

# Antenna Test Report

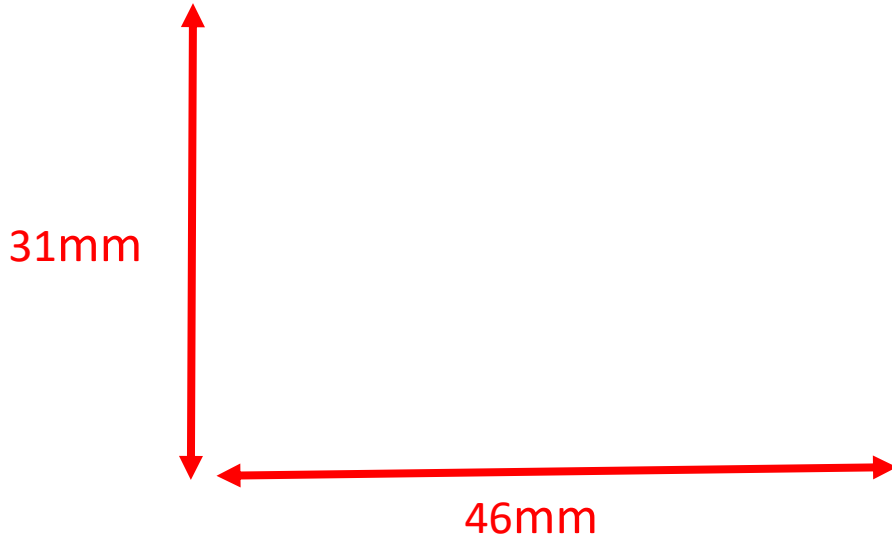
## -- V1.0

|              |                                              |
|--------------|----------------------------------------------|
| Customer     | 深圳市中龙通电子科技有限公司                               |
| Project name | WLAN 802.11<br>a/b/g/n+BLE5.0<br>Module Spec |
| IC Model     | N/A                                          |
| ANT Type     | PCB板载天线                                      |
| ANT Model    | ANT-2000-812                                 |
| Antenna Band | 2.4G/5.8G无源                                  |

