

**ShenZhen Huaxinwei communication technology Co.,Ltd.****深圳市华信微通信技术有限公司****天线产品承认书****Antenna Specification****Customer Name:** Yile Plastics & Mould Technology(Jiashan) Co.,Ltd**Project Name::** AFU-TGF-0280**Antenna  
Frequency:** WIFI2.4/5.8G**Customer Part  
No.:****Date:** 2026 年 3 月 19 日

|         |  |         |  |
|---------|--|---------|--|
| RF 工程师: |  | ME 工程师: |  |
| 客户确认:   |  |         |  |

**Revision History**

| DATE | Revision | Description |
|------|----------|-------------|
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## 1、测试环境和设备

|                       | 测试项目 (Test items)                    | 设备 (Equipment section)                                                                                                                               |
|-----------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| S 参数<br>(S-parameter) | ①回波损耗 (Return Loss)<br>②电压驻波比 (VSWR) | 网络分析仪 (network analyzer):<br>Agilent E5071B<br>HP 8753D                                                                                              |
| 有源测试<br>(Active)      | ①发射功率 (TRP)<br>②接收灵敏度 (TIS)<br>③频率误差 | ①暗室 (darkroom):<br>ETS 7x4x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>②综合测试仪:<br>Agilent 8960 E5515B ×2<br>StarPoint SP6011<br>CMW500<br>CMW200 |
| 无源测试<br>(Passive)     | ①天线增益 (Gain)<br>②天线效率 (Efficiency)   | ①暗室 (darkroom):<br>STM 3x3x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>②网络分析仪:<br>Agilent E5071B<br>HP 8753D                                     |

系统品牌: MVG(SATIMO) 测量功能:增益 • 方向图波束宽度交叉极化分辨率旁瓣电平3D腔体反射率在任何极化的腔体反射率 (直线或圆弧) 天线效率  
TRP, TIS, EIRP和EIS. 频段:StarLab 650兆赫至6千兆赫



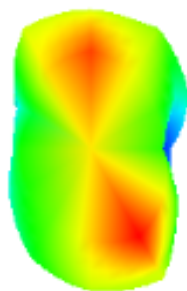
## 2、匹配电路说明 (Description of matching circuit)

按原始匹配电路未做任何更改 (No change is made according to the original matching circuit) 。

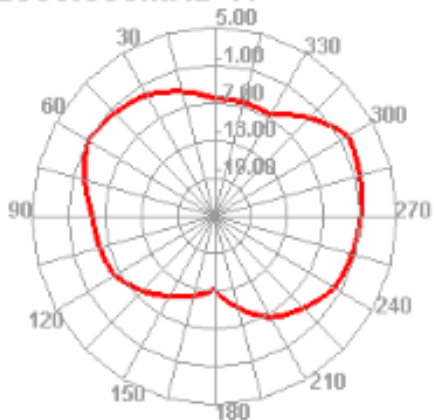
### 3. 2.4G/5.8G WIFI 天线无源测试

| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
|---------------|-------------|--------------|---------------|
| 2350          | 62.05       | -2.07        | 2.87          |
| 2360          | 62.57       | -2.04        | 2.76          |
| 2370          | 63.33       | -1.98        | 2.58          |
| 2380          | 61.83       | -2.09        | 2.37          |
| 2390          | 60.74       | -2.17        | 2.11          |
| 2400          | 60.79       | -2.16        | 2.16          |
| 2410          | 60.14       | -2.21        | 2.23          |
| 2420          | 59.11       | -2.28        | 2.1           |
| 2430          | 58.81       | -2.31        | 2.03          |
| 2440          | 58.92       | -2.3         | 1.81          |
| 2450          | 57.46       | -2.41        | 1.76          |
| 2460          | 53.13       | -2.75        | 1.59          |
| 2470          | 51.62       | -2.87        | 1.48          |
| 2480          | 50.97       | -2.93        | 1.1           |
| 2490          | 50.96       | -2.93        | 0.91          |
| 2500          | 48.79       | -3.12        | 0.92          |
| 2510          | 47.29       | -3.25        | 0.9           |
| 2520          | 46.91       | -3.29        | 1.13          |
| 2530          | 47.12       | -3.27        | 1.33          |
| 2540          | 46.68       | -3.31        | 1.21          |
| 2550          | 45.76       | -3.39        | 0.95          |

