

# 承認書

## APPROVAL SHEET

|                            |  |
|----------------------------|--|
| 客戶名稱:<br>CUSTOMER<br>NAME: |  |
|----------------------------|--|

物料編號:

PARTNO:

產品品名:

TYPE NAME:

178外甩2.4g wifi天线 (2.4g WIFI antenna)

客戶料號:

CUSTOM P/N:

規格:

SPECIFICATON:

IPEX1.13 线 100mm/30\*27.5

1. 新品承認 (Newly Approved)

☒

2. 材料變更再承認 (Material Approved)

☐

3. 規格變更再承認 (SPEC Approved)

☐

| 製造廠商/供應廠商承認欄                          |               |               | 客 戶 承 認 欄                             |               |                |
|---------------------------------------|---------------|---------------|---------------------------------------|---------------|----------------|
| 承認章:<br>(APPROVAL BY) :               |               |               | 承認章:<br>(APPROVAL BY) :               |               |                |
| 承認日期:<br>(APPROVAL DATE) : 2023 年 月 日 |               |               | 承認日期:<br>(APPROVAL DATE) : 2023 年 月 日 |               |                |
| 供應商 (SUPPLIER)                        |               |               | 客戶 (CUSTOMER)                         |               |                |
| 品質<br>Q. Dept                         | 工程<br>E. Dept | 業務<br>S. Dept | 經辦<br>TESTED                          | 審核<br>CHECKED | 核准<br>APPROVED |
| 吴仕娟                                   | 王世海           | 陈荣茂           |                                       |               |                |
| 日期 (DATE) : 2023 年 月 日                |               |               | 日期 (DATE) : 2023 年 月 日                |               |                |

公司名称: 深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

公司地址: 深圳市龙岗区宝龙街道同乐社区南同大道 5 号 (锦龙二路 15 号) B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话: TEL:0755-89329300

传

真:

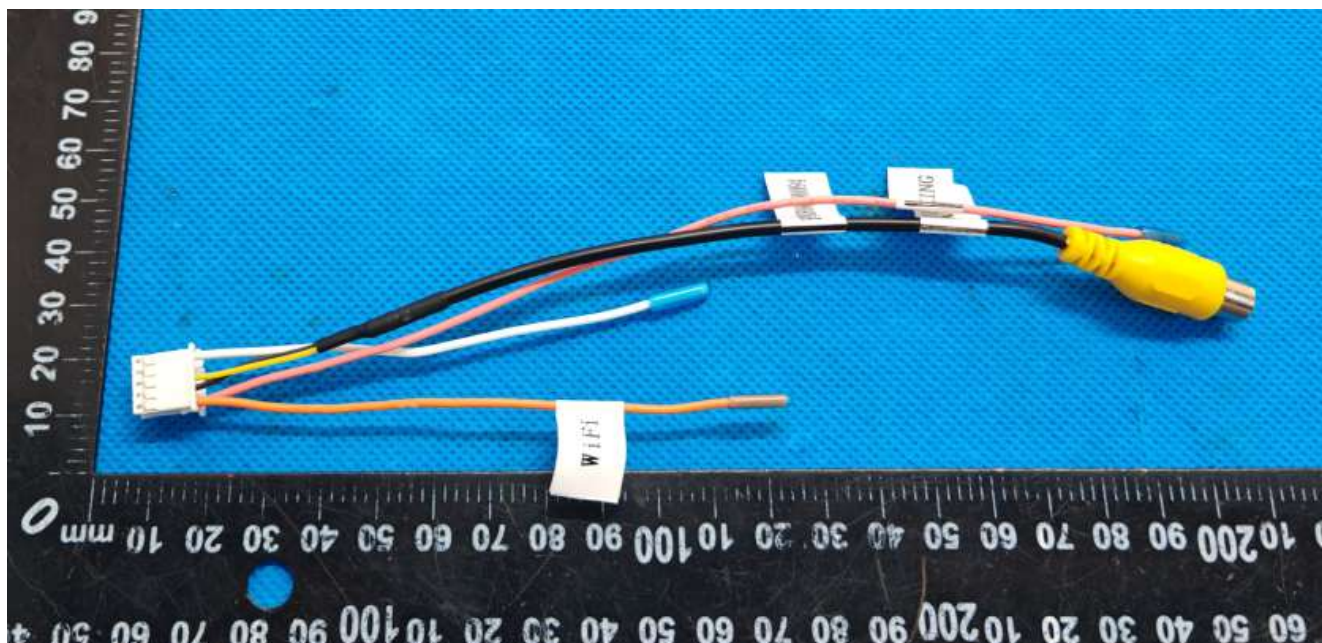
FAX:0755-28522900

网 址:

<http://www.szrestart.com>

电性能技术参数

|                          |                                                                   |
|--------------------------|-------------------------------------------------------------------|
| Model 型号                 | 178外甩2.4g wifi天线<br>(2.4g WIFI antenna)                           |
| Frequency Range 频率范围-MHz | 2400~2500MHz/5150~5850MHz                                         |
| Gain 增益                  | 2.4G: 0.75dBi, 5150-5250MHz: 2.76dBi                              |
| VSWR 电压驻波比               | ≤2.0                                                              |
| Input impedance 输入阻抗-Ω   | 50 Ω                                                              |
| Polarization 极化方式        | Vertical 垂直极化                                                     |
| Length长度 (mm)            | 30*27.5 / 线长 100                                                  |
| Weight 重量-g              | 2g                                                                |
| 环境 Environmental         | 1.工作温度 Working Temp -40℃~+85℃<br>2.湿度 Humidity Humidity 95%~100%R |