2026/5/09

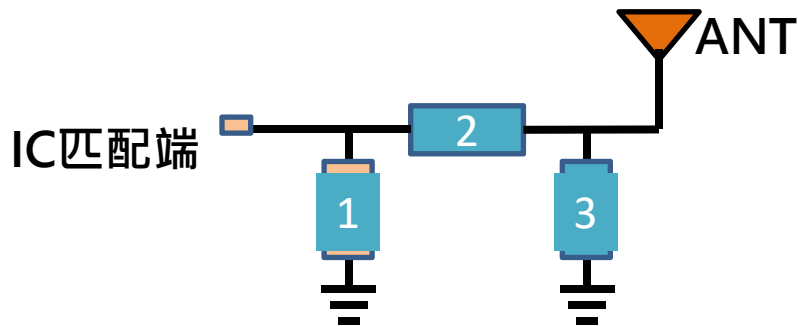
# Antenna Matching

- PCB Board Photo



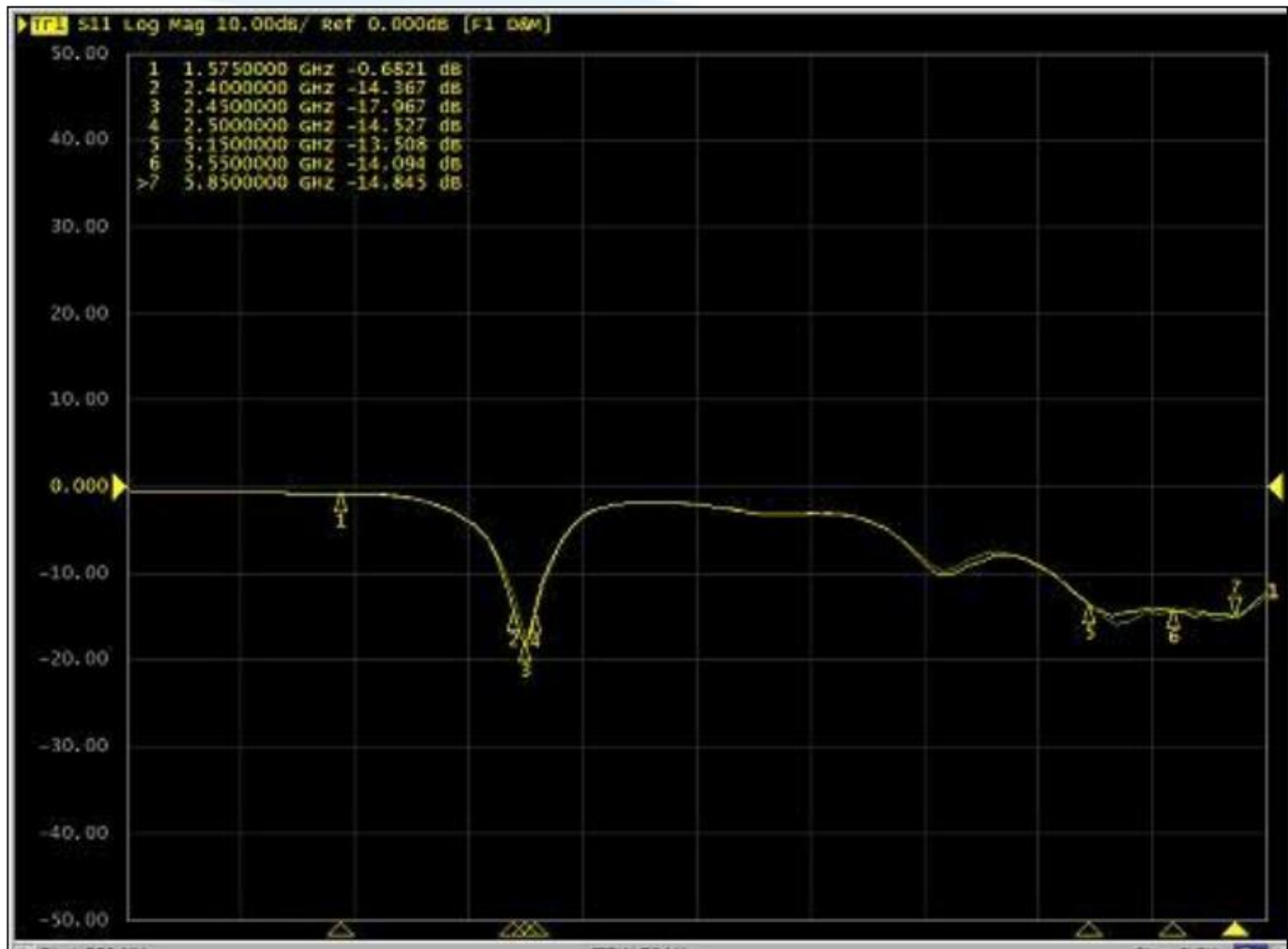
- 净空区大小(红框)约 10mm x 5mm

- Matching Parameters

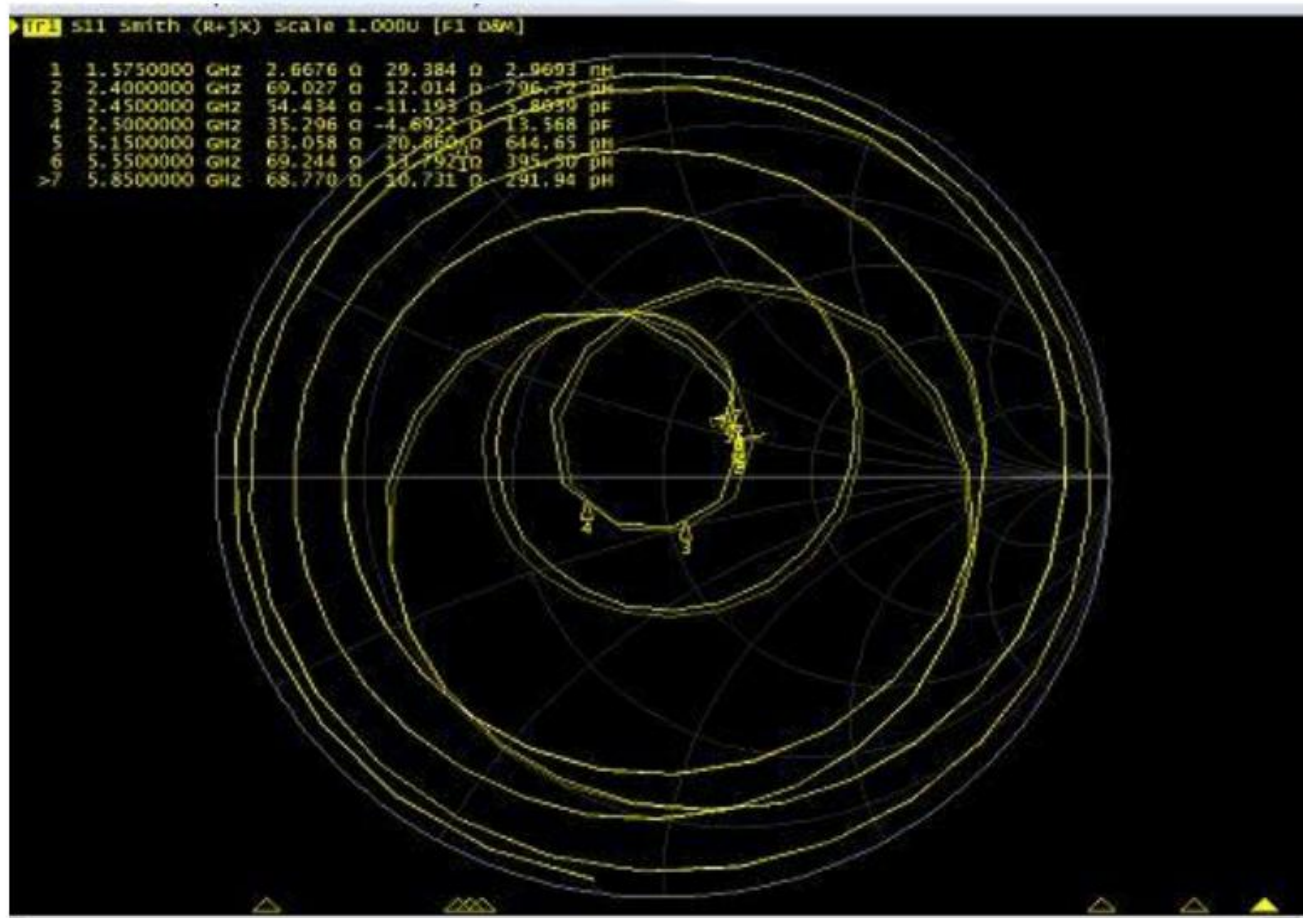


|     | LC   | P/N    |
|-----|------|--------|
| ANT | PIFA |        |
| 1   | --   | Murata |
| 2   | --   | Murata |
| 3   | --   | --     |