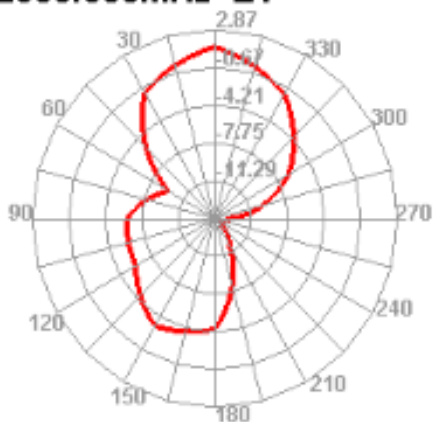
2350.000MHz



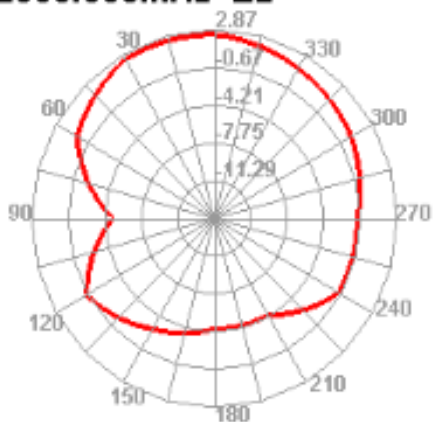
2350.000MHz H



2350.000MHz E1

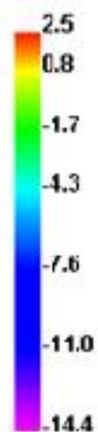
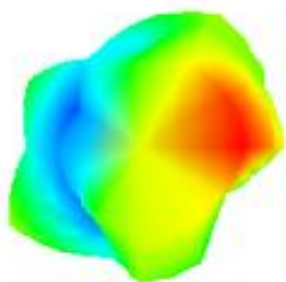