公司名称: 深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

公司地址: 深圳市龙岗区宝龙街道同乐社区南同大道 5 号 (锦龙二路 15 号) B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

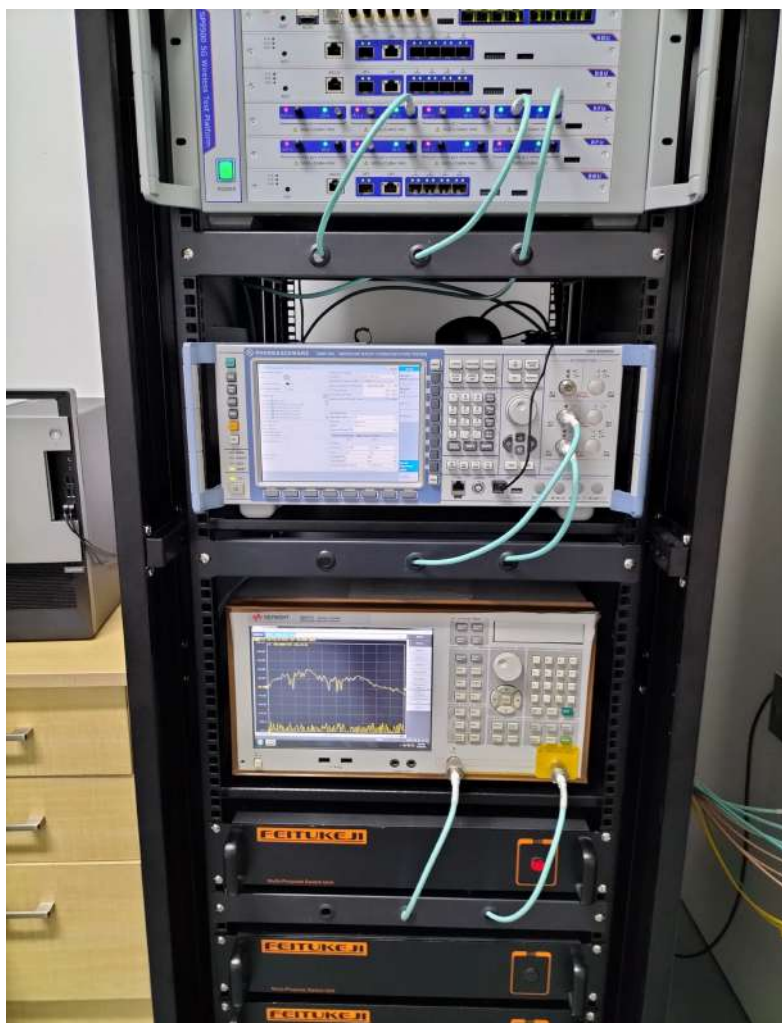
电 话: TEL:0755-89329300

传 真: FAX:0755-28522900

网 址: <http://www.szrestart.com>



测试设备



公司名称：深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

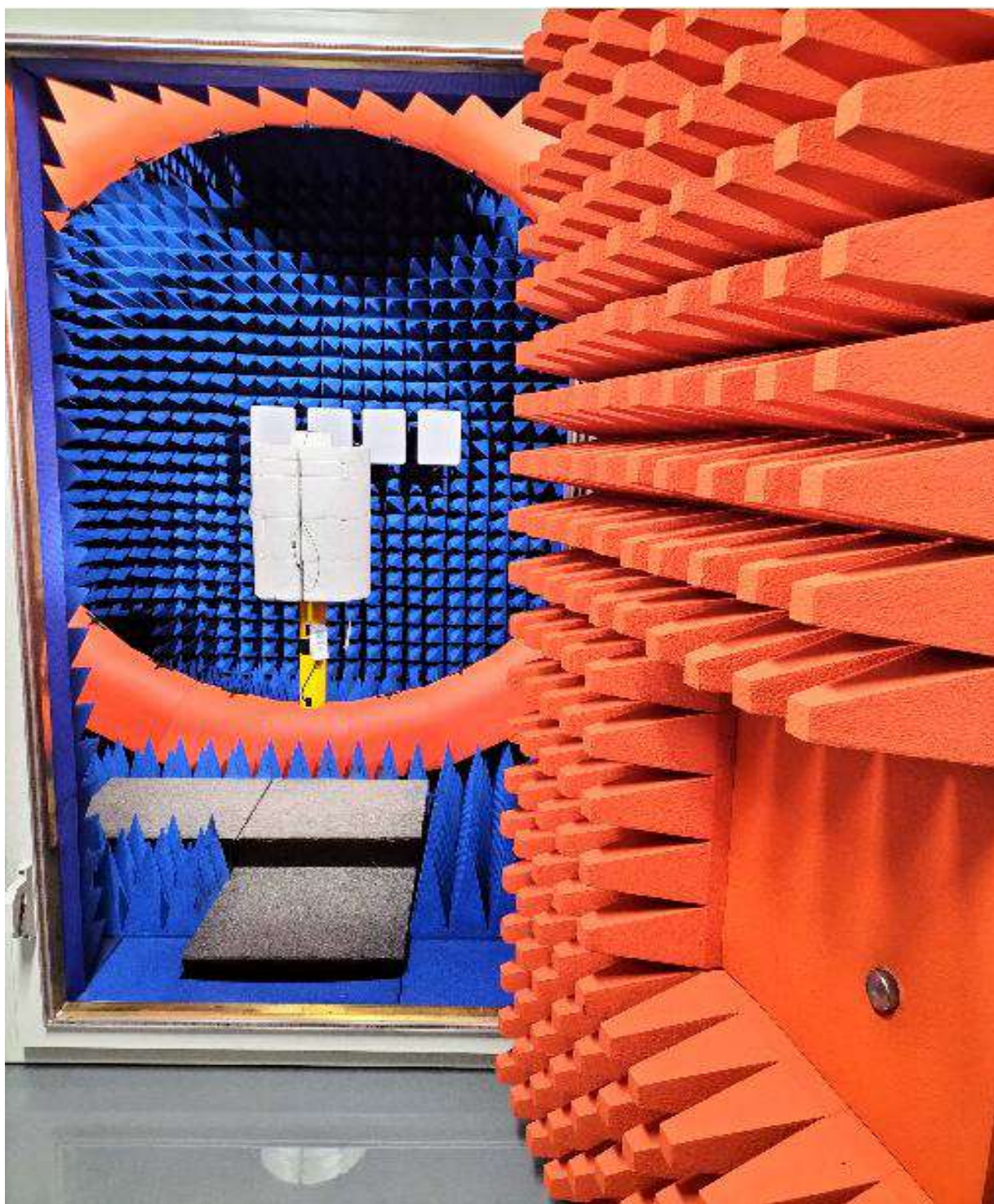
公司地址：深圳市龙岗区宝龙街道同乐社区南同大道 5 号（锦龙二路 15 号）B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street,  
Longgang District, Shenzhen