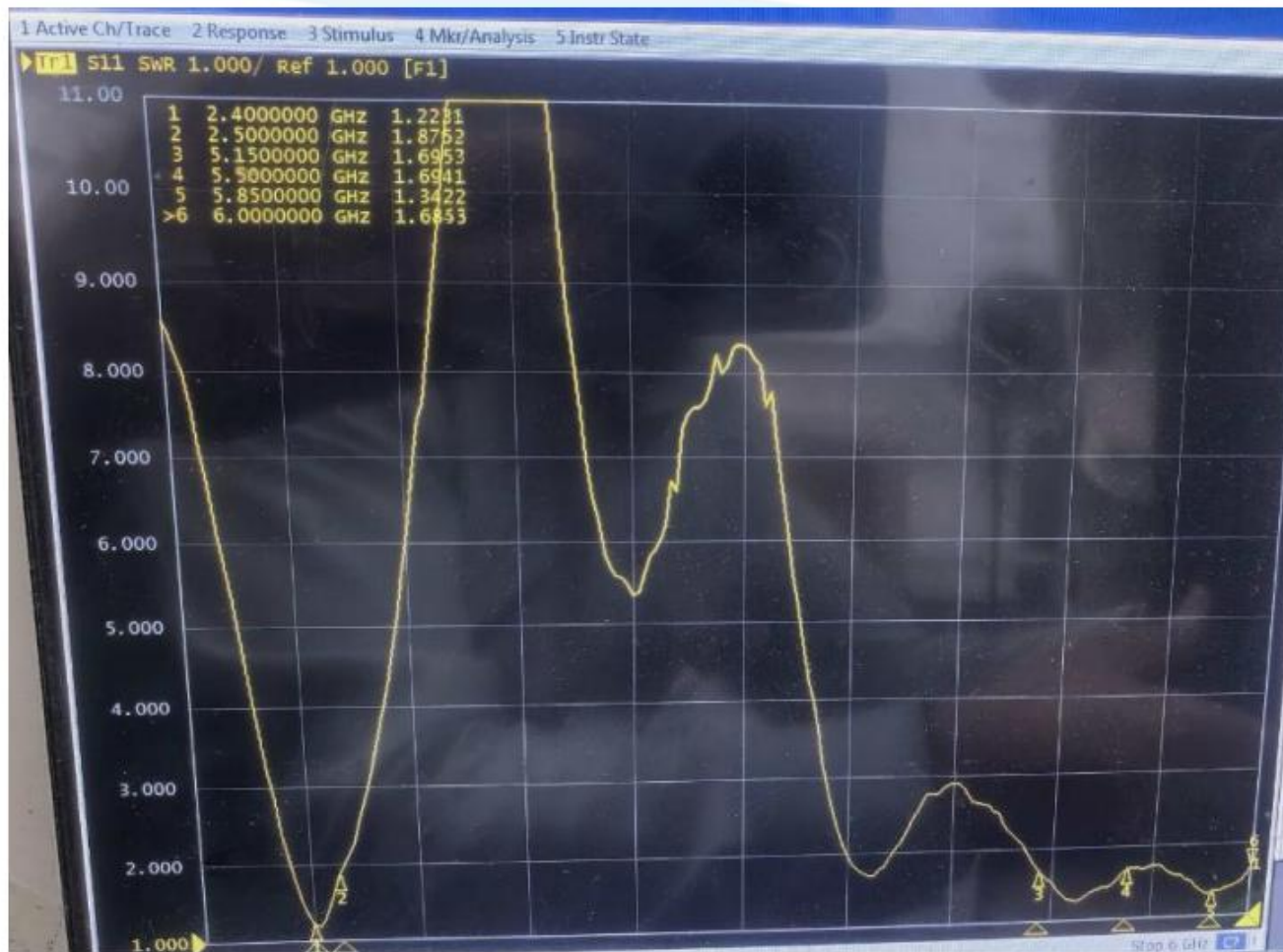
# Antenna S11 Parameter (回波损耗)



# Antenna S11 Parameter (smith图)



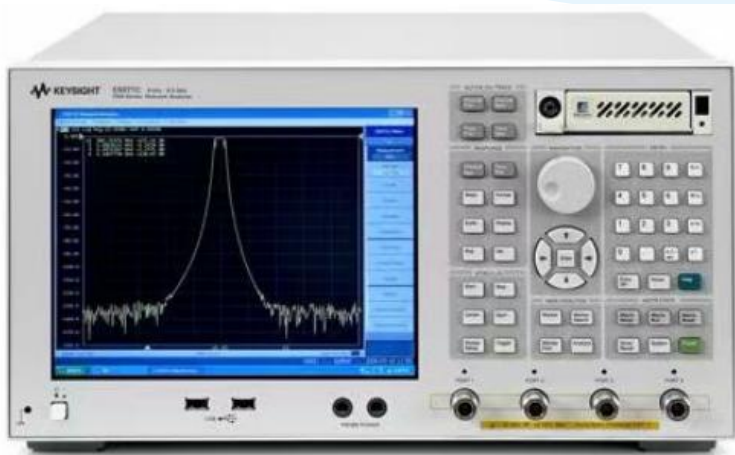
# Antenna S11 Parameter (SWR)



