

报告编号：SZ240415YF02

测试报告

样品名称：3G-4G天线

型号：ZDXW-3M/SMA-J4G

测试标准：GB/T 9410-2008

发布日期：2024年04月15日

版本：A0

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1. 测试目的:

根据客户项目需求，对3G-4G天线产品的电性能技术要求及试验标准，提供符合客户要求的试验报告。

2. 样品信息：

产品名称：3G-4G天线

产品型号：ZDXW-3M/SMA-J4G

物料编码：55027-91A1C5079

3. 参考文献

测试主要参考文档：

| 序号 | 文档名 | 文档标题 |
|----|----------------|--------------|
| 1 | GB/T 9410-2008 | 移动通信天线通用技术规范 |
| | | |

4.测试3G-4G天线天线的OTA无源参数：

4.1测试系统连接

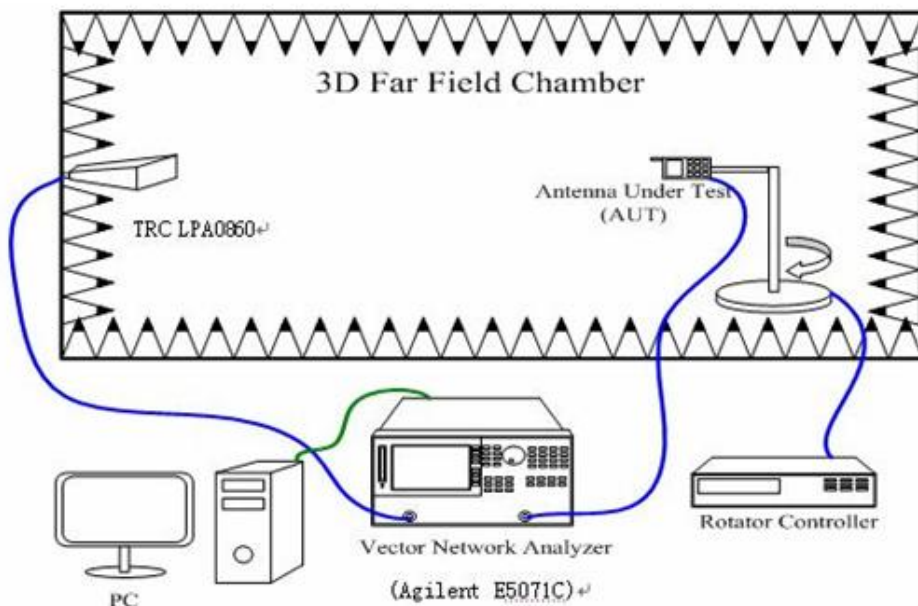


图. 1. 微波暗室内部仪器设置 r.