电 话：TEL:0755-89329300

传 真：FAX:0755-28522900

网 址：<http://www.szrestart.com>



公司名称：深圳市睿达永利科技有限公司

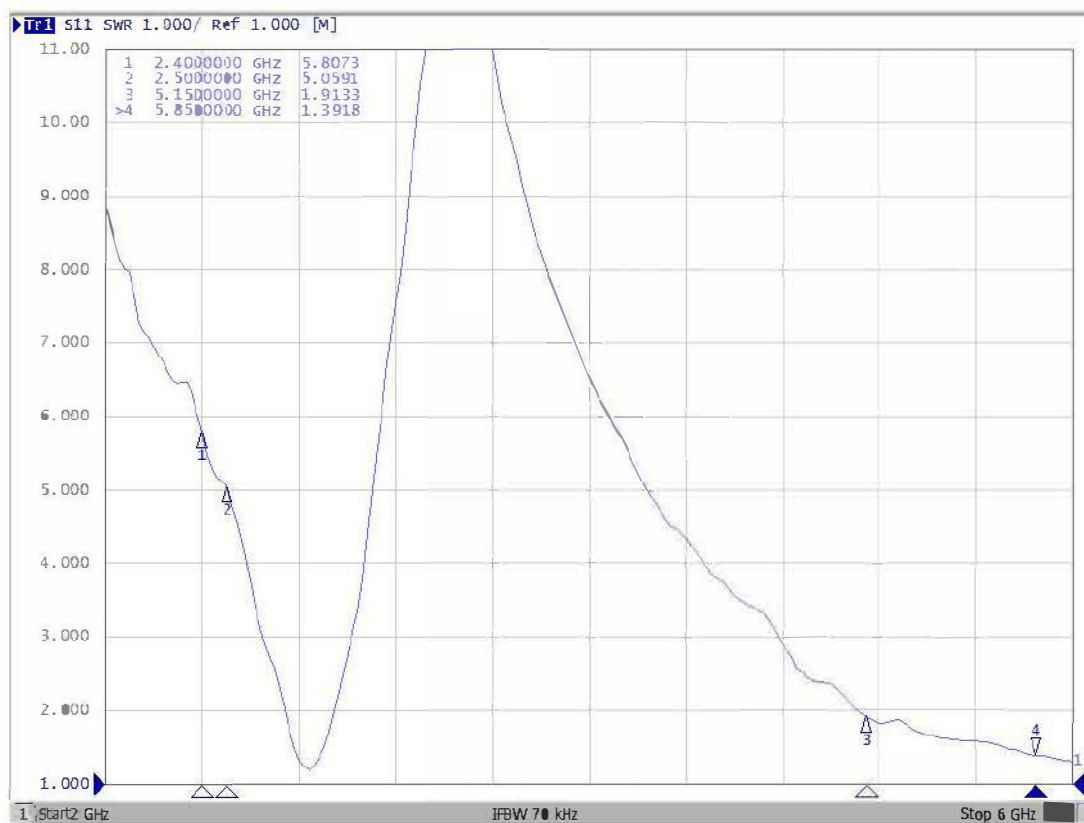
Shenzhen Ruida Yongli Technology Co., Ltd.