2350.000MHz E2

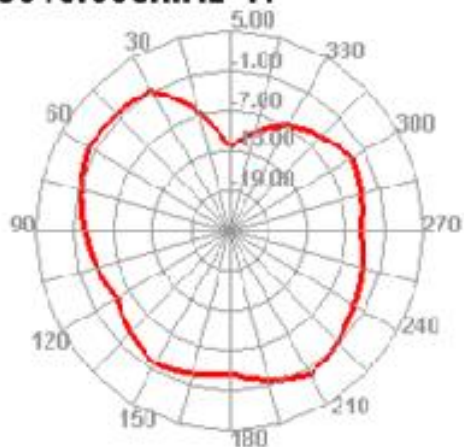


| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
|---------------|-------------|--------------|---------------|
| 5000          | 56.94       | -2.45        | 2.87          |
| 5010          | 56.53       | -2.48        | 2.52          |
| 5020          | 58          | -2.37        | 1.98          |
| 5030          | 60.57       | -2.18        | 3.31          |
| 5040          | 62.36       | -2.05        | 2.91          |
| 5050          | 61.28       | -2.13        | 3.22          |
| 5060          | 60.79       | -2.16        | 2.81          |
| 5070          | 58.52       | -2.33        | 2.85          |
| 5080          | 56.34       | -2.49        | 2.62          |
| 5090          | 54.18       | -2.66        | 2.72          |
| 5100          | 55.48       | -2.56        | 2.72          |
| 5110          | 54.52       | -2.63        | 2.96          |
| 5120          | 50.11       | -3           | 2.42          |
| 5130          | 51.73       | -2.86        | 2.19          |
| 5140          | 50.65       | -2.95        | 2.53          |
| 5150          | 51.46       | -2.89        | 2.02          |
| 5160          | 55.33       | -2.57        | 3.04          |
| 5170          | 54.01       | -2.68        | 2.89          |
| 5180          | 56.25       | -2.5         | 2.5           |
| 5190          | 56.6        | -2.47        | 3.05          |
| 5200          | 57.09       | -2.43        | 2.93          |
| 5210          | 59.35       | -2.27        | 3.26          |
| 5220          | 59.11       | -2.28        | 2.91          |
| 5230          | 58.85       | -2.3         | 2.33          |
| 5240          | 59.82       | -2.23        | 2.75          |
| 5250          | 64.11       | -1.93        | 3.14          |
| 5260          | 60.48       | -2.18        | 2.83          |
| 5270          | 58.13       | -2.36        | 2.39          |
| 5280          | 57.67       | -2.39        | 2.57          |
| 5290          | 59.82       | -2.23        | 2.85          |
| 5300          | 63.86       | -1.95        | 2.94          |
| 5310          | 63.48       | -1.97        | 2.61          |
| 5320          | 59.55       | -2.25        | 2.31          |
| 5330          | 55.02       | -2.59        | 2.51          |
| 5340          | 56.59       | -2.47        | 2.64          |
| 5350          | 57.41       | -2.41        | 2.28          |
| 5360          | 57.49       | -2.4         | 1.79          |
| 5370          | 61.35       | -2.12        | 2.76          |
| 5380          | 60.6        | -2.18        | 3.17          |
| 5390          | 63.49       | -1.97        | 3.33          |
| 5400          | 61.04       | -2.14        | 2.91          |
| 5410          | 62.36       | -2.05        | 3.25          |
| 5420          | 64.26       | -1.92        | 2.89          |
| 5430          | 69.78       | -1.56        | 4.28          |
| 5440          | 72.76       | -1.38        | 4.18          |
| 5450          | 65.48       | -1.84        | 3.64          |
| 5460          | 65.82       | -1.82        | 3.86          |
| 5470          | 65.51       | -1.84        | 3.87          |
| 5480          | 63.81       | -1.95        | 4.26          |
| 5490          | 65.82       | -1.82        | 3.71          |
| 5500          | 62.57       | -2.04        | 3.17          |
| 5510          | 64.83       | -1.88        | 3.51          |
| 5520          | 66.23       | -1.79        | 4.23          |
| 5530          | 60.75       | -2.16        | 3.33          |
| 5540          | 65.12       | -1.86        | 3.47          |
| 5550          | 59.7        | -2.24        | 3.97          |
| 5560          | 62.2        | -2.06        | 3.33          |
| 5570          | 58.95       | -2.3         | 3.35          |
| 5580          | 65.19       | -1.86        | 3.33          |
| 5590          | 63.55       | -1.97        | 3.42          |
| 5600          | 64.8        | -1.88        | 3.95          |
| 5610          | 64.16       | -1.93        | 3.84          |
| 5620          | 63.56       | -1.97        | 3.53          |
| 5630          | 62.54       | -2.04        | 3.37          |
| 5640          | 66.8        | -1.75        | 3.49          |
| 5650          | 62.87       | -2.02        | 3.21          |
| 5660          | 64.84       | -1.88        | 4.21          |
| 5670          | 62.48       | -2.04        | 4.17          |
| 5680          | 58.21       | -2.35        | 3.24          |
| 5690          | 61.15       | -2.14        | 3.82          |
| 5700          | 63.19       | -1.99        | 3.98          |
| 5710          | 63.37       | -1.98        | 3.75          |
| 5720          | 61.45       | -2.11        | 4.1           |
| 5730          | 63.97       | -1.94        | 4             |
| 5740          | 62.19       | -2.06        | 4.13          |
| 5750          | 59.15       | -2.28        | 4.03          |
| 5760          | 69.14       | -1.6         | 4.81          |
| 5770          | 60.33       | -2.19        | 4.6           |
| 5780          | 64.59       | -1.9         | 4.27          |
| 5790          | 64.48       | -1.91        | 4.41          |
| 5800          | 64.12       | -1.93        | 4.24          |

