

1. Antenna Specification/天线标准

| Antenna Specification/天线技术参数 | | |
|-----------------------------------|--|------------|
| Electrical Specification/电气特性 | | |
| Item/目录 | Specification/规格 | Comment/备注 |
| Freq. Range/频段范围 | 2400-2500MHz,5150-5850MHz | |
| Impedance/阻抗 | 50 (Ω) | |
| VSWR/驻波比 | ≤ 4.0 | |
| Directional/辐射方向 | Linear radiation | |
| Polarization/极化形式 | Vertical | |
| Peak Gain/峰值增益 | 5 (dBi) | |
| Test condition/测试条件 | passive test (无源测试) | |
| Total Efficiency/无源效率 | $> 40\%$ | |
| Mechanical Specification/机械指标 | | |
| Antenna type/天线类型 | FPC+Cable | |
| Connector Type/连接器类型 | USS RF I代 (089) | |
| RF Cable Type/射频线型号 | OD1.13 Black | |
| Connector Torque Test/连接器扭力 | N/A | |
| Connector Pull Test/连接器拉力 | ≤ 1.0 kgf | |
| Salt Spray/盐雾测试 | 48 H | |
| Environmental Specification /环境指标 | | |
| Operating temp/工作温度 | $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$ | |
| Storage temp/存储温度 | $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$ | |

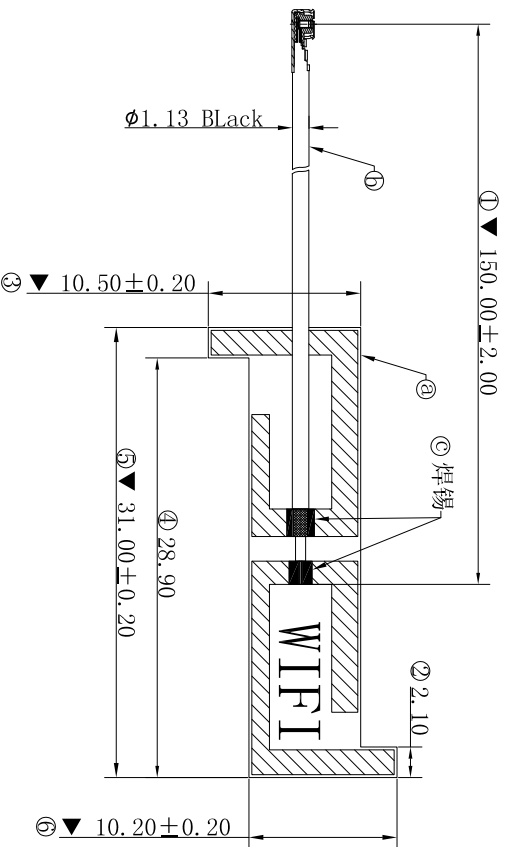
2. Antenna Picture/天线图片



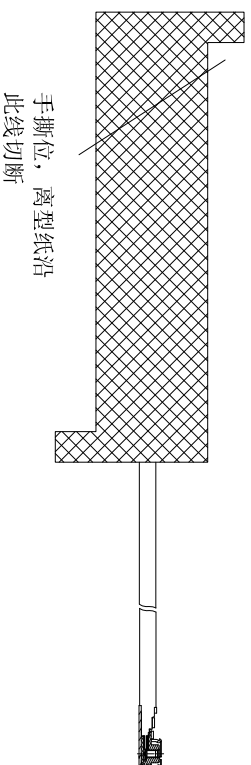
送样规格

| REV. | ECN NUMBER | DESCRIPTION | DATE | DRAWN | CHECKED | APPROVED |
|------|------------|-------------|----------|-------|---------|----------|
| X1 | ECN200301 | 初版发行 | 03/25'20 | 梁兑泉 | 丁第斌 | 张英杰 |

