

Shenzhen unity wireless technology co., ltd

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Address: Room 1002/1012, Building 7E, Evergrande Fashion Valley, Dalang, Longhua Distri

Antenna Test Report

Custome: Yunshi

frequency band: 2. 4G

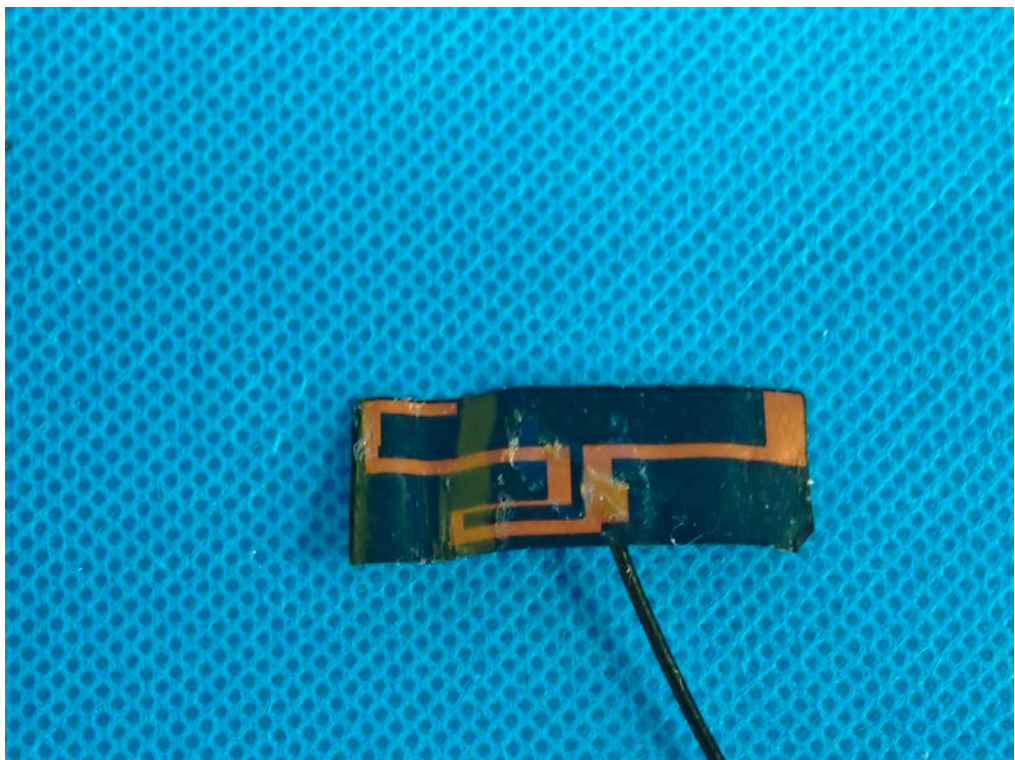
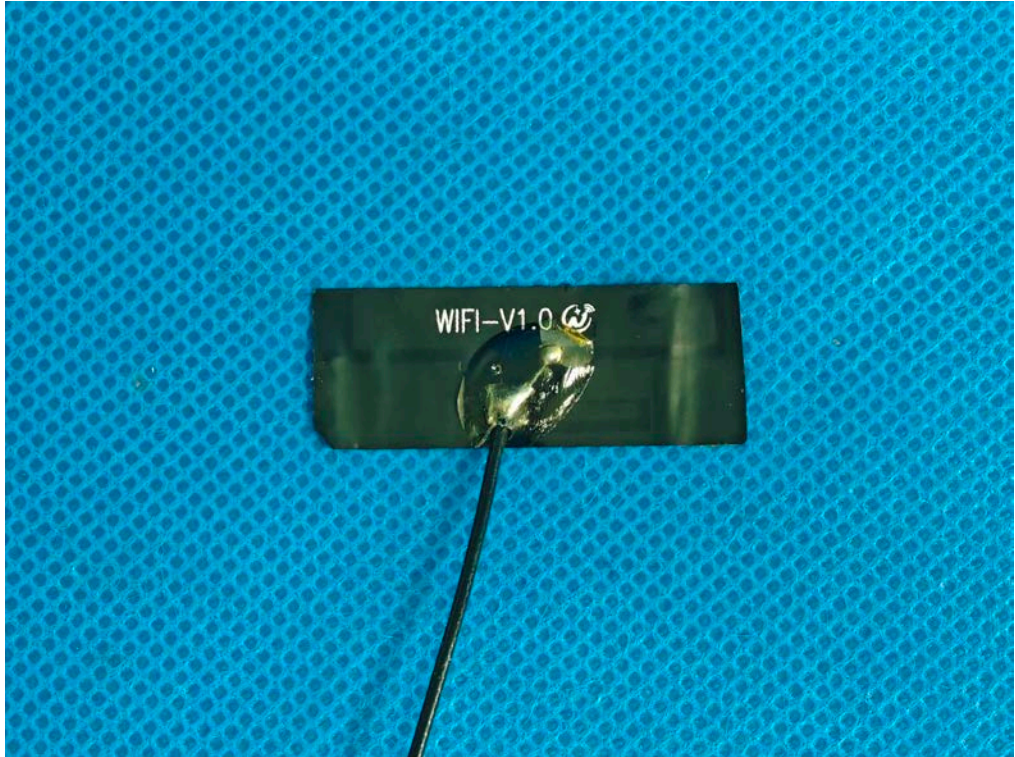
Prepared by: Wencaihui	RF Engineer:Wencaihui	
Date: 2026. 04. 20		