# 测试环境图



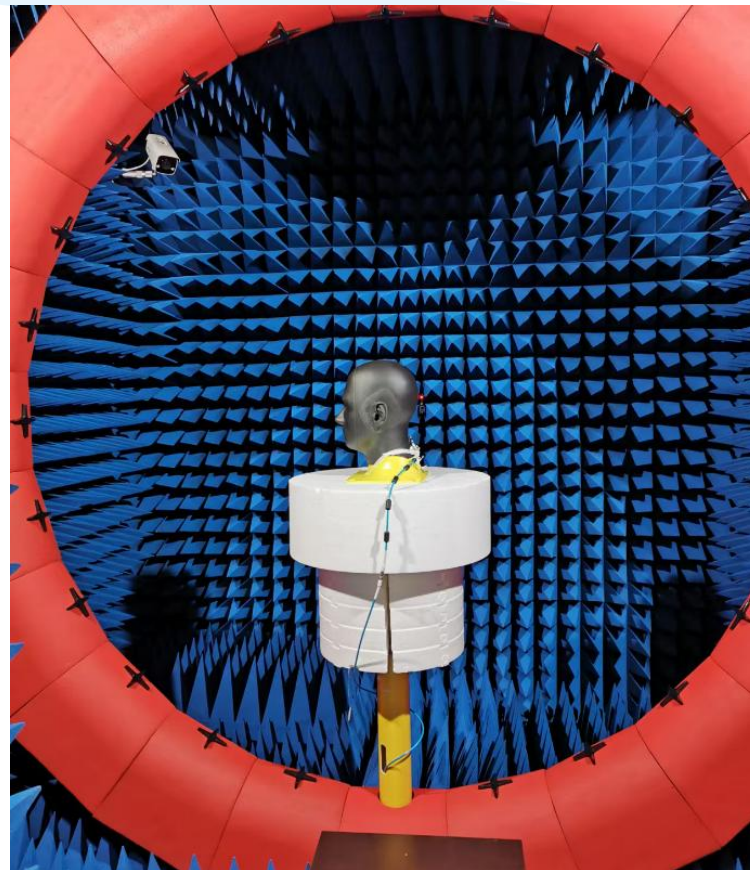
# OTA Test



网络分析仪 E5071C



综测仪 CMW500



多探头天线测试暗室

# Antenna Passive @2.45&5GHz

- Free-space Test (无源数据)

| Frequency       | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gain (dBi)      | 5.60  | 5.70  | 5.42  | 4.96  | 5.18  | 5.10  | 5.11  | 4.89  | 4.54  | 4.23  | 4.42  |
| Efficiency (dB) | -1.99 | -1.91 | -2.01 | -2.17 | -2.24 | -2.19 | -2.08 | -2.16 | -2.31 | -2.35 | -2.43 |
| Efficiency (%)  | 63.25 | 64.45 | 62.92 | 60.71 | 59.65 | 60.43 | 61.93 | 60.85 | 58.80 | 58.17 | 57.18 |

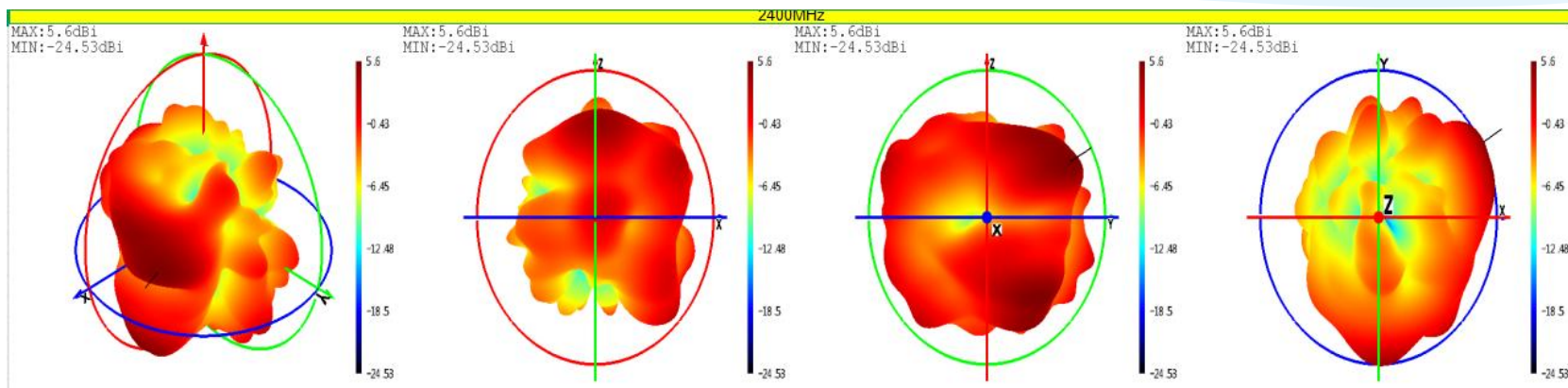
| 5140  | 5160  | 5180  | 5200  | 5220  | 5240  | 5260  | 5280  | 5300  | 5320  | 5340  | 5360  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2.75  | 2.00  | 2.45  | 2.71  | 3.41  | 3.70  | 3.72  | 3.89  | 3.83  | 3.61  | 3.77  | 3.75  |
| -2.82 | -3.73 | -3.41 | -3.47 | -3.32 | -2.72 | -2.84 | -2.93 | -3.09 | -3.26 | -2.96 | -2.83 |
| 52.18 | 42.41 | 45.62 | 44.94 | 46.54 | 53.47 | 52.01 | 50.90 | 49.05 | 47.20 | 50.58 | 52.17 |

| 5380  | 5400  | 5420  | 5440  | 5460  | 5480  | 5500  | 5520  | 5540  | 5560  | 5580  | 5600  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3.68  | 3.14  | 3.15  | 2.96  | 3.17  | 3.20  | 3.55  | 3.17  | 3.60  | 3.51  | 3.98  | 3.83  |
| -2.71 | -3.03 | -3.13 | -3.38 | -3.37 | -3.17 | -2.87 | -3.04 | -2.88 | -2.89 | -2.46 | -2.69 |
| 53.57 | 49.74 | 48.63 | 45.95 | 46.05 | 48.25 | 51.69 | 49.68 | 51.53 | 51.42 | 56.75 | 53.85 |