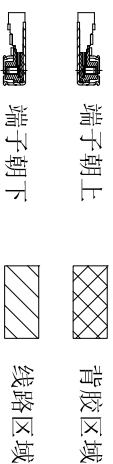
正面



反面



- 说明:
1. 测试要求: 全检VSWR测试, 矩阵测试;
测试范围: 2400-2500 ≤ 2.0
5150-5850 ≤ 3.0
 2. 允许最大毛边0.05MAX.
 3. 焊接不能虚焊、假焊, 焊点须饱满, 屏蔽层不能有烫伤。
 4. 标有“▼”为QC重点检测尺寸。
 5. 符合我司ROHS及相关可靠性测试等相关要求。

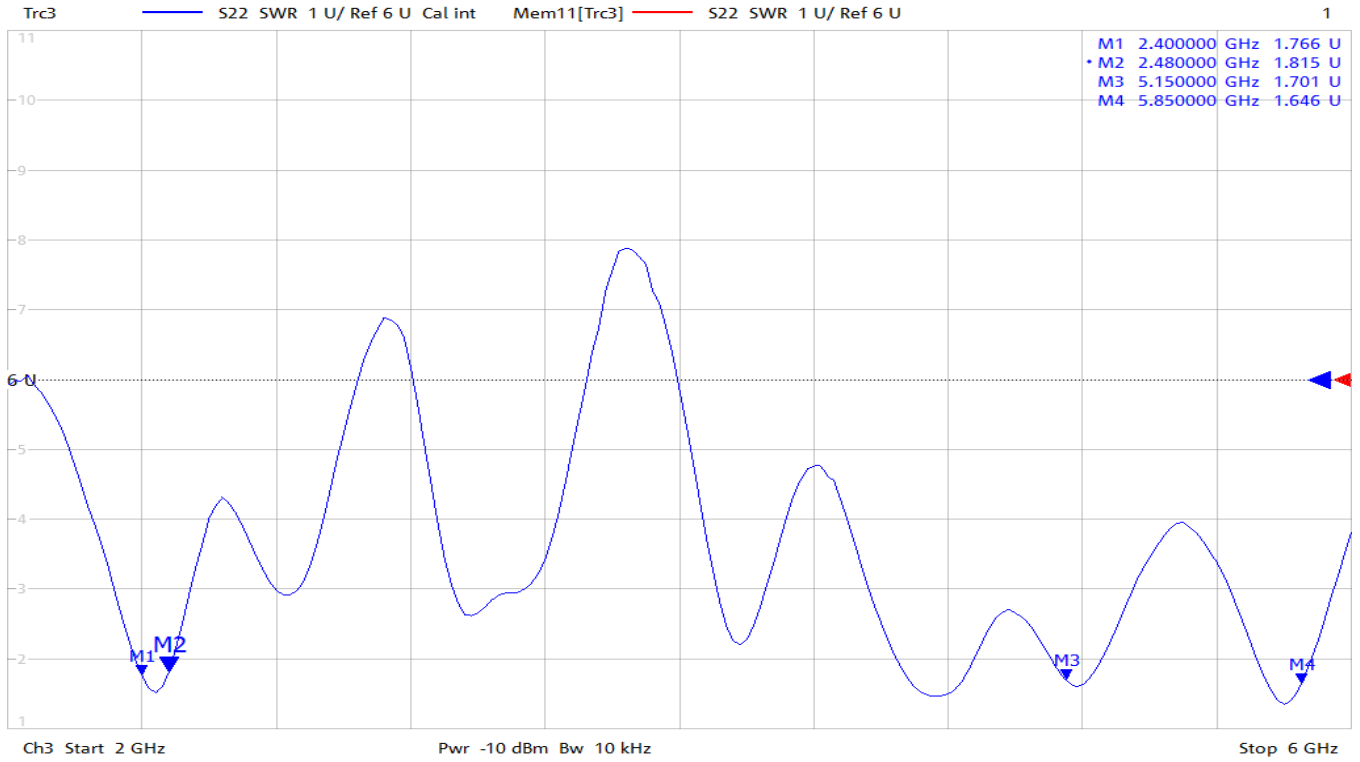


| ITEM | PART NAME | Q'TY | MATERIAL / FINISH |
|------|--------------|------|---------------------------------------|
| c | Tin | | |
| b | CABLE(Ø1.13) | 1 | USS RF CABLE, G1, SG, 113BK, 150, 089 |
| a | FPC | 1 | WIFI_31*10.6_BK_FPC |

