

深圳众城无线技术有限公司

Shenzhen unity wireless technology co., ltd

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天线测试报告

Antenna Test Report

tabulating: Wen Caihui TEL : 0755-23285621	Radio Frequency Engineer: Wen Caihui TEL: 0755-23285621	
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调试履历表:

Revision date	Revision Content	Editor	Original version
2024. 7. 30	初次调试 Initial debugging	Wen Caihui	V1. 0

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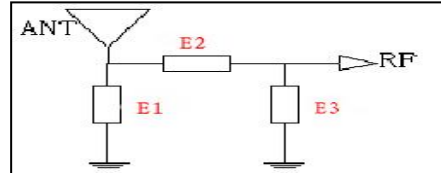
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2 天线匹配 (原天线匹配) Antenna matching (original antenna matching)

E1	E2	E3
N/A	0 欧	N/A

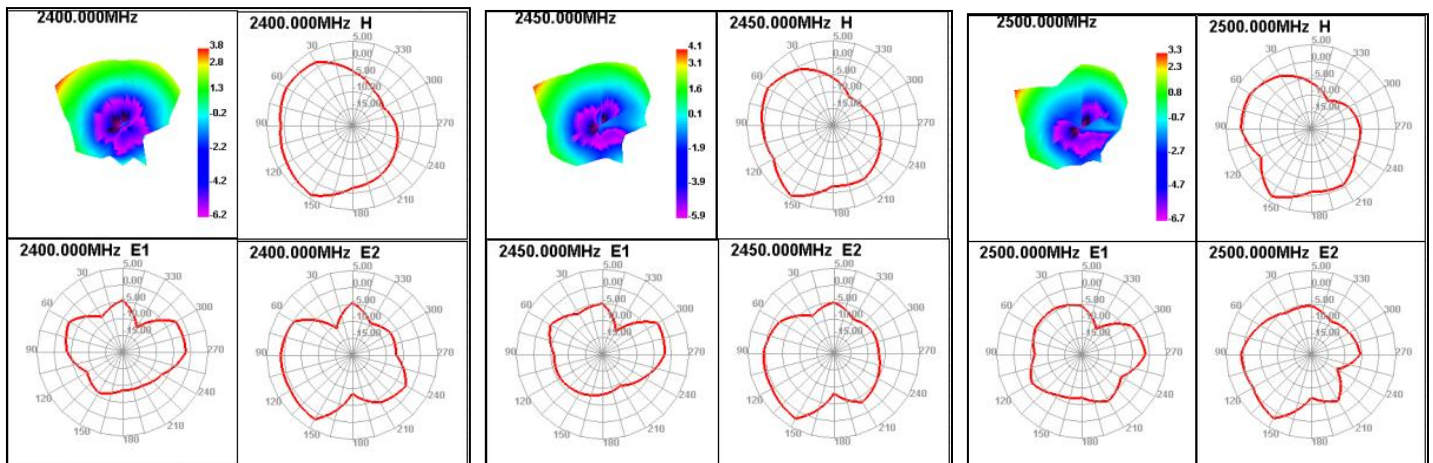


WIFI2.4-5.8G 无源测试结果: Passive test results for WIFI2.4-5.8G:

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



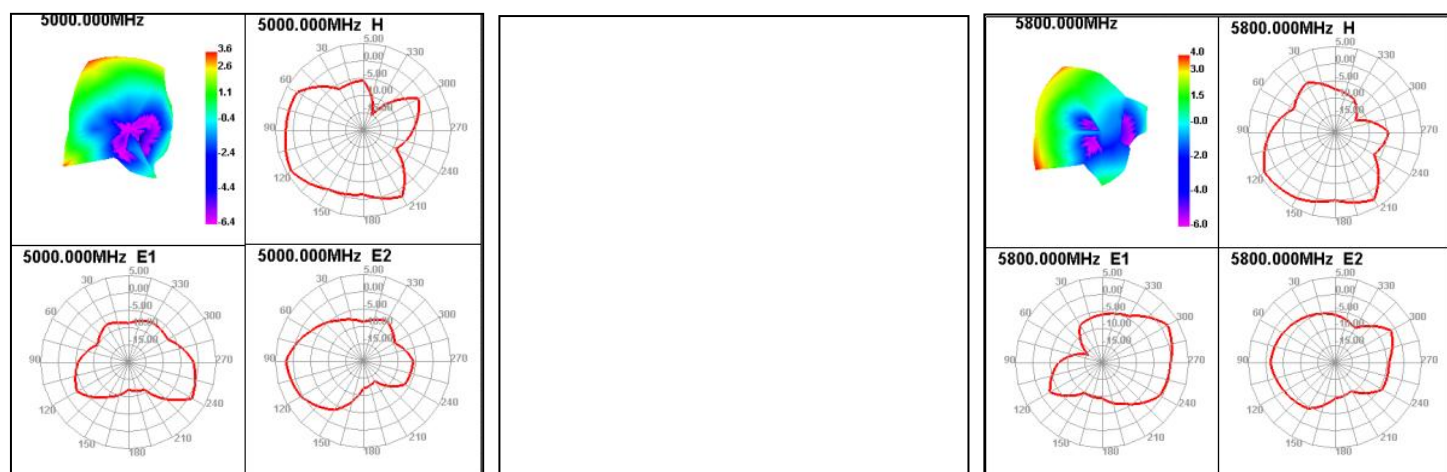
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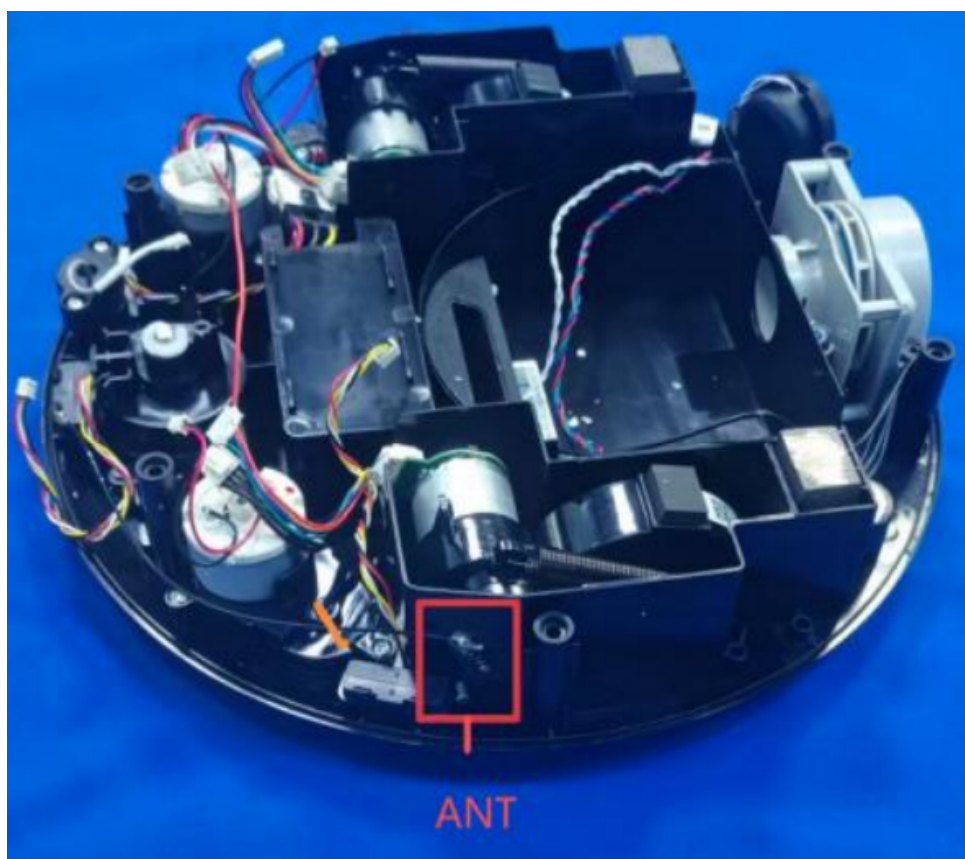
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天线摆放图Antenna placement diagram::



