



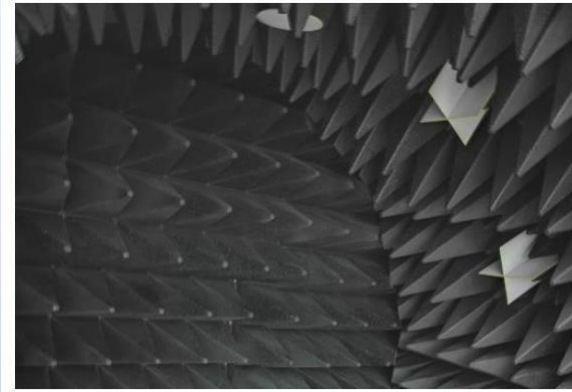
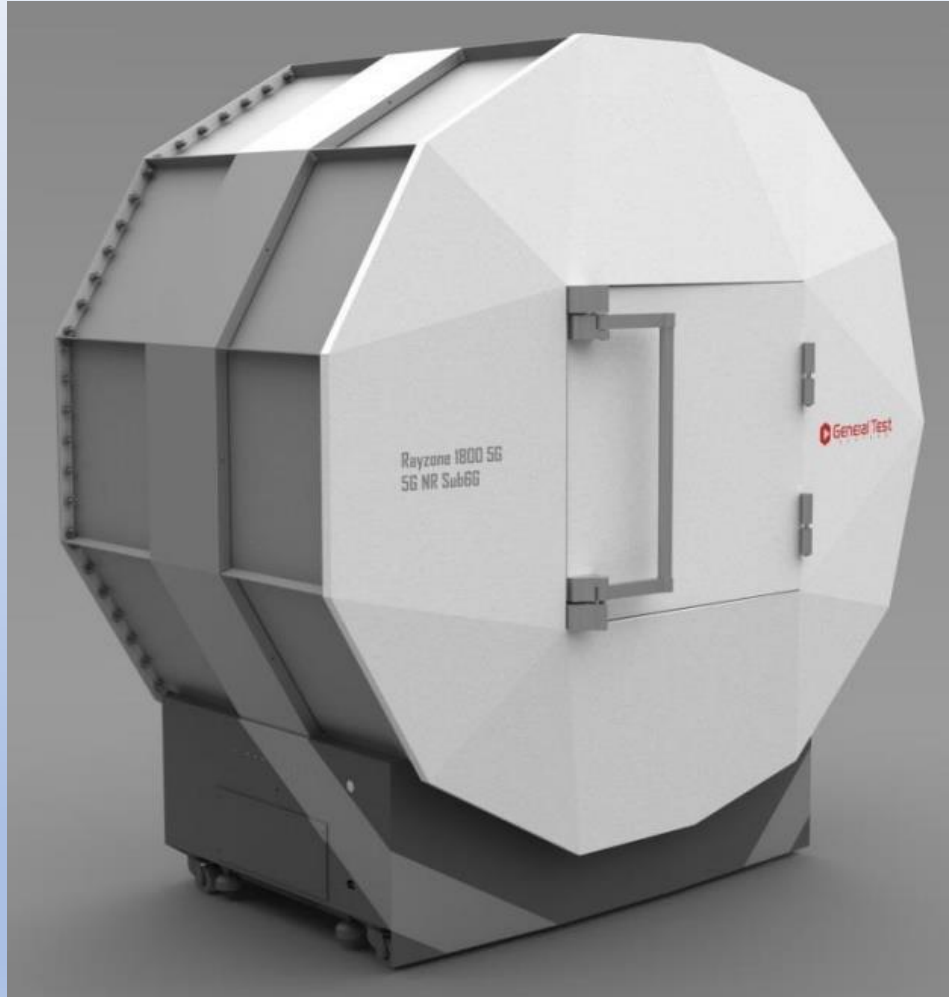
深圳汉阳天线设计有限公司

SHENZHEN HANYANG ANTENNA DESIGN CO.LTD.