4.2 试验设备

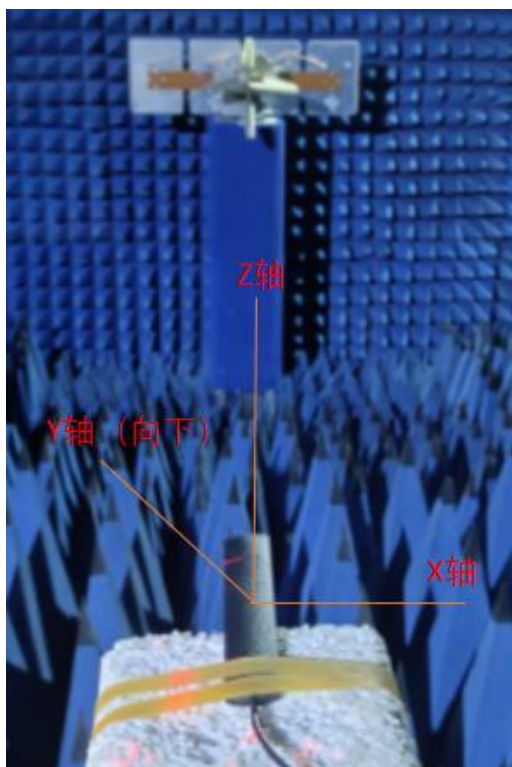
网络分析仪 E5071C

3G-4G天线

电脑

微波暗室

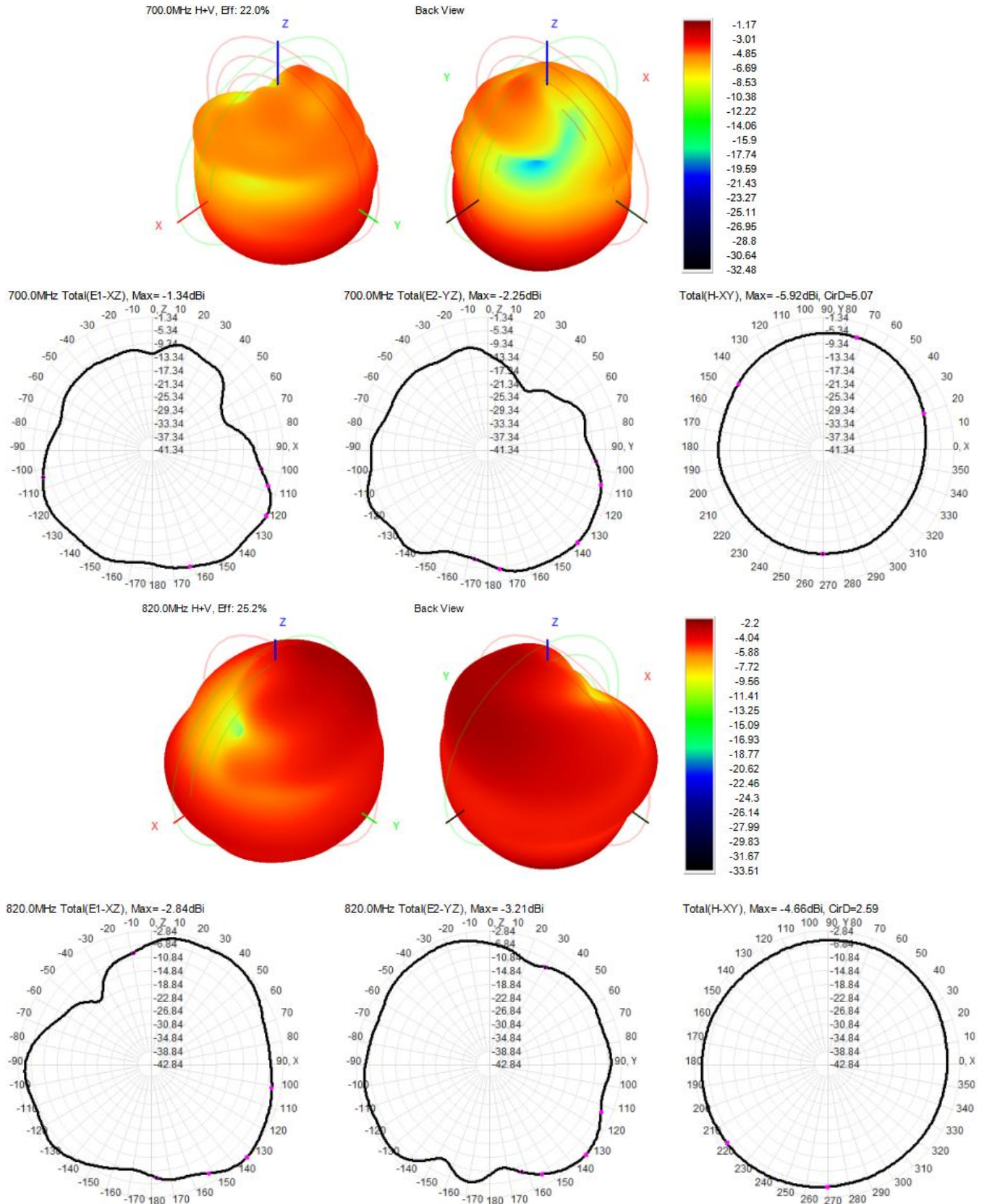
4.3 天线测试场景图



4.4 OTA无源试验数据：

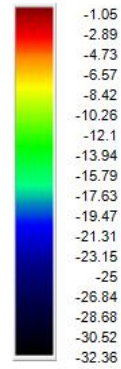
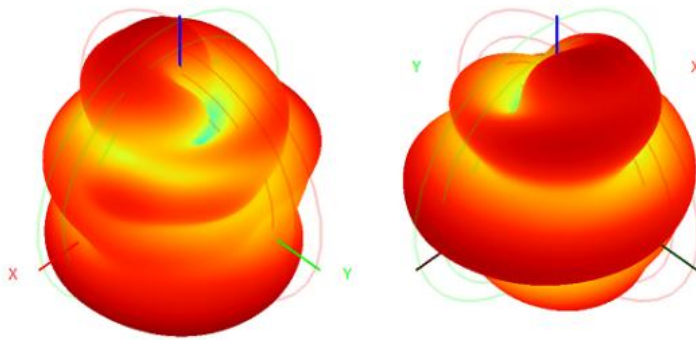
| Frequency (MHz) | Gain (dBi) | Efficiency(%) | Frequency (MHz) | Efficiency(%) | Gain (dBi) |
|-----------------|------------|---------------|-----------------|---------------|------------|
| 700.0 | -1.17 | 21.96 | 1700.0 | -0.35 | 20.46 |
| 720.0 | -0.90 | 24.09 | 1750.0 | -0.69 | 18.57 |
| 740.0 | -1.83 | 25.08 | 1800.0 | -3.44 | 17.34 |
| 760.0 | -3.12 | 25.00 | 1850.0 | -3.50 | 15.95 |
| 780.0 | -1.26 | 23.76 | 1900.0 | -3.46 | 17.23 |
| 800.0 | -1.57 | 27.09 | 1950.0 | -3.51 | 17.61 |