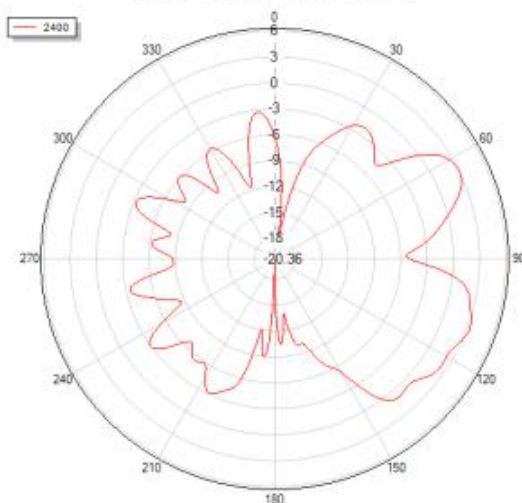
| 5620  | 5640  | 5660  | 5680  | 5700  | 5720  | 5740  | 5760  | 5780  | 5800  | 5820  | 5840  | 5860  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 4.18  | 3.55  | 3.40  | 3.69  | 3.87  | 4.36  | 4.38  | 4.14  | 4.18  | 3.86  | 3.99  | 4.17  | 4.46  |
| -2.45 | -2.78 | -2.98 | -2.70 | -2.63 | -2.41 | -2.18 | -2.30 | -2.44 | -2.86 | -2.86 | -3.25 | -2.98 |
| 56.87 | 52.73 | 50.32 | 53.72 | 54.60 | 57.44 | 60.54 | 58.89 | 57.07 | 51.77 | 51.80 | 47.28 | 50.40 |