公司地址：深圳市龙岗区宝龙街道同乐社区南同大道 5 号（锦龙二路 15 号）B 栋厂房三楼

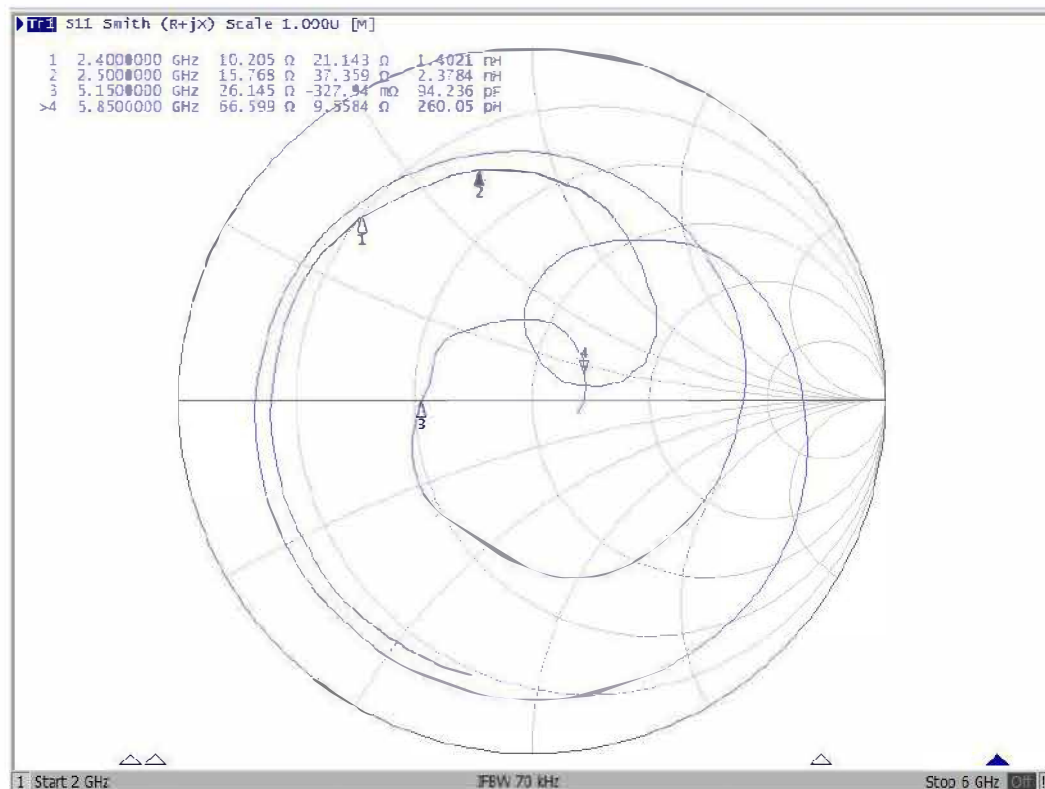
3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street,  
Longgang District, Shenzhen

电 话：TEL:0755-89329300 传 真：FAX:0755-28522900 网 址：<http://www.szrestart.com>

S11 驻波比



S11 阻抗



WIFI 2.4G passive efficiency data

公司名称: 深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

公司地址: 深圳市龙岗区宝龙街道同乐社区南同大道 5 号 (锦龙二路 15 号) B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话: TEL:0755-89329300

传 真: FAX:0755-28522900

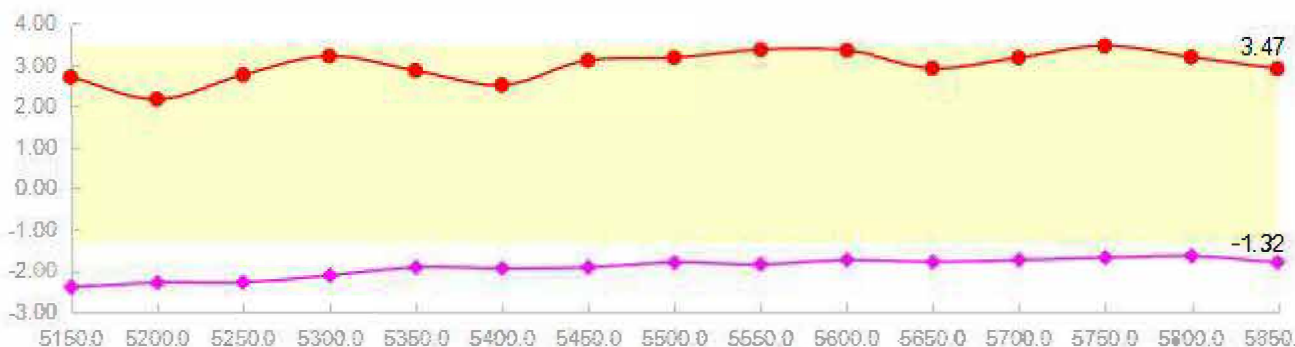
网 址: <http://www.szrestart.com>



| Frequency ID               | 1      | 2      | 3      | 4      | 5      | 6      |
|----------------------------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz)            | 2400.0 | 2420.0 | 2440.0 | 2460.0 | 2480.0 | 2500.0 |
| Efficiency (dBi)           | -5.29  | -5.22  | -5.16  | -4.65  | -4.22  | -3.77  |
| Gain (dBi)                 | -1.32  | -1.12  | -1.03  | -0.54  | 0.27   | 0.75   |
| Efficiency (%)             | 29.60  | 30.09  | 30.47  | 34.29  | 37.83  | 41.95  |
| Directivity (dB)           | 3.96   | 4.09   | 4.13   | 4.11   | 4.49   | 4.52   |
| Peak Gain Position (Theta) | 162.00 | 147.00 | 148.00 | 149.00 | 153.00 | 162.00 |
| Peak Gain Position (Phi)   | 293.00 | 59.00  | 50.00  | 35.00  | 352.00 | 301.00 |
| Efficiency ThetaPol (%)    | 8.52   | 8.73   | 9.29   | 11.01  | 12.62  | 13.46  |
| Efficiency PhiPol (%)      | 21.08  | 21.36  | 21.19  | 23.29  | 25.21  | 28.49  |
| Upper Hem. Efficiency (%)  | 14.68  | 14.85  | 14.88  | 16.55  | 18.18  | 20.06  |
| Lower Hem. Efficiency (%)  | 14.92  | 15.24  | 15.59  | 17.75  | 19.65  | 21.88  |