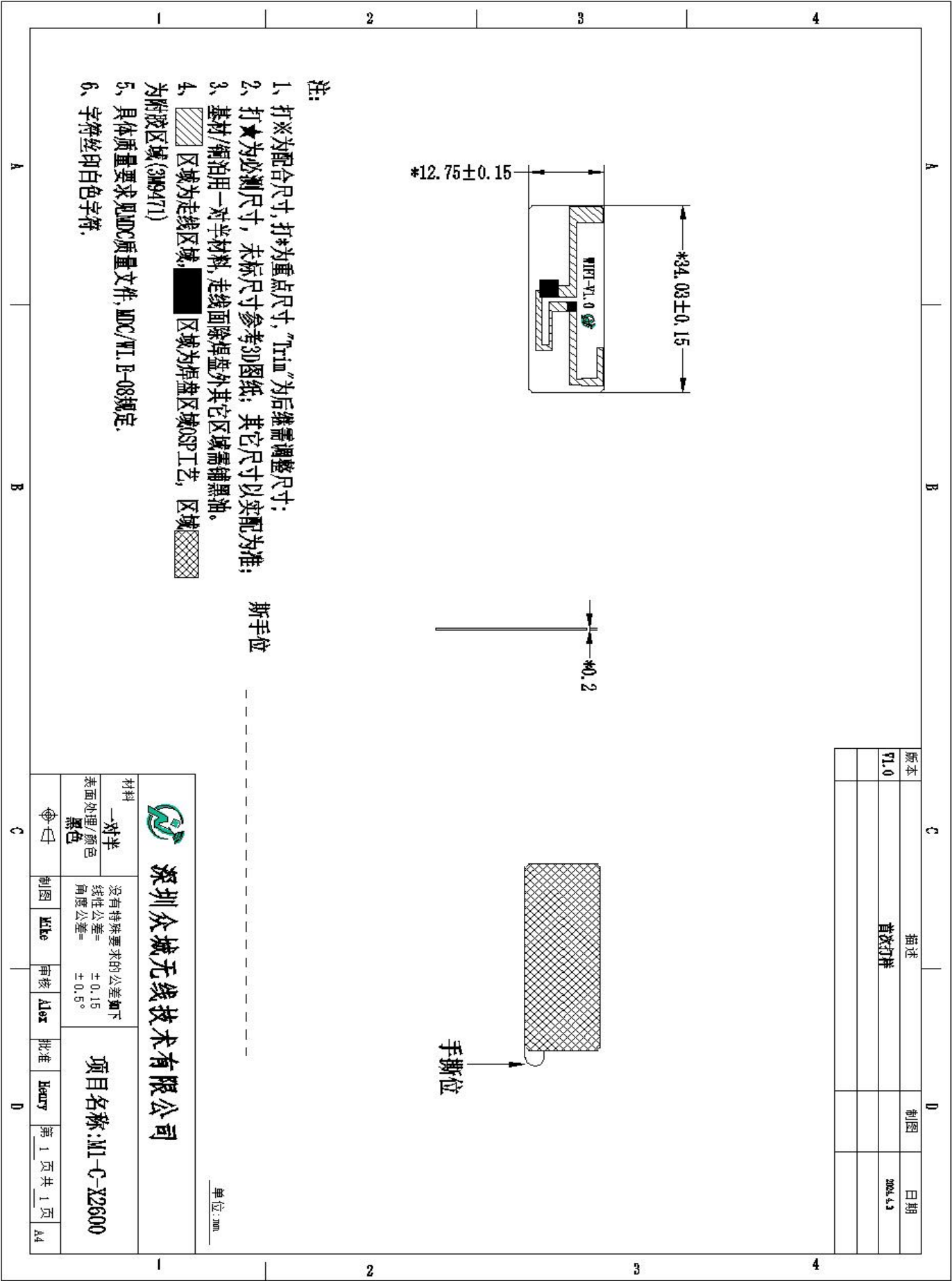
Debugging Log:

Revision Date	Revision Content	Revised By	Original Version
2024. 7. 30	Initial Debugging	Wen Caihui	V1. 0
2026. 4. 20	Added 5900MHz Data	Wen Caihui	V1. 0

产品参数:

品名	FPC	Model	FPC
频率范围 (MHz)	2400-2500	Frequency	2400-2500
极化方式	线极化	Polarization Type	LIEAR polarization
天线增益 (dBi)	3.33	Gain (dBi)	3.33
电压驻波比	以实物样机为准	VSWR	以实物样机为准
输入阻抗 (Ω)	50	Input Impedance (Ω)	50
同轴线长度 (mm)	160mm	Cable length (mm)	160mm
电缆线颜色	黑色	Cable Colour	Black
接口形式	一代端子	Connector Type	一代端子
工作温度 (°C)	-40~+85	Operation temperature (°C)	-40~+85
存储温度 (°C)	-40~+85	Store temperat (°C)	-40~+85



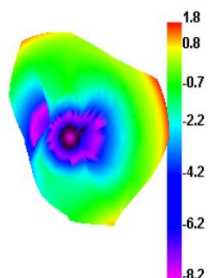


4. 天线无源增益效率测试数据

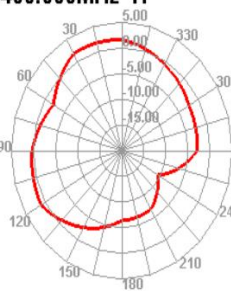
Freq (MHz)	Effi (%)	Gain (dBi)
2400	56.37	1.76
2410	56.85	2.35
2420	57.9	2.58
2430	58.8	2.76
2440	60.39	3.21
2450	57.79	3.00
2460	63.29	3.33
2470	61.45	3.01
2480	65.78	3.15
2490	67.67	3.08
2500	67.13	2.80