# Antenna Passive @2400MHz

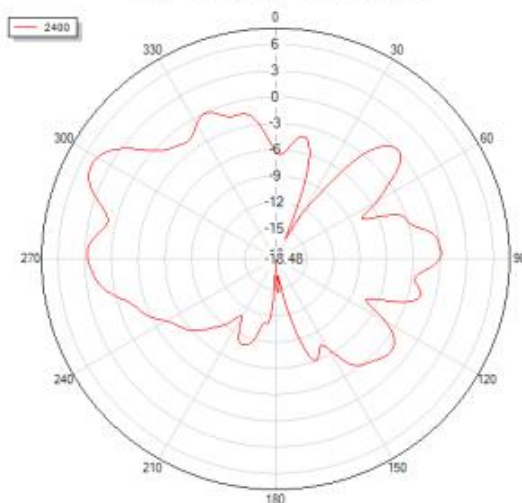
- Free-space Test



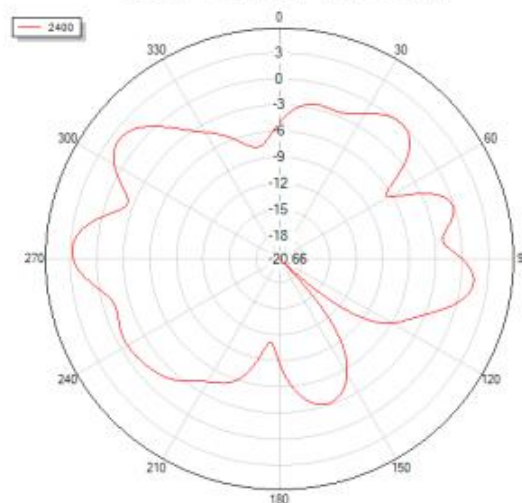
Phi=0 freq=2400MHz



Phi=90 freq=2400MHz

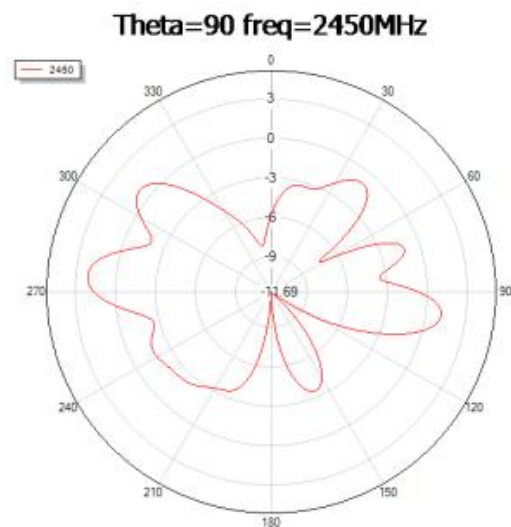
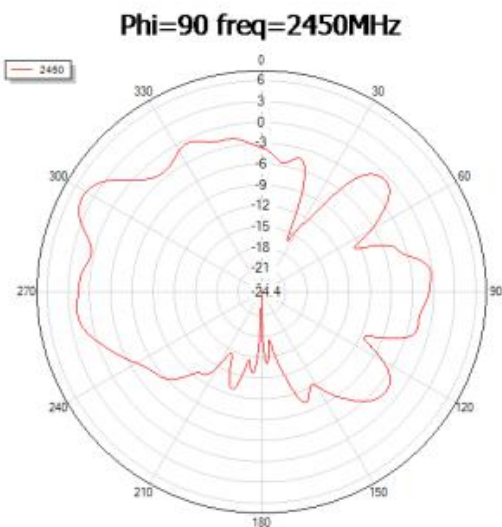
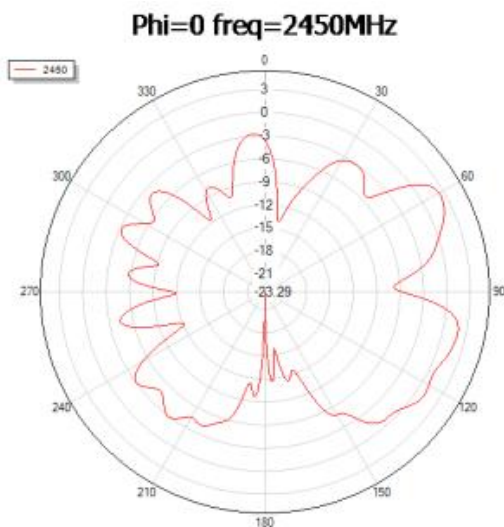
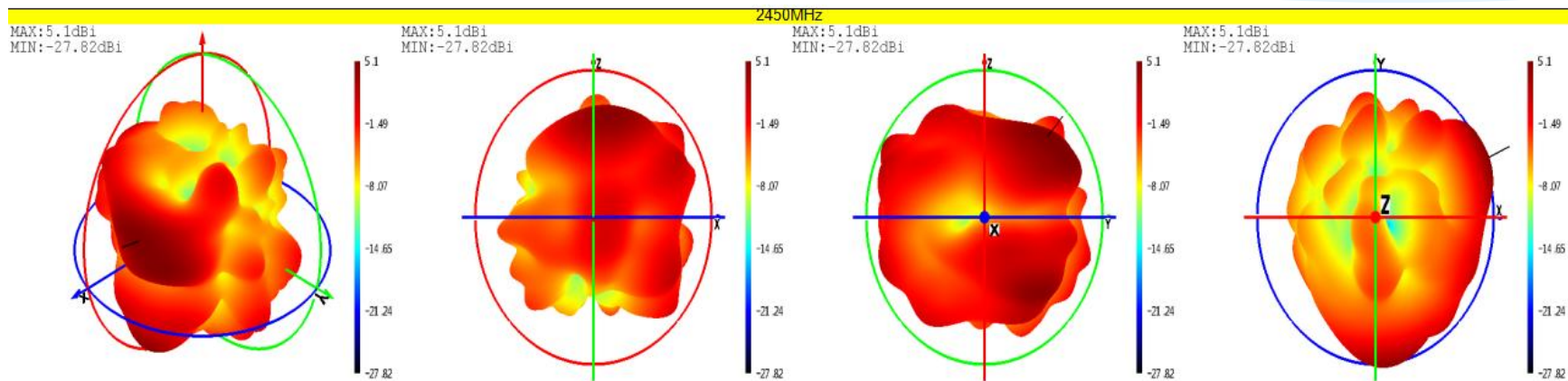