## WIFI5G passive efficiency data

| Frequency ID               | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz)            | 5150.0 | 5200.0 | 5250.0 | 5300.0 | 5350.0 | 5400.0 | 5450.0 | 5500.0 | 5550.0 | 5600.0 | 5650.0 | 5700.0 | 5750.0 | 5800.0 | 5850.0 |
| Efficiency (dBi)           | -2.41  | -2.30  | -2.29  | -2.13  | -1.92  | -1.95  | -1.92  | -1.80  | -1.85  | -1.74  | -1.79  | -1.74  | -1.68  | -1.65  | -1.80  |
| Gain (dBi)                 | 2.71   | 2.17   | 2.76   | 3.21   | 2.86   | 2.51   | 3.11   | 3.18   | 3.37   | 3.36   | 2.94   | 3.19   | 3.47   | 3.20   | 2.92   |
| Efficiency (%)             | 57.46  | 58.93  | 58.99  | 61.26  | 64.28  | 63.88  | 64.28  | 66.02  | 65.33  | 66.95  | 66.25  | 66.94  | 67.85  | 68.43  | 66.09  |
| Directivity (dB)           | 5.11   | 4.47   | 5.05   | 5.34   | 4.78   | 4.46   | 5.02   | 4.98   | 5.22   | 5.10   | 4.72   | 4.93   | 5.15   | 4.85   | 4.72   |
| Peak Gain Position (Theta) | 150.00 | 154.00 | 27.00  | 19.00  | 148.00 | 29.00  | 37.00  | 28.00  | 18.00  | 140.00 | 153.00 | 150.00 | 149.00 | 150.00 | 152.00 |
| Peak Gain Position (Phi)   | 344.00 | 13.00  | 0.00   | 274.00 | 346.00 | 3.00   | 14.00  | 13.00  | 275.00 | 356.00 | 59.00  | 56.00  | 57.00  | 60.00  | 62.00  |
| Efficiency ThetaPol (%)    | 18.25  | 17.93  | 18.88  | 21.73  | 19.73  | 20.00  | 21.88  | 21.19  | 20.30  | 20.72  | 21.59  | 21.40  | 21.61  | 22.26  | 22.71  |
| Efficiency PhiPol (%)      | 39.21  | 41.01  | 40.11  | 39.53  | 44.55  | 43.88  | 42.39  | 44.84  | 45.02  | 46.23  | 44.66  | 45.54  | 46.24  | 46.17  | 43.38  |
| Upper Hem. Efficiency (%)  | 26.49  | 28.10  | 29.32  | 30.46  | 29.67  | 30.06  | 29.70  | 31.54  | 32.37  | 30.56  | 31.32  | 30.89  | 30.90  | 31.09  | 30.83  |
| Lower Hem. Efficiency (%)  | 30.98  | 30.83  | 29.67  | 30.79  | 34.61  | 33.83  | 34.57  | 34.48  | 32.96  | 36.38  | 34.92  | 36.05  | 36.95  | 37.34  | 35.26  |