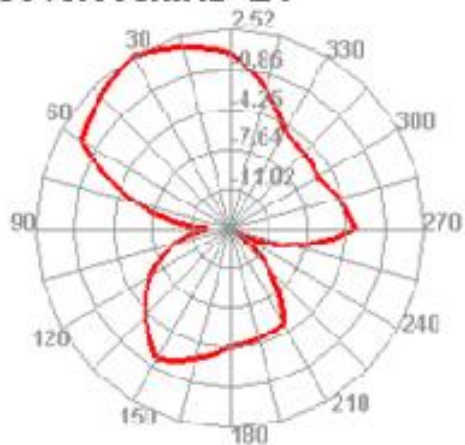
5010.000MHz



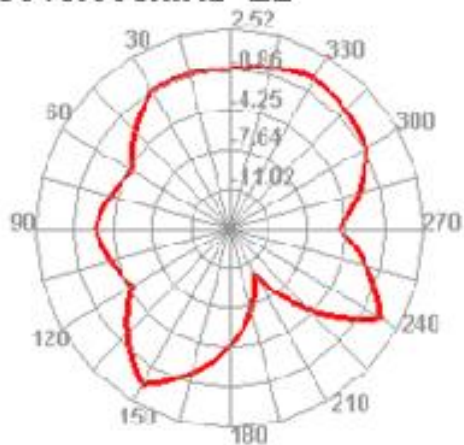
5010.000MHz H



5010.000MHz E1



5010.000MHz E2

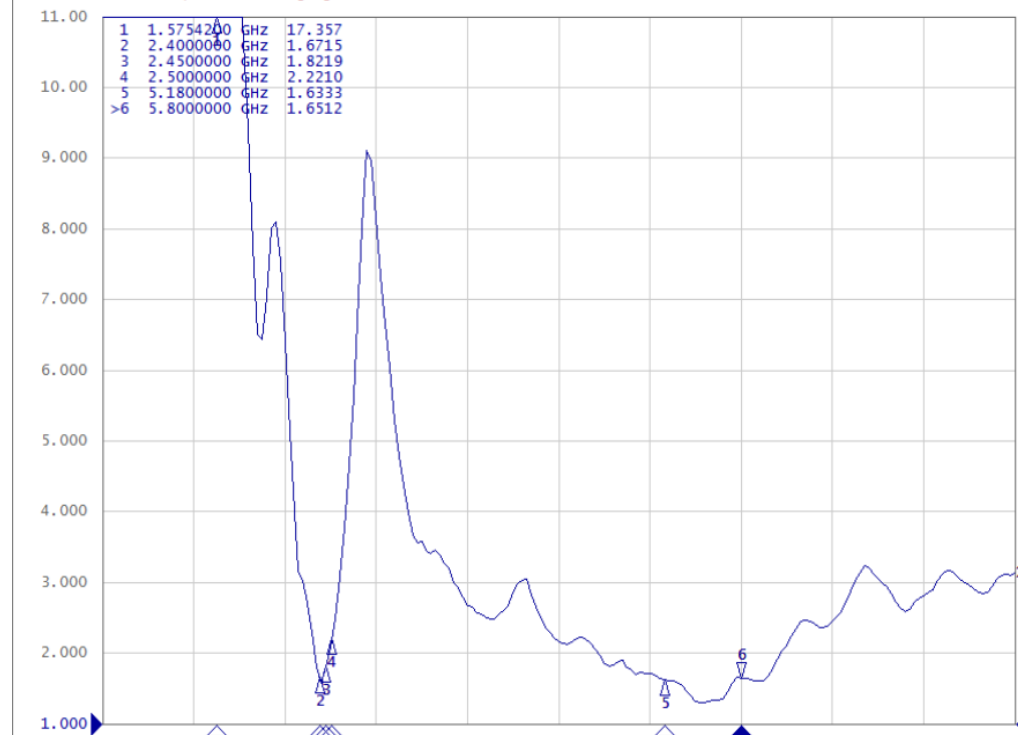


E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

Tr1 S11 SWR 1.000/ Ref 1.000 [F1]  
Tr2 S11 SWR 1.000/ Ref 1.000 [F1]



1 Start 650 MHz IFBW 70 kHz Stop 8 GHz PExt Cor I

Meas Stop ExtRef Svc 2026-03-10 14:57

System  
Print  
Invert Image  
ON  
Dump  
Screen Image...  
Multiport Test Set  
Setup  
Misc Setup  
Backlight  
ON  
Firmware  
Revision  
Service Menu  
Help  
Return

#### 4、环境处理 Environmental treatment

None

#### 5、结构图纸 Structural drawings