Theta=90 freq=2400MHz



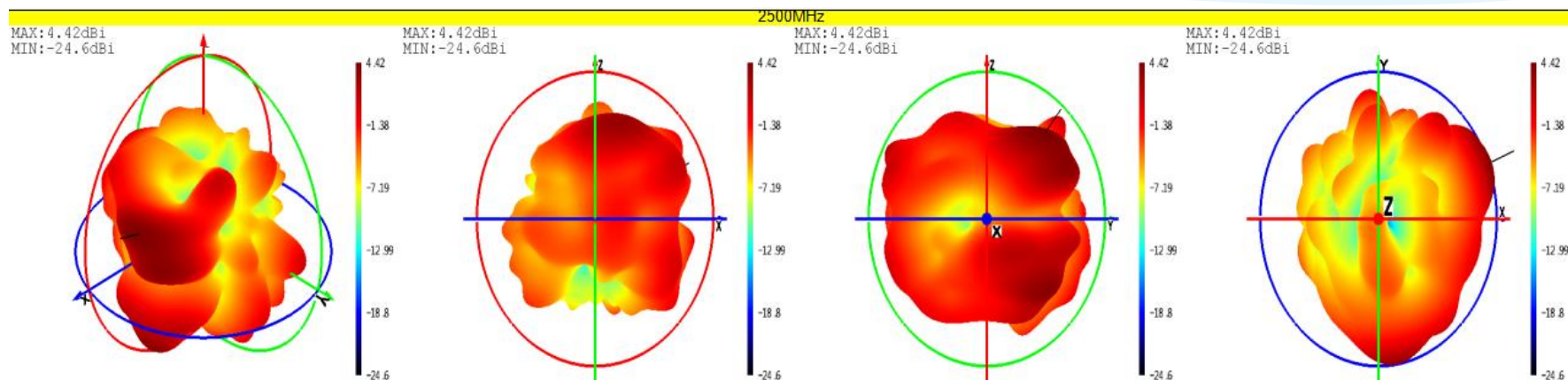
# Antenna Passive @2450MHz

- Free-space Test

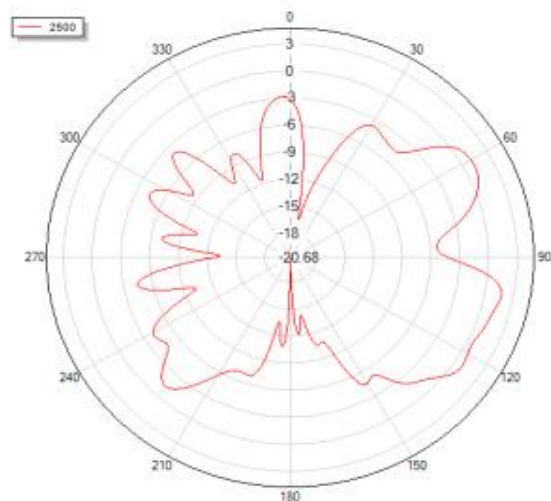


# Antenna Passive @2500MHz

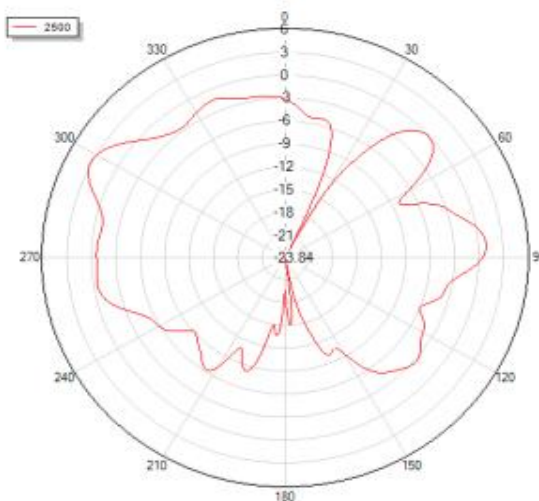
- Free-space Test



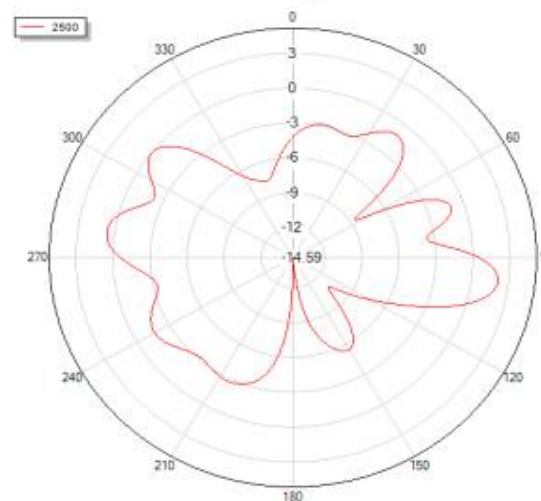
Phi=0 freq=2500MHz



Phi=90 freq=2500MHz

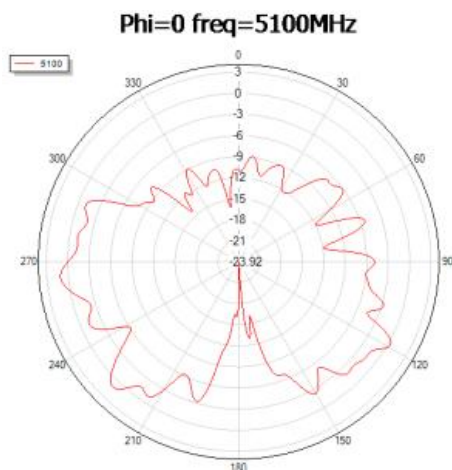
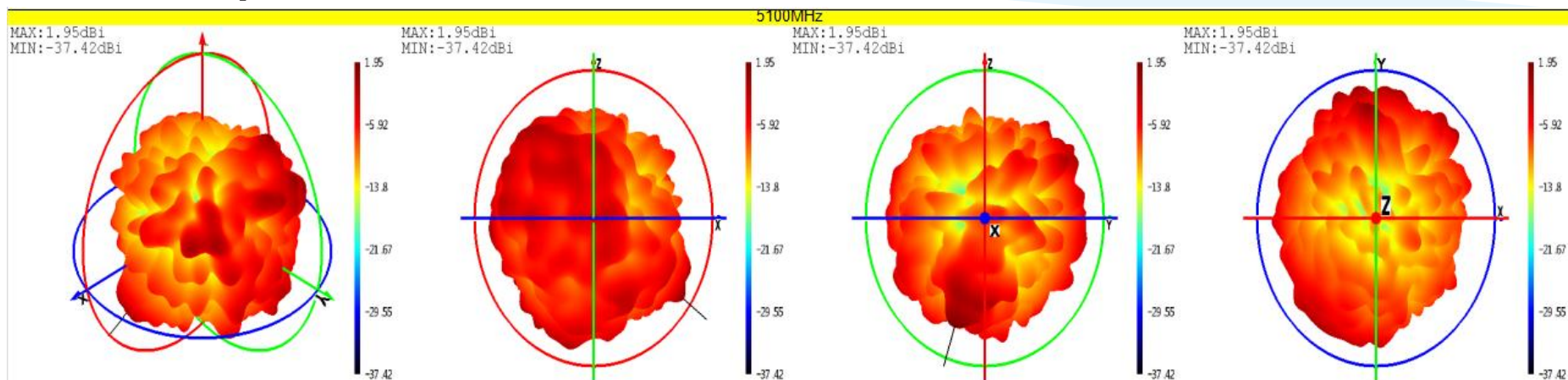