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3. 测试设备testing facility

- Measurement instruments: Microwave anechoic chamber, network analyzer, standard antenna.
- Description of the microwave anechoic chamber: This is a microwave anechoic chamber installed by our company in Shenzhen. The anechoic chamber constitutes a far-field measurement system with dimensions of 7.0 meters × 4.0 meters × 3.0 meters, and the quiet zone measures 15 cm × 15 cm × 15 cm.

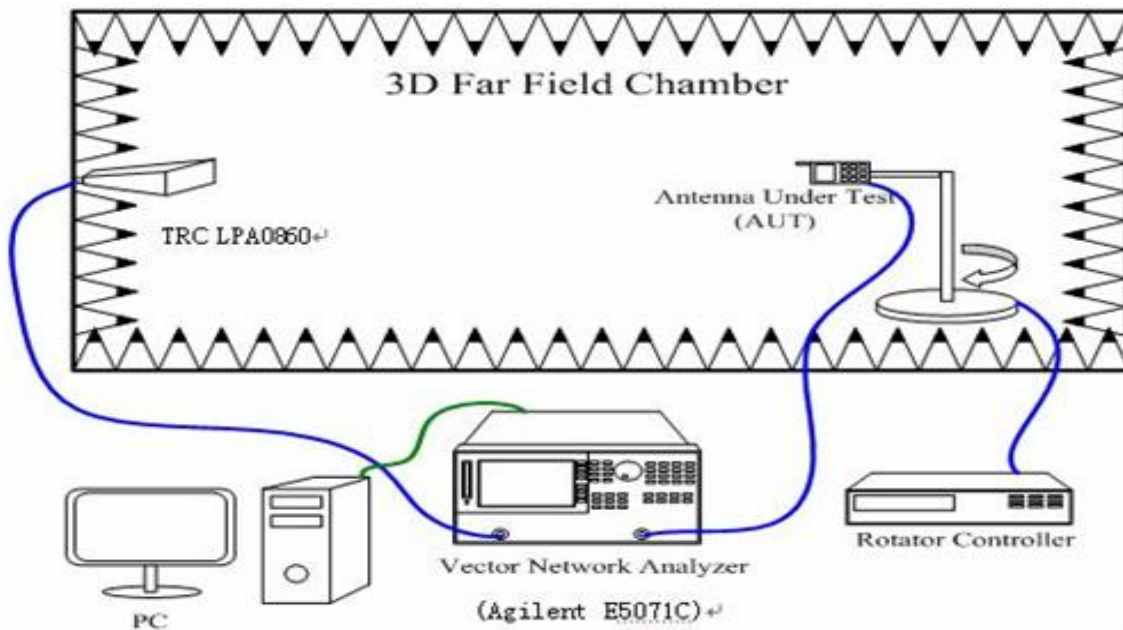


图. 1. 微波暗室内部仪器设置 r.

Figure 1 shows the instrument setup in a microwave anechoic chamber and the connection diagram of the network analyzer. The distance between the transmitting antenna (model TRC LPA0860 800MHz~6GHz used in this chamber) and the test antenna (AUT) is 1.35 meters. The test antenna is mounted on a rotating platform, and by controlling the rotation angle of the platform, both preliminary and precise measurements can be performed on the antenna under test.

The test antenna is placed on a rotating platform to measure its 360-degree field strength data across all planes (ZY plane and ZX plane). The antenna is then replaced with a standard dipole antenna (model TRC AD series dipole antenna 800MHz~2500MHz used in this anechoic chamber) to obtain its 360-degree field strength data, which serves as the reference gain value. The gain value and radiation pattern of the test antenna are subsequently calculated using Equation 1.

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

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