| | | | | | | | | | | | |
|--|--|--|--|------------------------------------|--|--|--|---|--|--|--|
| | | GENERAL TOLERANCE .XXX ± 0.05 .XX ± 0.10 .X ± 0.2 | | SCALE: 1:1 UNIT: mm SIZE: A4 | | DRAWN: 梁兑泉 CHECK: APPROVE: DATE: 03/25'20 | | DWG. NO: 600-U195-01 PARTS NO. (INTENDED USE): 81800U195 | | TITLE: ANT_IN_2.4-5.8G_31.0*10.5_5073-FPC-113BK REV. X1 SHEET: 1/1 | |
|--|--|--|--|------------------------------------|--|--|--|---|--|--|--|

4. Antenna test result/测试结果

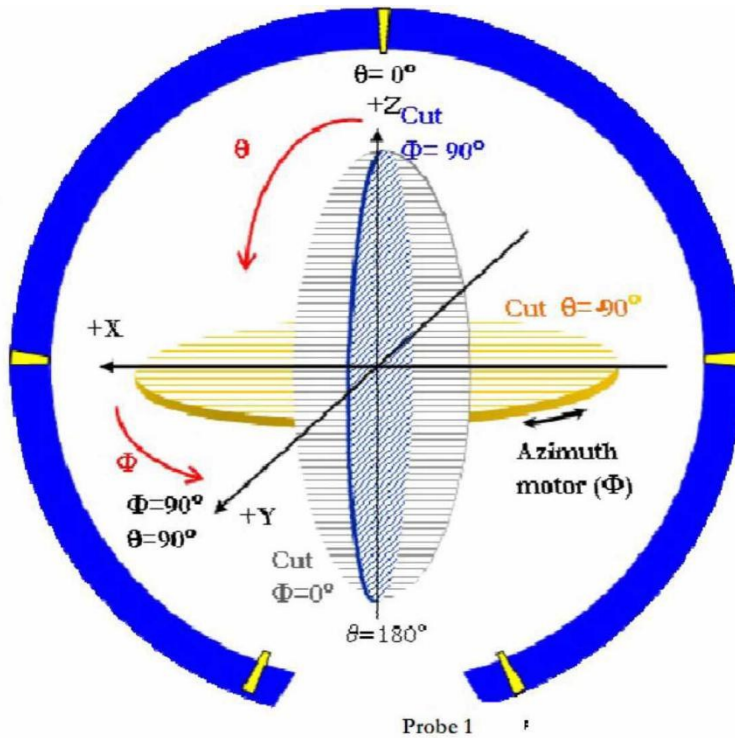
4.1 Return VSWR/驻波比



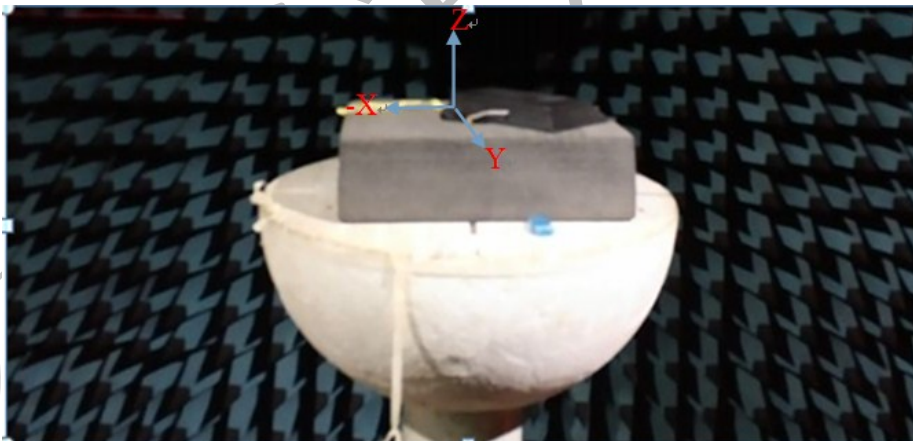
海瑞尔

4.2 The gain and total efficiency test/增益和效率测试