公司名称: 深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

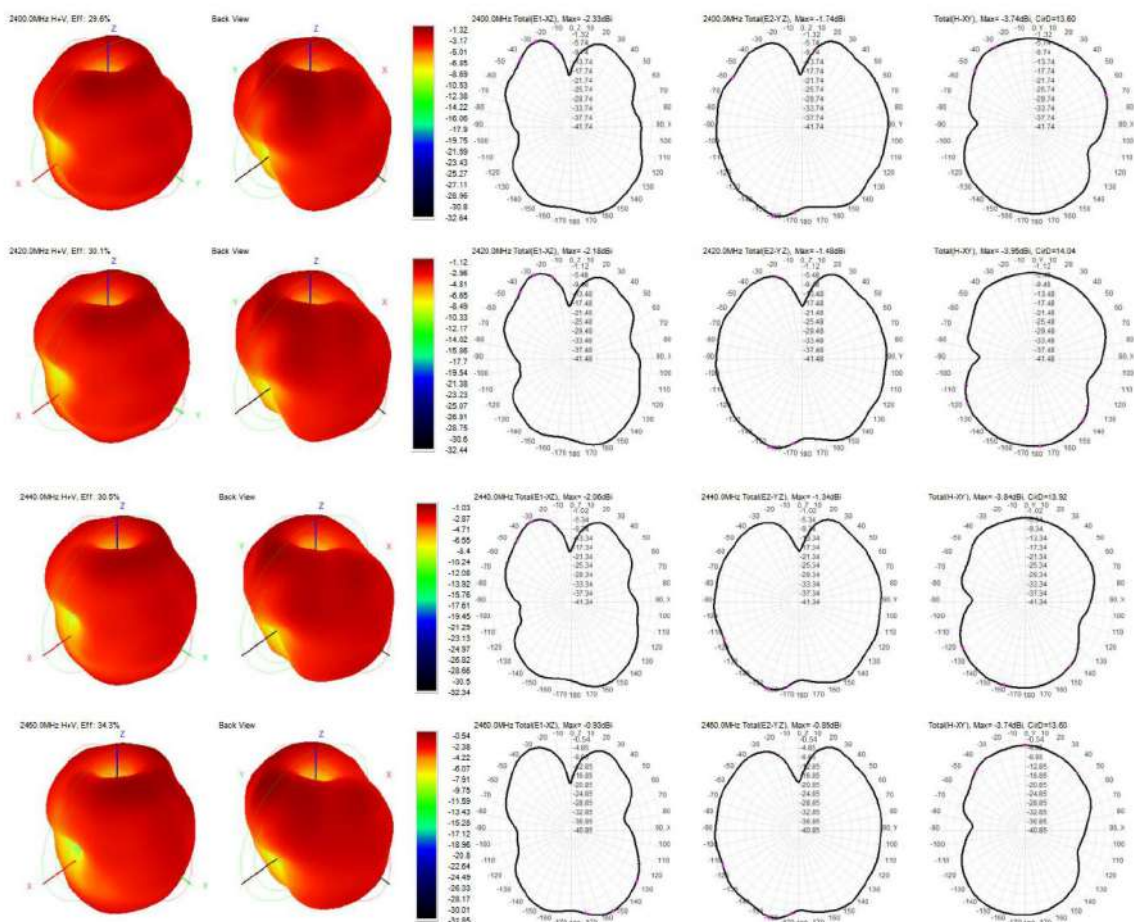
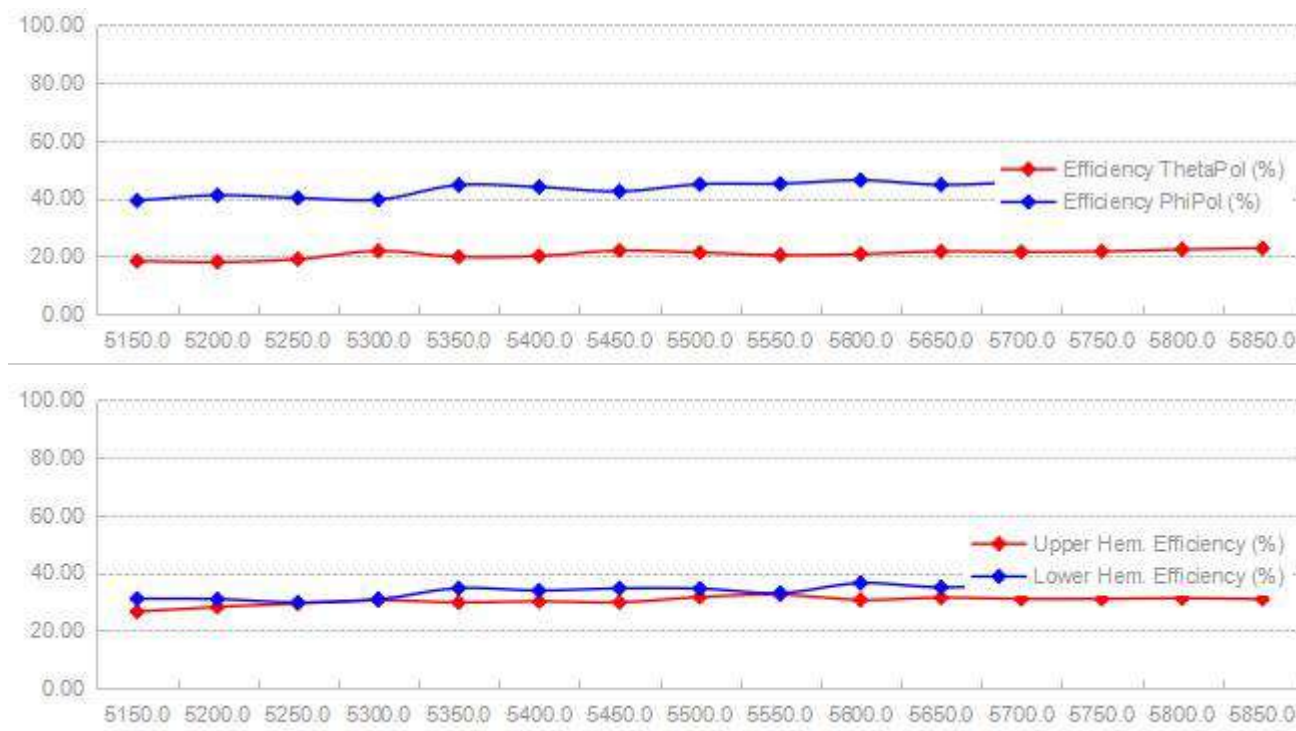
公司地址: 深圳市龙岗区宝龙街道同乐社区南同大道 5 号 (锦龙二路 15 号) B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话: TEL:0755-89329300