5. 天线方向图

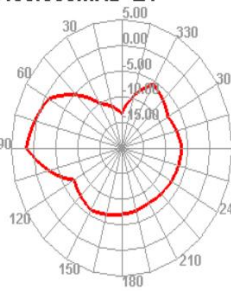
2400.000MHz



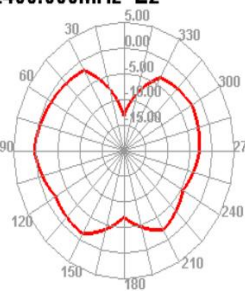
2400.000MHz H



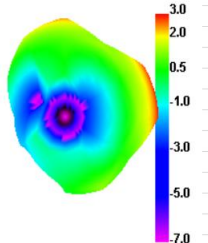
2400.000MHz E1



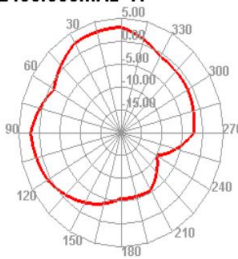
2400.000MHz E2



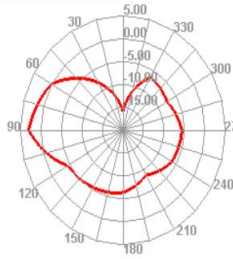
2450.000MHz



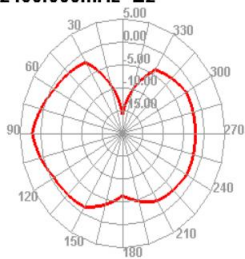
2450.000MHz H



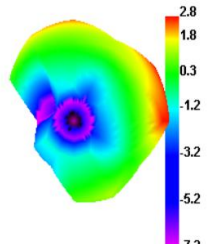
2450.000MHz E1



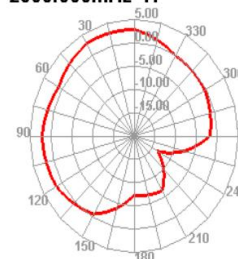
2450.000MHz E2



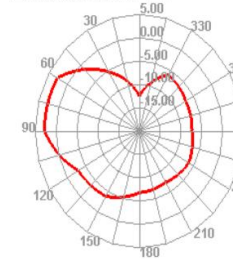
2500.000MHz



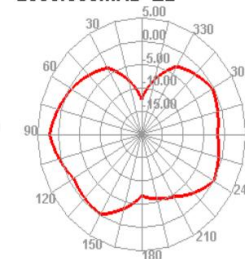
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



3. Test Equipment

- The measuring instruments are microwave anechoic chamber, network analyzer and standard antenna.
- Microwave darkroom description:

This is the microwave anechoic chamber installed in Shenzhen by our company. As part of a far-field measurement system, the chamber measures 7.0 meters x4.0 meters x3.0 meters, with a quiet zone measuring 15 cm x15 cm x15 cm.

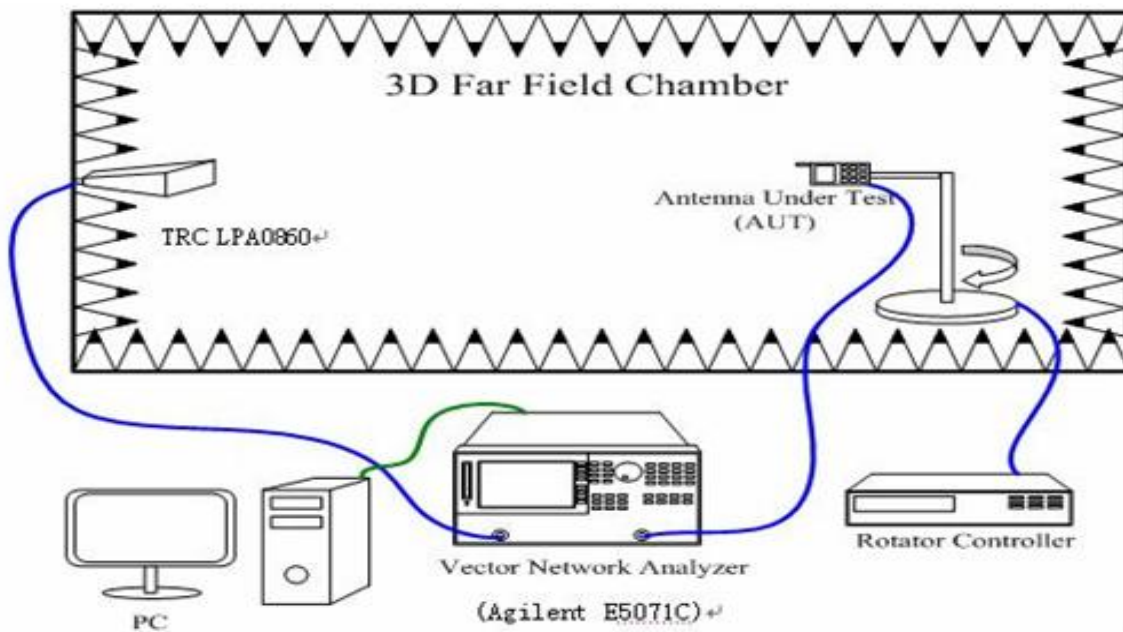


图. 1. 微波暗室内部仪器设置

picture1 The setup diagram for the instrument in the microwave anechoic chamber and the connection diagram of the network analyzer are provided. 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 placed on a rotating platform, and by controlling the rotation angle of the platform, both rough and precise measurements can be performed on the test antenna.

Position the test antenna on the rotating platform to measure its 360-degree field strength data across all planes (ZY and ZX planes). Subsequently, replace the test antenna with a standard dipole antenna (the TRC AD series dipole antenna 800MHz~2500MHz used in this anechoic chamber) and measure its 360-degree field strength data to establish a gain calibration reference. The gain value and pattern of the test antenna can then be obtained through conversion 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