| 820.0 | -2.20 | 25.15 | 2000.0 | -2.67 | 15.76 |
| 840.0 | -1.19 | 28.53 | 2050.0 | -2.32 | 18.29 |
| 860.0 | -1.54 | 29.95 | 2100.0 | -1.84 | 17.65 |
| 880.0 | -2.92 | 24.99 | 2150.0 | -2.65 | 16.84 |
| 900.0 | -0.69 | 25.14 | 2200.0 | -4.29 | 16.97 |
| 920.0 | 0.15 | 25.19 | 2250.0 | -3.47 | 16.18 |
| 940.0 | -0.76 | 30.31 | 2300.0 | -3.31 | 16.43 |
| 960.0 | -1.05 | 21.84 | 2350.0 | -2.29 | 16.75 |
| | | | 2400.0 | -3.62 | 13.74 |
| | | | 2450.0 | -4.06 | 14.70 |
| | | | 2500.0 | -5.12 | 12.68 |
| | | | 2550.0 | -3.98 | 15.83 |
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4.5 OTA方向图



960.0MHz H+V, Eff: 21.8%

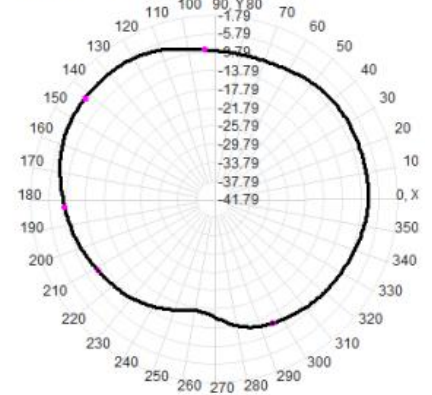
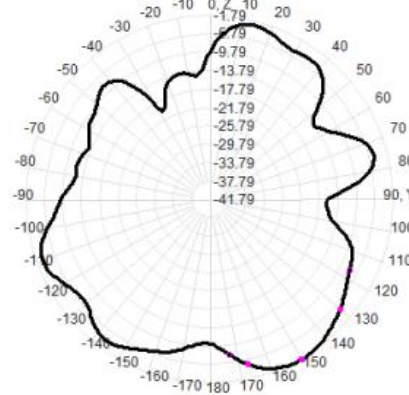
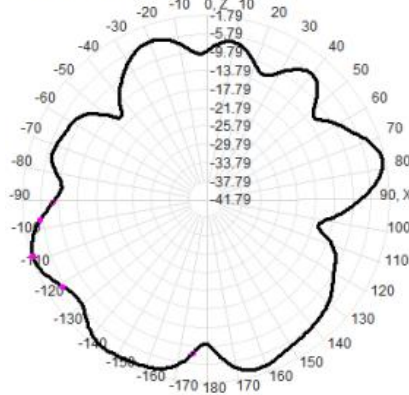
Back View