Theta=90 freq=2500MHz

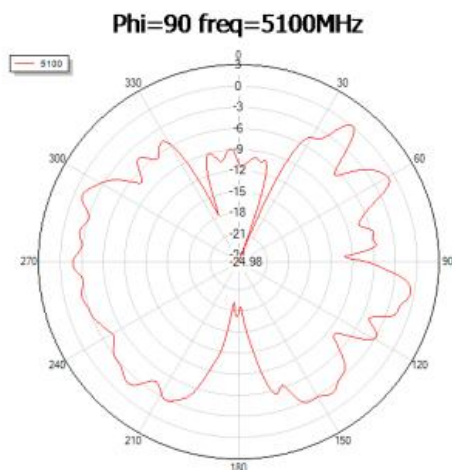


# Antenna Passive @5100MHz

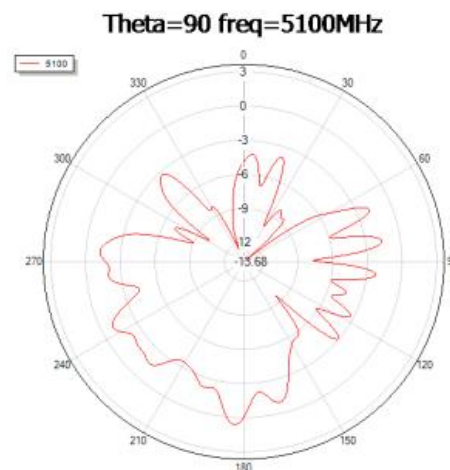
- Free-space Test



Phi=0 freq=5120MHz



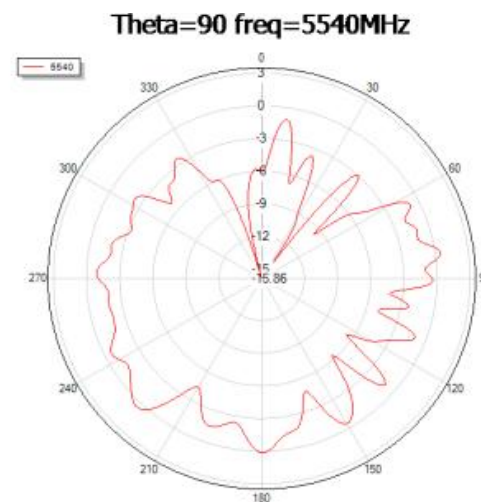
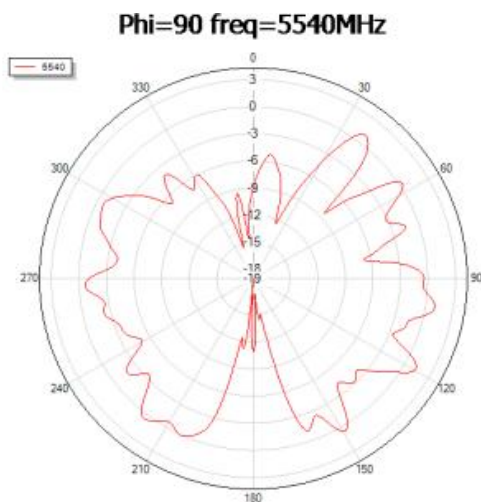
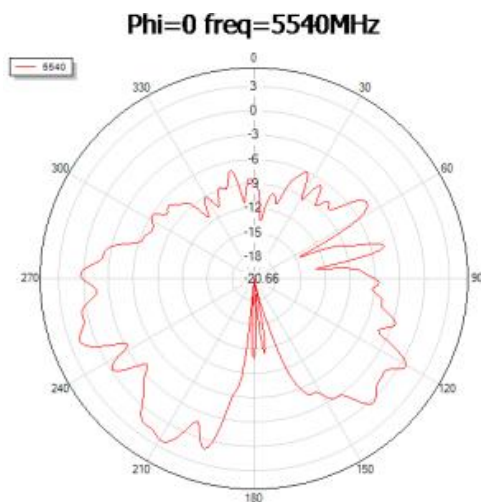
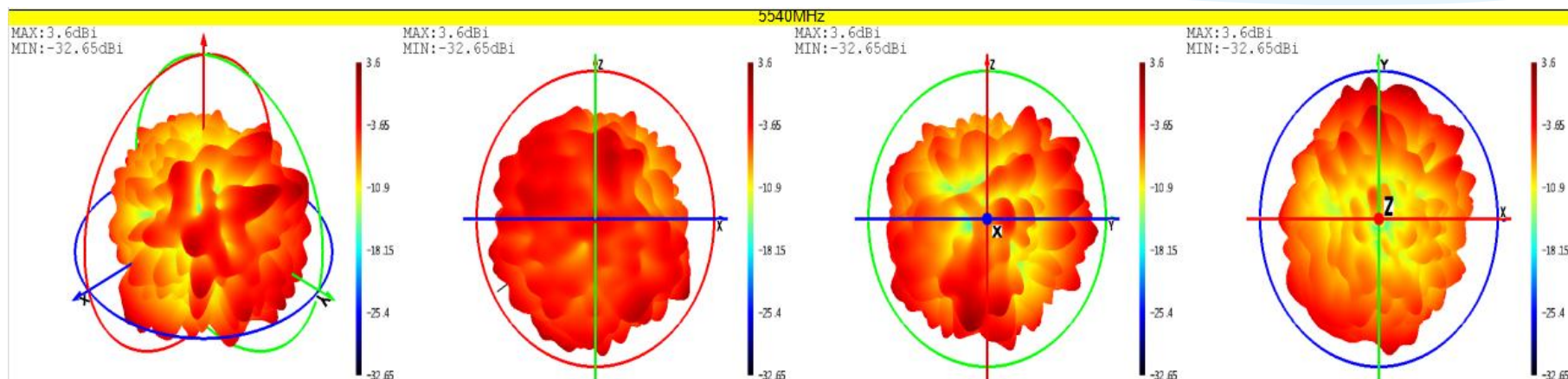
Phi=90 freq=5120MHz



Theta=90 freq=5120MHz

# Antenna Passive @5540MHz

- Free-space Test



# Antenna Passive @5860MHz

- Free-space Test