4.2.1 The definition of coordinate system/坐标系定义-Satimo SG24



The coordinate system of Chamber/暗室坐标系



The production test position/天线测试放置位置

4.2.2 The test result of total efficiency and total gain/天线效率及增益测试结果

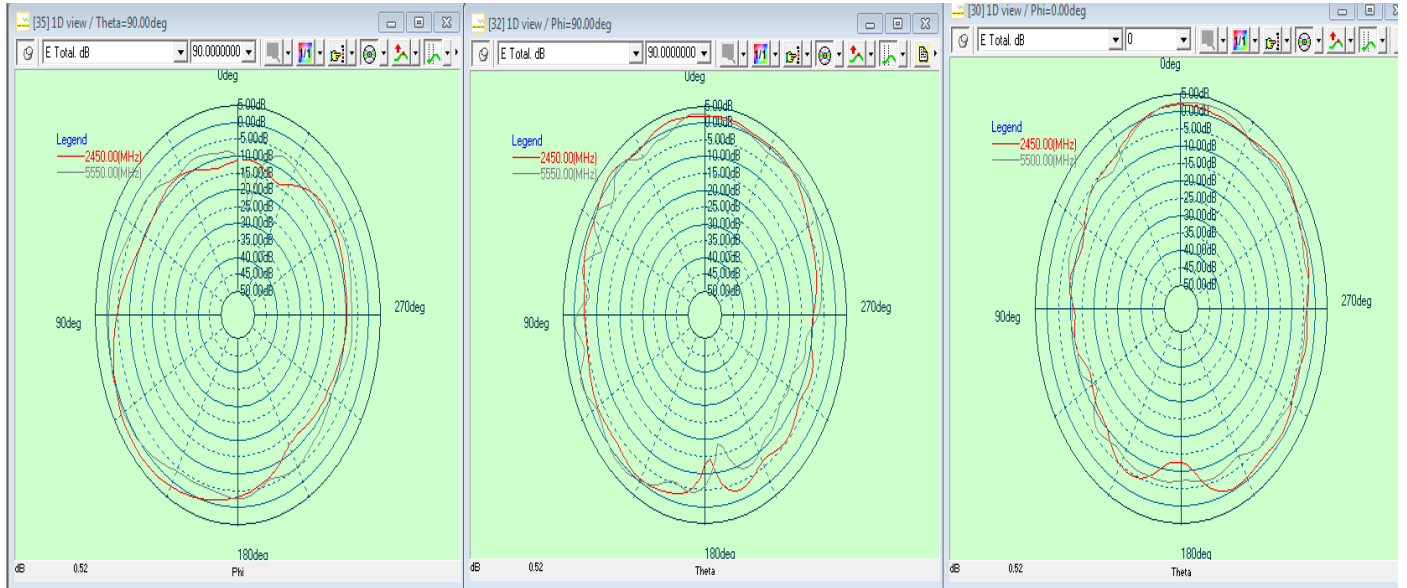
2400-2500MHz

| Frequency | Efficiency(%) | Gain (dBi) |
|-----------|---------------|------------|
| 2400MHz | 53% | 4.45 |
| 2410MHz | 51% | 4.28 |
| 2420MHz | 58% | 4.85 |
| 2430MHz | 55% | 4.60 |
| 2440MHz | 58% | 4.80 |
| 2450MHz | 55% | 4.65 |
| 2460MHz | 56% | 4.73 |
| 2470MHz | 59% | 4.91 |
| 2480MHz | 59% | 4.91 |
| 2490MHz | 57% | 4.79 |
| 2500MHz | 57% | 4.70 |
| AVG. | 56% | 4.70 |