960.0MHz Total(E1-XZ), Max=-2.22dBi

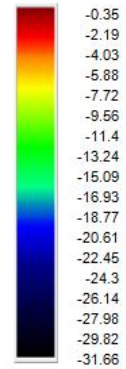
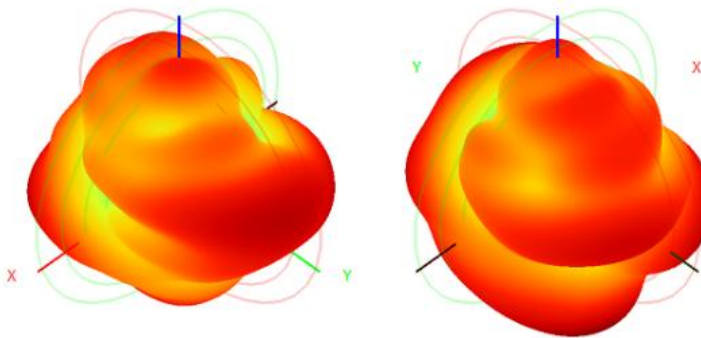
960.0MHz Total(E2-YZ), Max=-1.79dBi

Total(H-XY), Max=-6.17dBi, CirD=11.27



1700.0MHz H+V, Eff: 20.5%

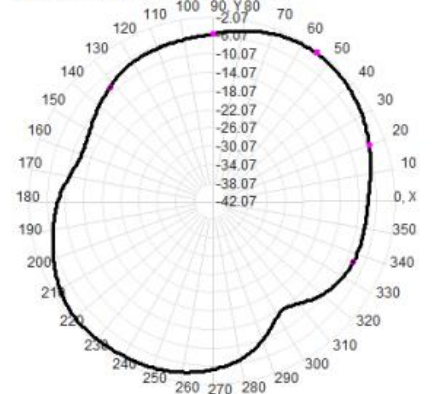
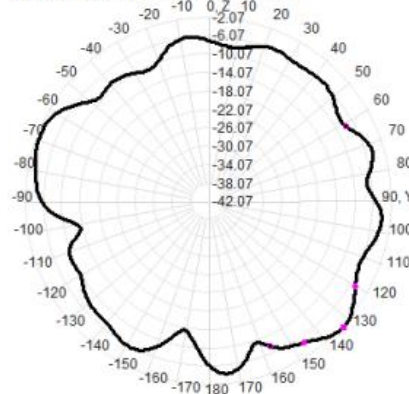
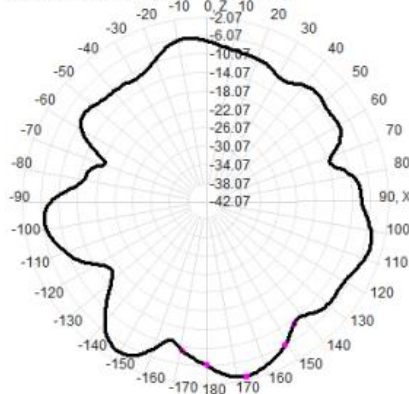
Back View

