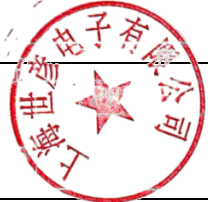


# 樣品承認書

## SAMPLE SPECIFICATION FOR APPROVAL

|                      |                                                                                      |
|----------------------|--------------------------------------------------------------------------------------|
| 品名: Product Name:    | WIFI天线/WIFI Antenna                                                                  |
| 型号: Type:            | TM750-N65 PCB                                                                        |
| 料号: Material number: | 1000438628                                                                           |
| 核准: APPROVAL BY:     | 刘建                                                                                   |
| 校对: CHECKED BY:      | 袁三华                                                                                  |
| 主办: PREPARED BY:     | 吕艳姣                                                                                  |
| 承認章: APPROVED        |  |

廠商名稱: 上海世彦电子有限公司

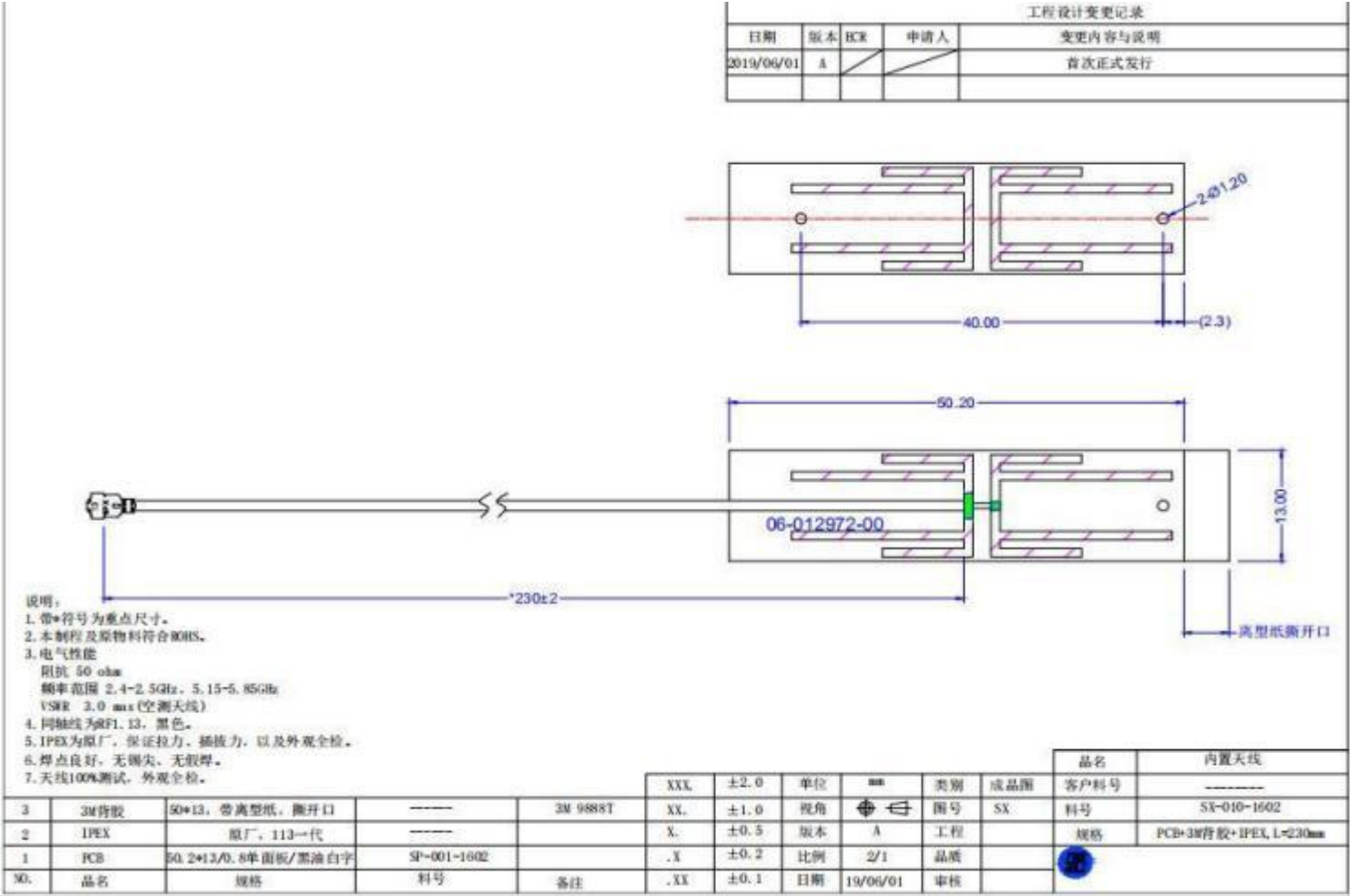
Manufactory: SHANGHAI SHIYAN ELECTRONIC CO., LTD.