5150-5850MHz

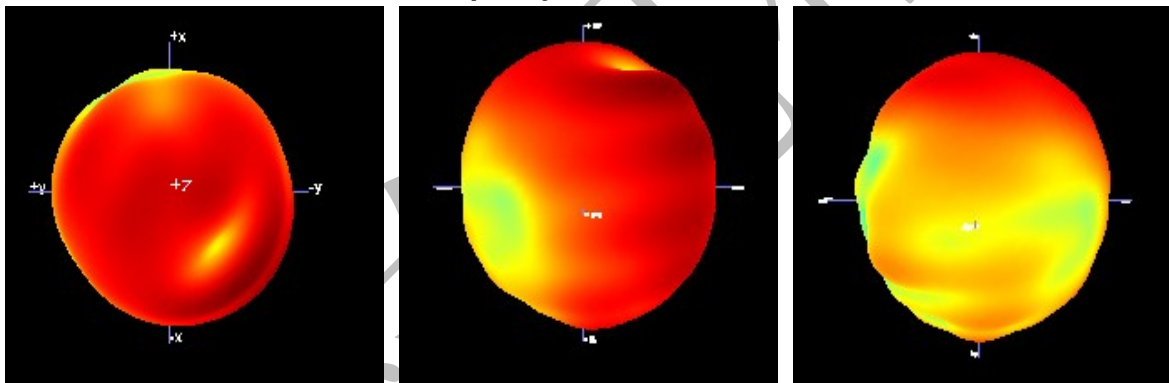
| | | |
|---------|-----|------|
| 5150MHz | 66% | 3.72 |
| 5200MHz | 63% | 3.64 |
| 5250MHz | 55% | 3.12 |
| 5300MHz | 47% | 2.33 |
| 5350MHz | 46% | 2.42 |
| 5400MHz | 45% | 2.58 |
| 5450MHz | 43% | 2.46 |
| 5500MHz | 44% | 2.90 |
| 5550MHz | 45% | 3.07 |
| 5600MHz | 46% | 3.16 |
| 5650MHz | 45% | 3.12 |
| 5700MHz | 53% | 3.85 |
| 5750MHz | 62% | 4.77 |
| 5800MHz | 65% | 5.16 |
| 5850MHz | 56% | 4.40 |
| AVG. | 52% | 3.38 |

4.2.3 The antenna radiation pattern(2D)/天线辐射方向图 (2D)



4.2.4 The antenna radiation pattern(3D)/天线辐射方向图 (3D)

Frequency/频点 2450MHz

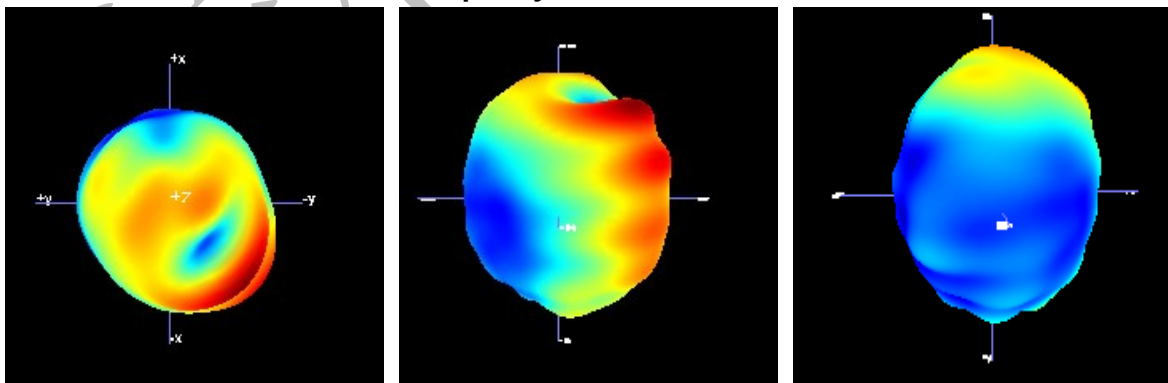


XOY

YOZ

XOZ

Frequency/频点 5550MHz



XOY

YOZ

XOZ