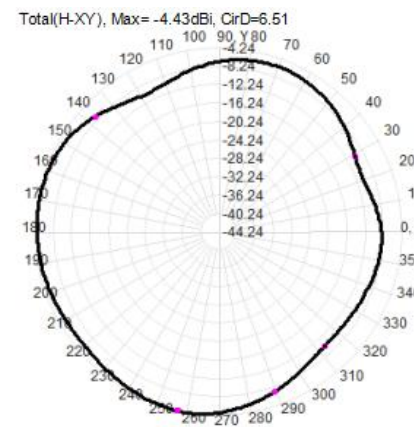
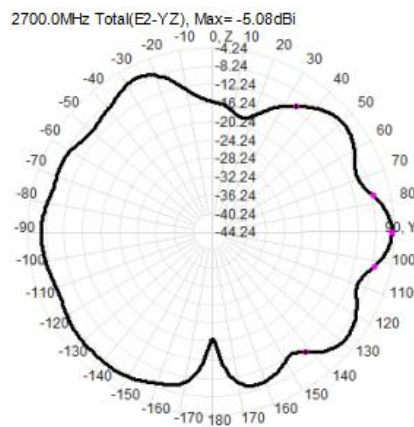
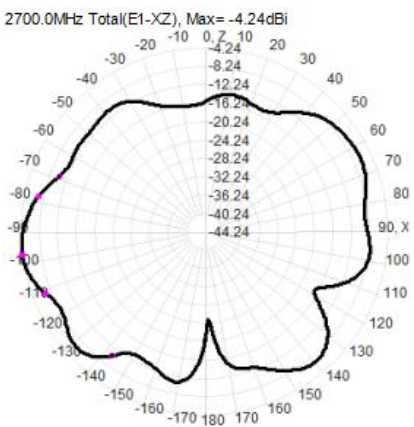
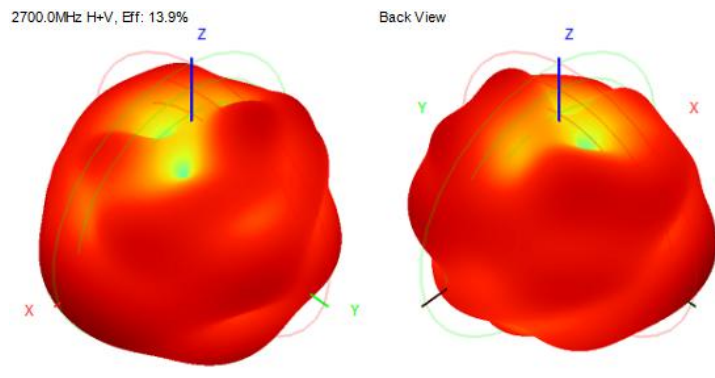
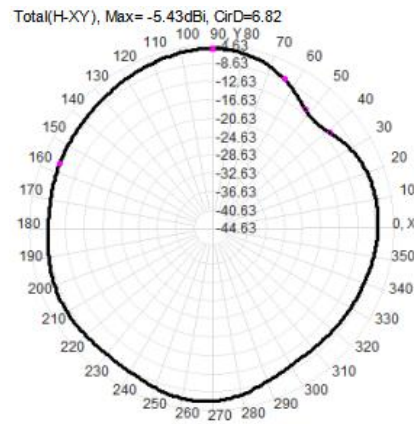
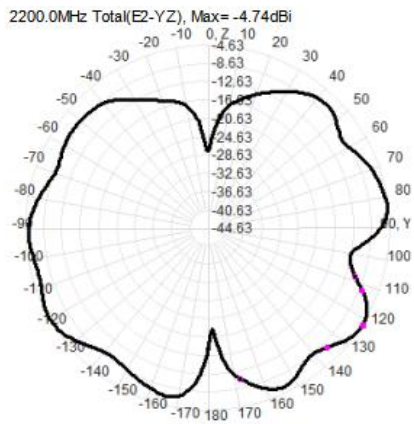
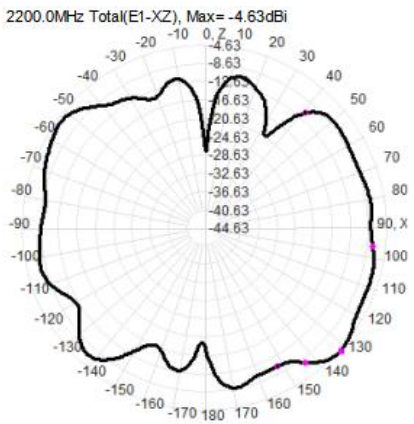
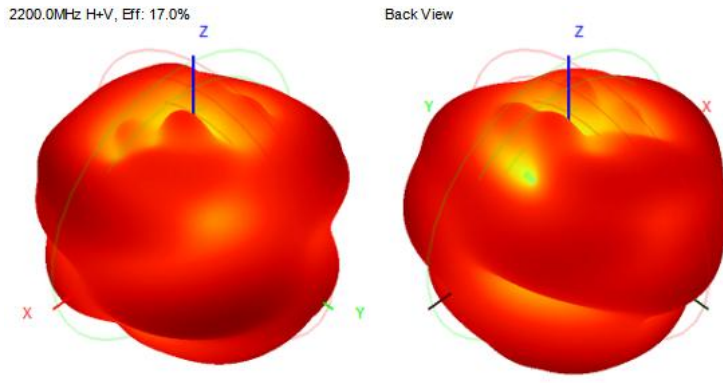