電話 TEL: 021-59912076

地址: 上海市嘉定区双单路86弄3号201室

Adress: Room 201, No.3, Lane 86, Shuangdan, Road, Jiading District, Shanghai

1. 产品图纸 Product drawing

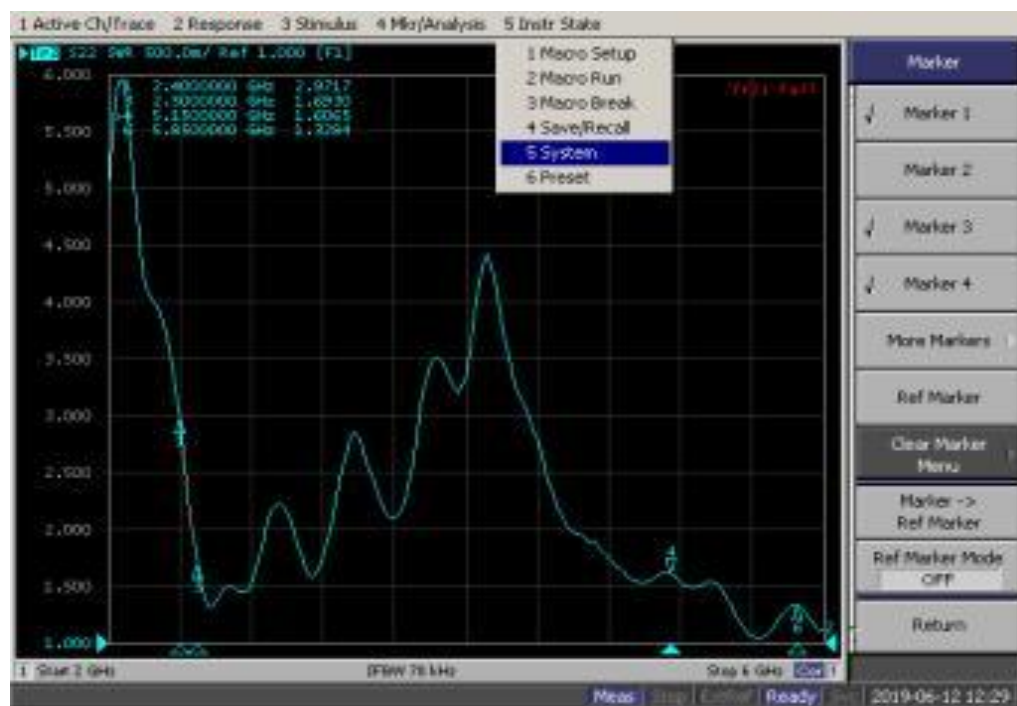


### 3.性能参数 Performance parameter

| 电气参数 electric parameter                      |                                                 |
|----------------------------------------------|-------------------------------------------------|
| 频率范围 frequency range                         | 2.4-2.5GHz&5.15-5.85GHz                         |
| 输入阻抗 input impedance                         | 50Ω                                             |
| 驻波比 standing-wave ratio (SWR)                | 3.0 Max （单测天线monostatic antenna）                |
| 增益 gain                                      | 4DBi Max （含机器测试included machine test）           |
| 方向性 directivity                              | 全向性 omnidirectional                             |
| 结构 construction                              | PCB内置式 PCB built-in                             |
| 机械参数 mechanical parameter                    |                                                 |
| 外形尺寸 boundary dimension                      | 见产品图面 See product drawing                       |
| 产品见线长度 product line length                   | 230mm                                           |
| 连接器 connector                                | I-PEX 113一代原厂 First generation original factory |
| 线缆规格 Cable specification                     | 1.13mm灰色gray                                    |
| 连接器插拔力 Connector insertion and removal force | 1N min                                          |
| 连接器拉力 Connector tension                      | 1kg min                                         |
| 安装方式 way to install                          | 背胶(3M 9888T) gum                                |
| 环境参数 enviromental parameter                  |                                                 |
| 工作温度 operating temperature                   | -40℃～85℃                                        |
| 储存温度 storage temperature                     | -30℃～60℃                                        |
|                                              |                                                 |