传 真: FAX:0755-28522900

网 址: <http://www.szrestart.com>



公司名称: 深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

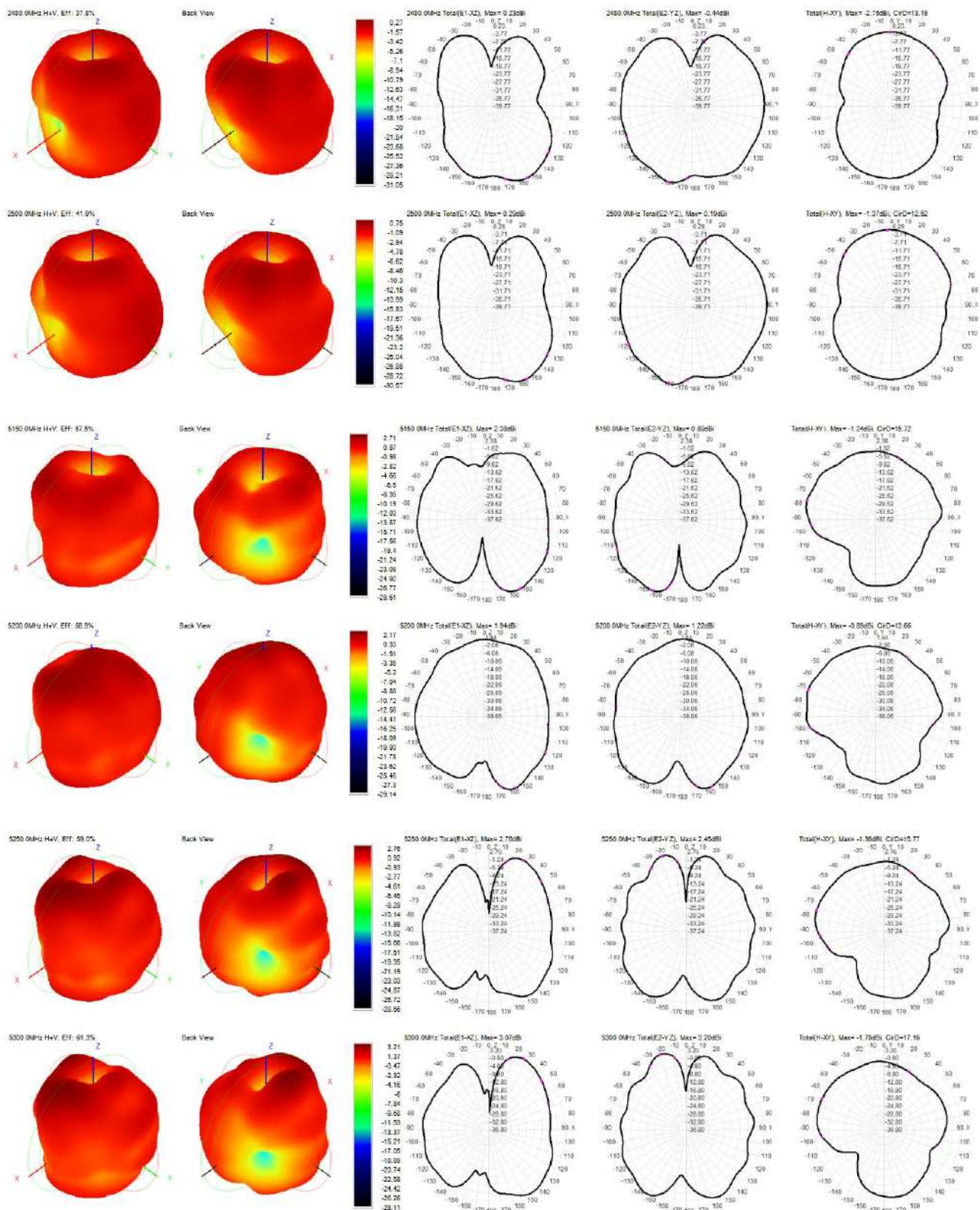
公司地址: 深圳市龙岗区宝龙街道同乐社区南同大道 5 号 (锦龙二路 15 号) B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话: TEL:0755-89329300

传 真: FAX:0755-28522900

网 址: <http://www.szrestart.com>



公司名称：深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

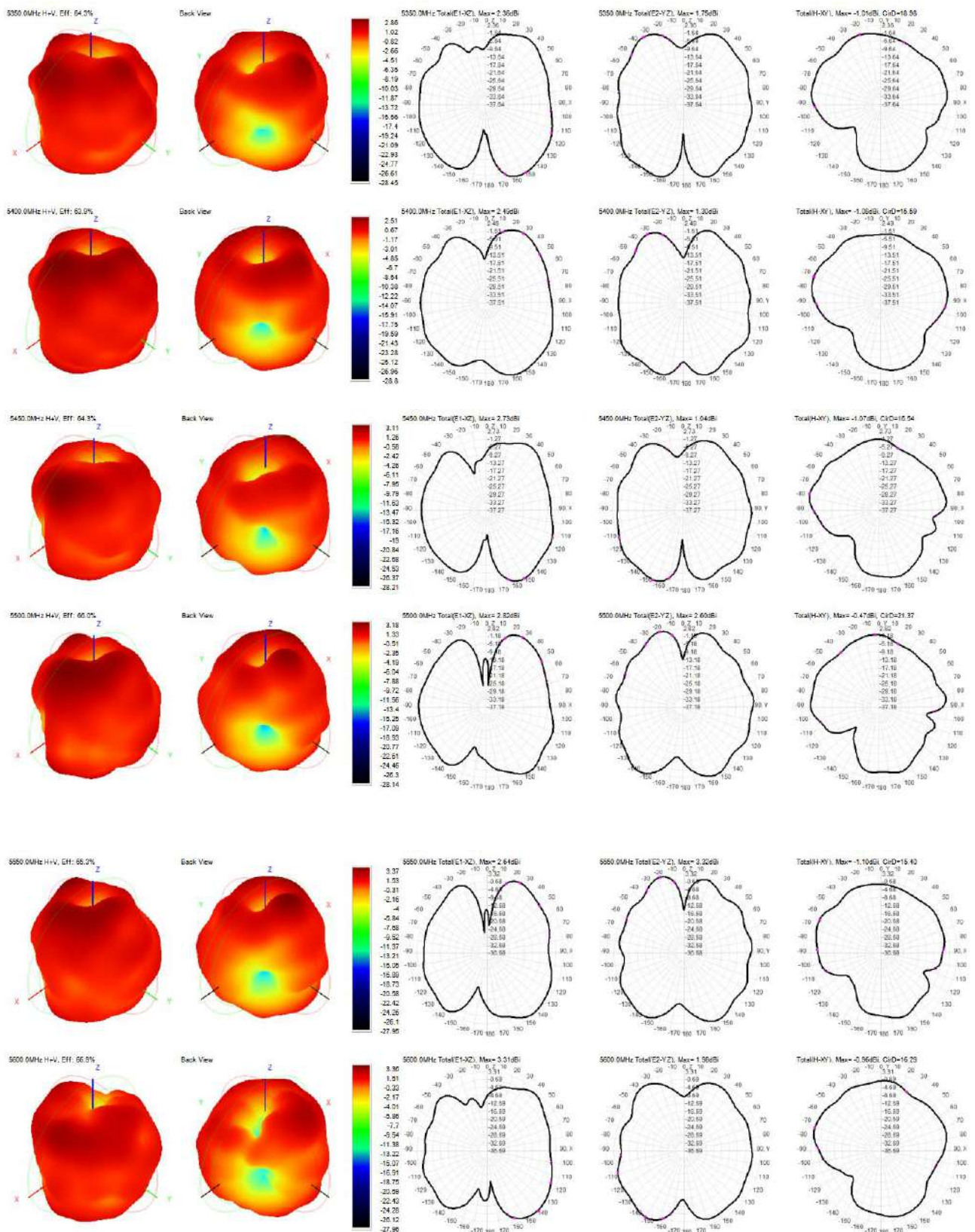
公司地址：深圳市龙岗区宝龙街道同乐社区南同大道 5 号（锦龙二路 15 号）B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话：TEL:0755-89329300

