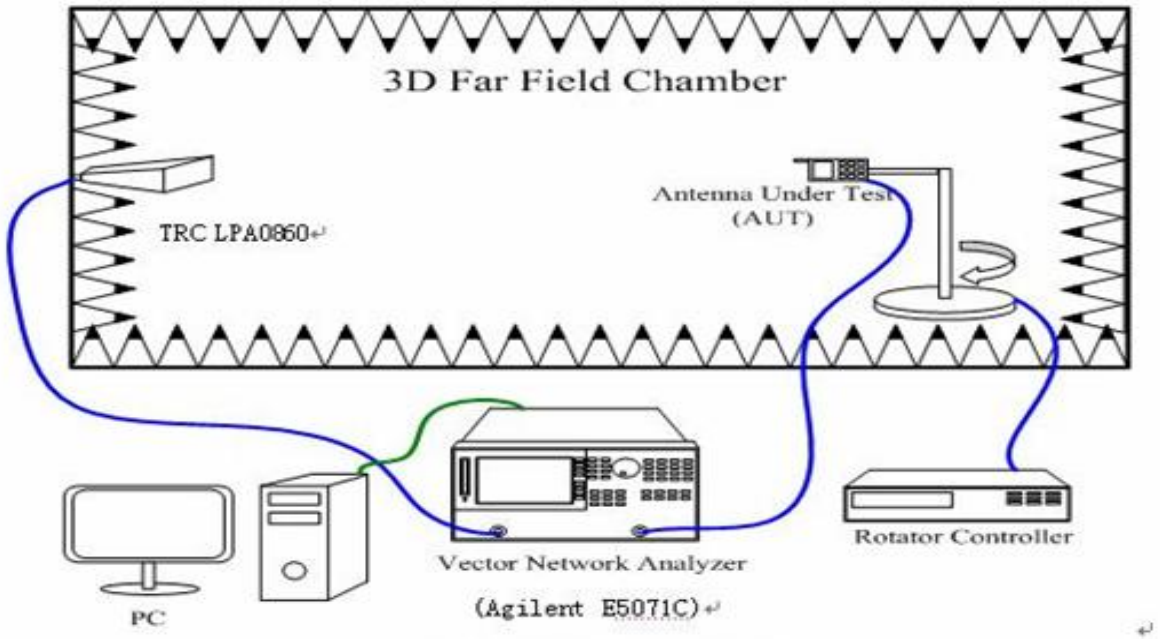


图. 1. 微波暗室内部仪器设置 r.

Figure 1 shows the instrument setup inside the microwave anechoic chamber and the connection diagram of the network analyzer. The distance between the transmitting antenna (the model used in this chamber is TRCLPA0860, 800MHz-6GHz) and the device under test (AUT) is 1.35 meters. The AUT is placed on a rotating platform, allowing for rough and more accurate measurements by controlling the rotation angle of the turntable.

Place the antenna under test on the rotary platform and measure its 360-degree field strength data for both the ZY plane and the ZX plane. Then, replace it with a standard dipole antenna (the model used in this anechoic chamber is TRCAD series dipole antenna 800 MHz to 2500 MHz), measure its 360-degree field strength data, and use this as the reference gain value. By applying formula 1, you can obtain the gain value and radiation pattern of the antenna under test.

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

P_{AUT} : Measured Power of AUT

P_{Stand} : Measured Power of Standard Gain Antenna