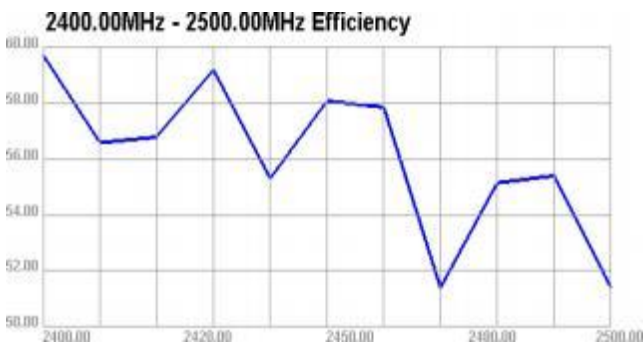
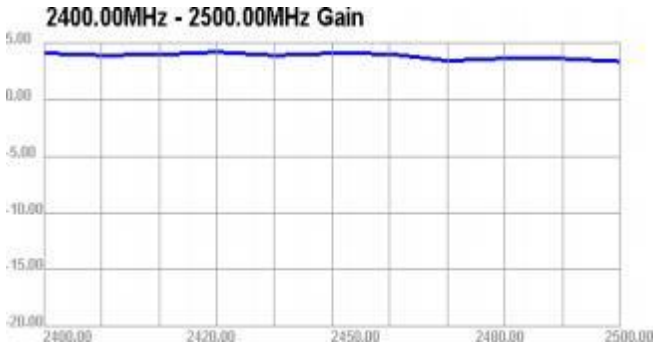
## 4.测试报告 test report

### 4.1 测试仪器：安捷伦5071B网络分析仪 Test instrument: Agilent 5071B network analyzer

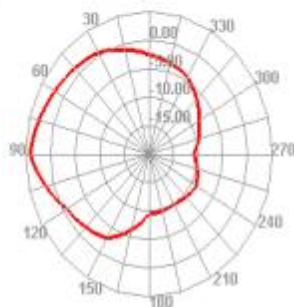
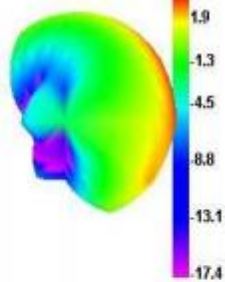


4.2 暗室测试数据 Darkroom test data

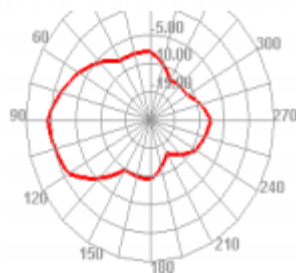
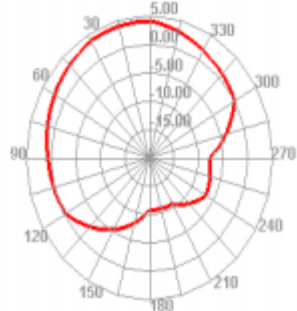
| Passive Test For wifi 2G |       |       |       |       |        |        |      |        |         |         |
|--------------------------|-------|-------|-------|-------|--------|--------|------|--------|---------|---------|
| Freq                     | Effi  | Effi  | Gain  | Gain  | UHS    | DHIS   | Max  | Min    | Attenut | Attenut |
| (MHz)                    | (%)   | (dB)  | (dBi) | (dBd) | (%)    | (%)    | (dB) | (dB)   | Hor     | Ver     |
| 2400                     | 59.72 | -2.24 | 3.98  | 1.83  | 32.84  | 26.875 | 3.98 | -17.39 | 53.00   | 53.23   |
| 2410                     | 56.59 | -2.47 | 3.9   | 1.75  | 30.883 | 25.705 | 3.90 | -18.08 | 53.32   | 53.52   |
| 2420                     | 56.79 | -2.46 | 3.95  | 1.80  | 30.851 | 25.937 | 3.95 | -18.29 | 52.86   | 53.2    |
| 2430                     | 59.19 | -2.28 | 4.00  | 1.85  | 32.031 | 27.157 | 4.00 | -18.70 | 53.57   | 53.66   |
| 2440                     | 55.31 | -2.57 | 3.89  | 1.74  | 29.847 | 25.46  | 3.89 | -19.36 | 52.54   | 52.99   |
| 2450                     | 58.08 | -2.36 | 3.97  | 1.82  | 31.309 | 26.77  | 3.97 | -19.96 | 53.19   | 53.21   |
| 2460                     | 57.86 | -2.38 | 3.92  | 1.77  | 31.221 | 26.635 | 3.92 | -20.69 | 53.03   | 53.24   |
| 2470                     | 51.40 | -2.89 | 3.41  | 1.26  | 27.777 | 23.622 | 3.41 | -21.46 | 53.21   | 53.22   |
| 2480                     | 55.15 | -2.58 | 3.62  | 1.47  | 29.862 | 25.288 | 3.62 | -21.63 | 53.24   | 53.18   |
| 2490                     | 55.41 | -2.56 | 3.6   | 1.45  | 30.041 | 25.365 | 3.60 | -22.67 | 53.52   | 53.62   |
| 2500                     | 51.42 | -2.89 | 3.35  | 1.20  | 27.872 | 23.552 | 3.35 | -23.33 | 53.79   | 53.65   |