传 真：FAX:0755-28522900

网 址：<http://www.szrestart.com>



公司名称：深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

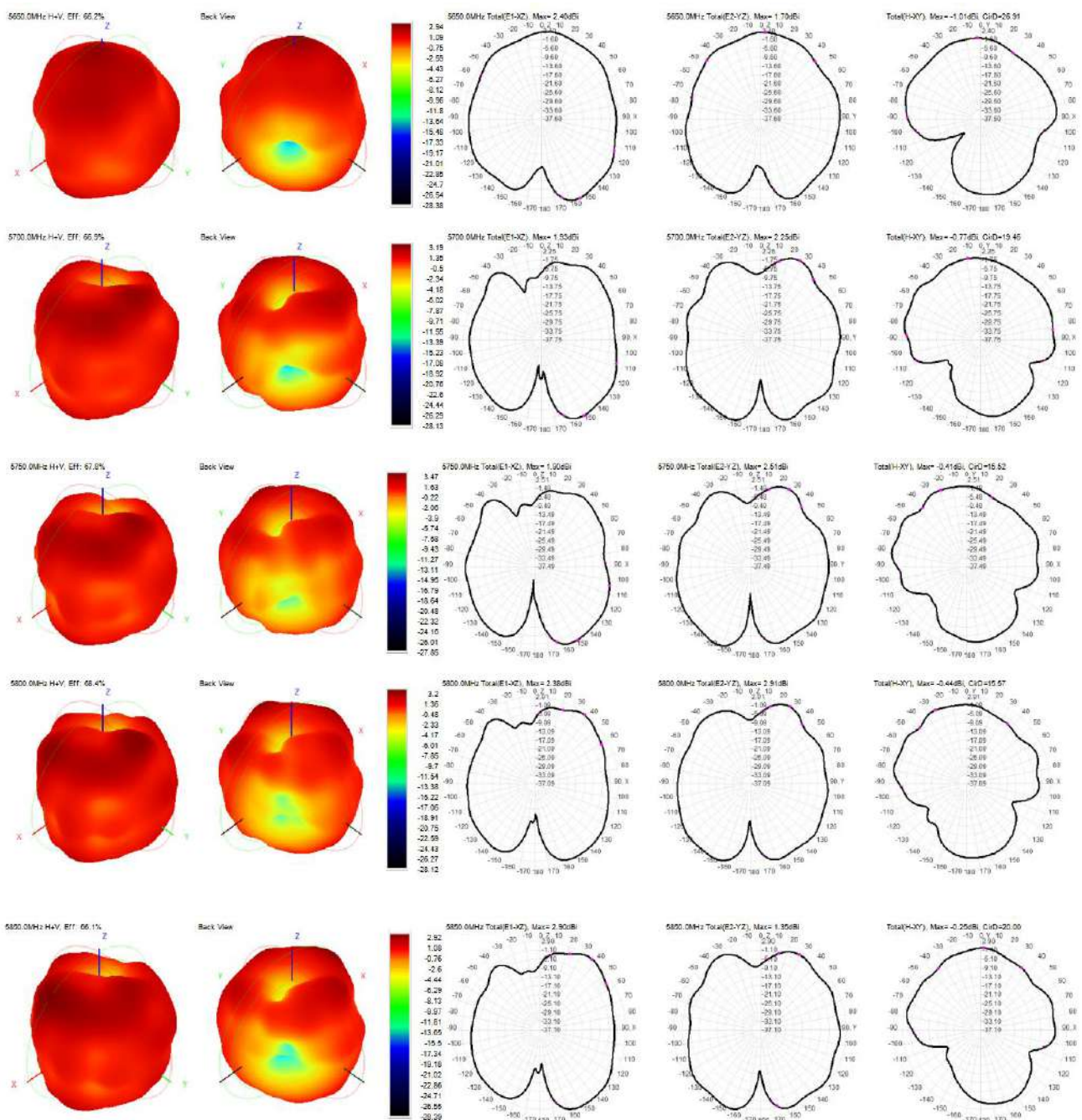
公司地址：深圳市龙岗区宝龙街道同乐社区南同大道 5 号（锦龙二路 15 号）B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话：TEL:0755-89329300

传 真：FAX:0755-28522900

网 址：<http://www.szrestart.com>



公司名称：深圳市睿达永利科技有限公司

Shenzhen Ruida Yongli Technology Co., Ltd.

公司地址：深圳市龙岗区宝龙街道同乐社区南同大道 5 号（锦龙二路 15 号）B 栋厂房三楼

3rd Floor, Factory Building B, No. 5 Nantong Avenue, Tongle Community, Baolong Street, Longgang District, Shenzhen

电 话：TEL:0755-89329300

传 真：FAX:0755-28522900

网 址：<http://www.szrestart.com>