1700.0MHz Total(E1-XZ), Max=-3.23dBi

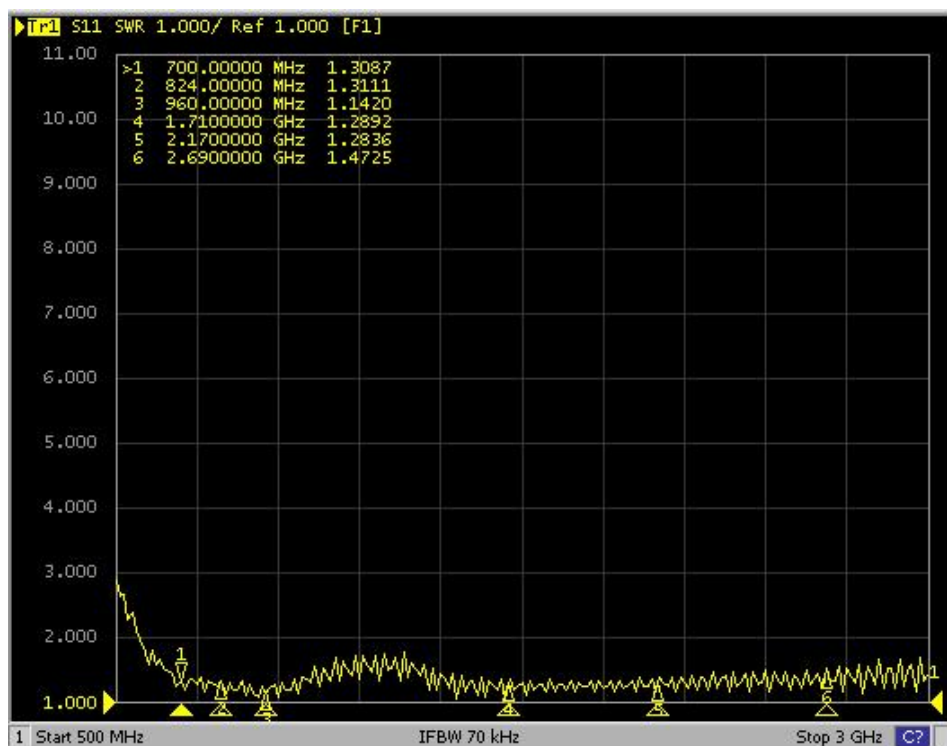
1700.0MHz Total(E2-YZ), Max=-2.07dBi

Total(H-XY), Max=-2.71dBi, CirD=11.32





4.6 驻波比测试图



| Frequency (MHz) | VSWR |
|-----------------|------|
| 700 | 1.30 |
| 824 | 1.31 |
| 960 | 1.14 |
| 1710 | 1.28 |
| 2170 | 1.28 |
| 2690 | 1.47 |

5.小结：

天线线束为3米线长，建议客户在满足安装的前提下，尽量缩短线长，降低线束损耗，3米线长的线束，损耗太大。