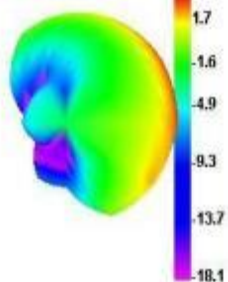
2400.000MHz



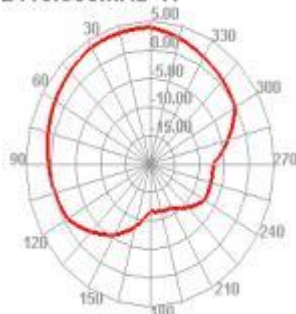
2400.000MHz H



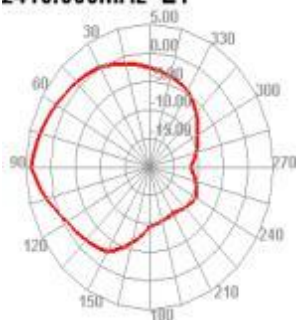
2410.000MHz



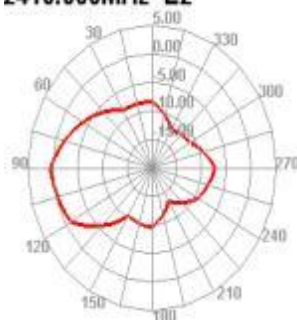
2410.000MHz H



2410.000MHz E1

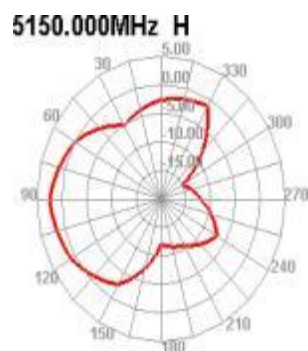
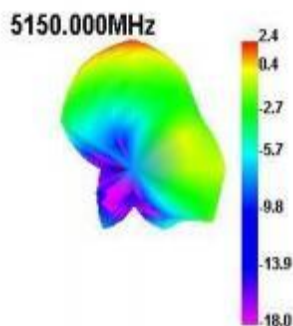
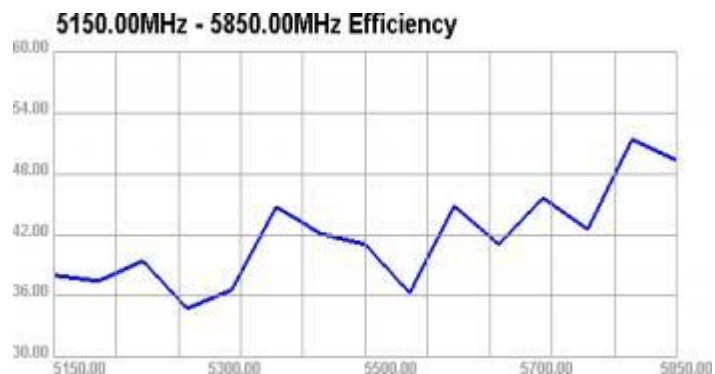


2410.000MHz E2

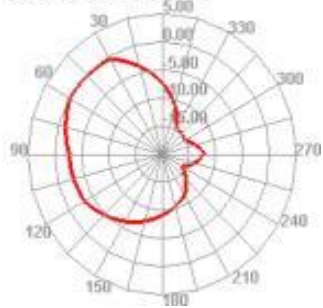


Passive Test For wifi 5G

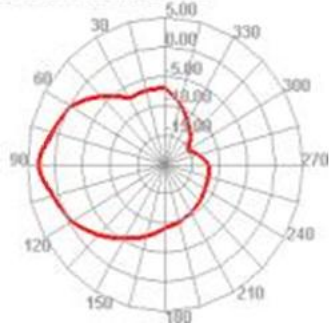
| Freq  | Effi  | Effi  | Gain  | Gain  | UHS    | DHIS   | Max  | Min    | Attenut | Attenut |
|-------|-------|-------|-------|-------|--------|--------|------|--------|---------|---------|
| (MHz) | (%)   | (dB)  | (dBi) | (dBd) | (%)    | (%)    | (dB) | (dB)   | Hor     | Ver     |
| 5150  | 38.06 | -4.20 | 3.42  | 1.27  | 20.20  | 17.86  | 3.42 | -17.97 | 62.84   | 62.57   |
| 5200  | 37.49 | -4.26 | 3.71  | 1.56  | 19.764 | 17.724 | 3.71 | -17.65 | 61.73   | 61.35   |
| 5250  | 39.46 | -4.04 | 4.00  | 1.85  | 20.87  | 18.591 | 4.00 | -15.47 | 62.93   | 62.37   |
| 5300  | 34.8  | -4.58 | 2.85  | 0.70  | 18.095 | 16.708 | 2.85 | -18.48 | 61.36   | 60.93   |
| 5350  | 36.65 | -4.36 | 3.55  | 1.40  | 19.196 | 17.449 | 3.55 | -20.38 | 61.22   | 60.71   |
| 5400  | 44.77 | -3.49 | 4.02  | 1.87  | 22.782 | 21.989 | 4.02 | -18.51 | 62.43   | 61.9    |
| 5450  | 42.14 | -3.75 | 4.03  | 1.88  | 21.743 | 20.397 | 4.03 | -19.99 | 63.60   | 62.9    |
| 5500  | 41.08 | -3.86 | 3.91  | 1.76  | 21.089 | 19.989 | 3.91 | -20.14 | 65.14   | 64.12   |
| 5550  | 36.32 | -4.4  | 3.65  | 1.50  | 18.839 | 17.48  | 3.65 | -25.00 | 65.11   | 63.89   |
| 5600  | 44.85 | -3.48 | 4.02  | 1.87  | 23.274 | 21.577 | 4.02 | -20.48 | 64.72   | 63.83   |
| 5650  | 41.1  | -3.86 | 3.63  | 1.48  | 21.785 | 19.32  | 3.63 | -23.21 | 63.85   | 63.02   |
| 5700  | 45.65 | -3.41 | 3.60  | 1.45  | 24.664 | 20.981 | 3.60 | -25.11 | 64.09   | 63.27   |
| 5750  | 42.56 | -3.71 | 3.61  | 1.46  | 22.892 | 19.671 | 3.61 | -19.86 | 65.29   | 64.54   |
| 5800  | 51.39 | -2.89 | 3.85  | 1.70  | 28.1   | 23.288 | 3.85 | -18.35 | 65.22   | 64.34   |
| 5150  | 38.06 | -4.2  | 2.42  | 0.27  | 20.2   | 17.86  | 2.42 | -17.97 | 62.84   | 62.57   |



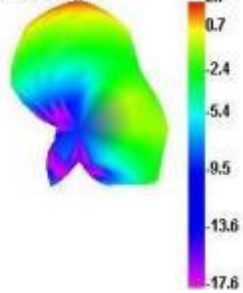
5150.000MHz E1



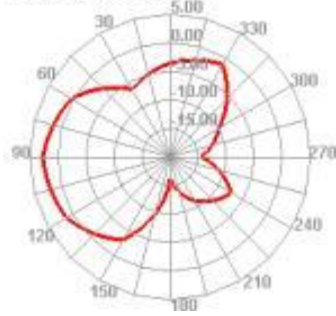
5150.000MHz E2



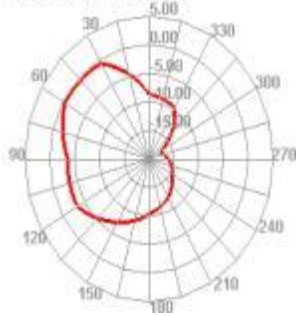
5200.000MHz



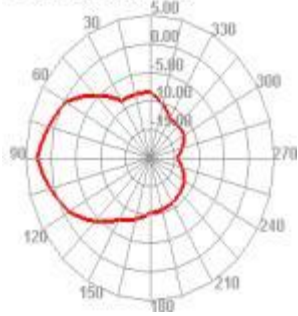
5200.000MHz H



5200.000MHz E1



5200.000MHz E2



END