Client: GSD

Antenna report

Date: 2024-04-24



Wireless communication standard:2G/3G/4G/5G(FR1)/GNSS/Wi-Fi/Bluetooth
Internet of Things communication standards:LTE Cat NB1(NB-IoT)/Cat-M1(e-MTC)
SISO test TRP/TIS/EIRP/EIS,2x2 MIMO Throughput test
Passive antenna test,Desense ,test ICS
Support 600MHz-7.5GHz frequency
GTS MaxSign 100 test software support antenna/OTA test, Provide visual data analysis
New EPP rigid and environmentally friendly absorbing material.
Low RCS high gain measurement antenna set , Transparent turntable and fixture
MIMO test fastly. Certification level test accuracy.
Integrated design,use and maintenance is simply.

Address of the testing laboratory :Shenzhen Baoan District Qianjin 2 Road BaoYunda logistics information building 12A11

Test Date: 2024-04-24

Test Engineer:LiuDeng

Software name and version: GTS_MAX SIGN Libra1.2.7

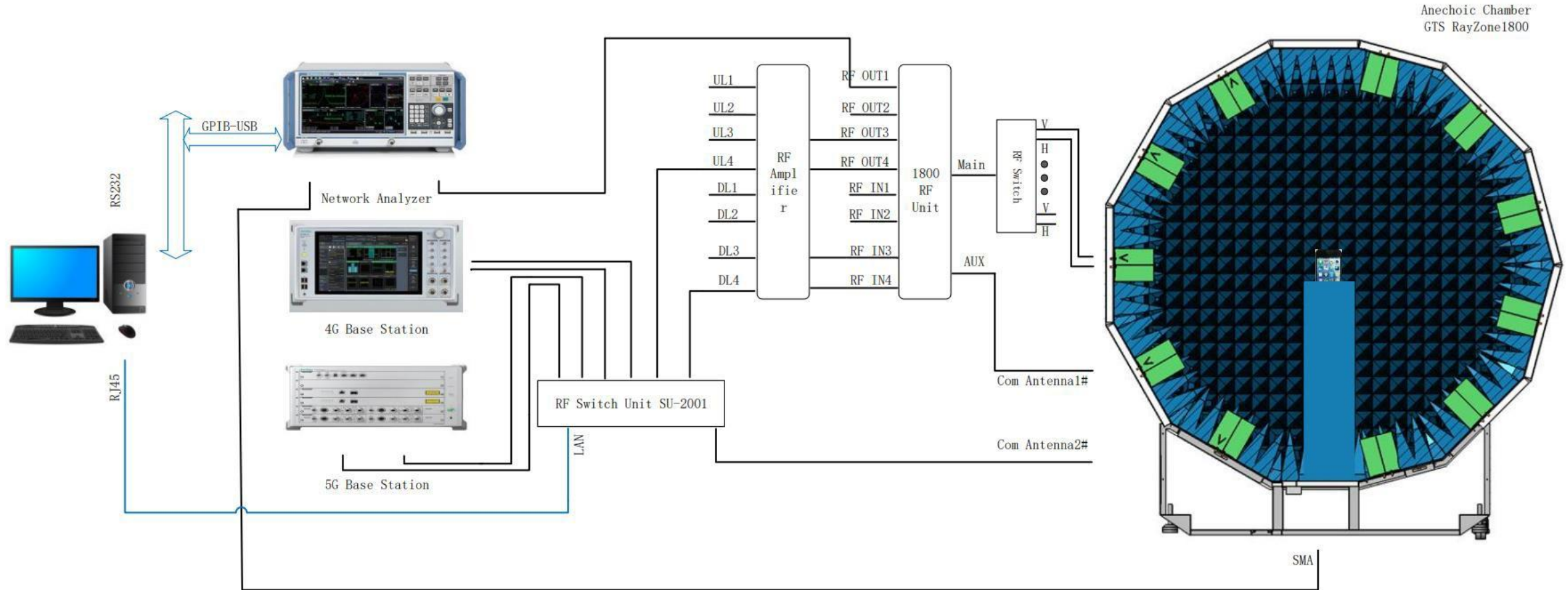
Test Standard:Generic standard

Test set-up:

| | Equipment | Manufacturer | Model | SN | Last cal. | Dul Date |
|----------------|--------------------|--------------|--------|------------|--------------|--------------|
| Equipment list | Network analyzer | Keysight | E5071C | MY59202000 | 2024. 04. 01 | 2025. 03. 31 |
| | CMW antenna system | GTS | 1800 | | 2024. 04. 01 | 2025. 03. 31 |



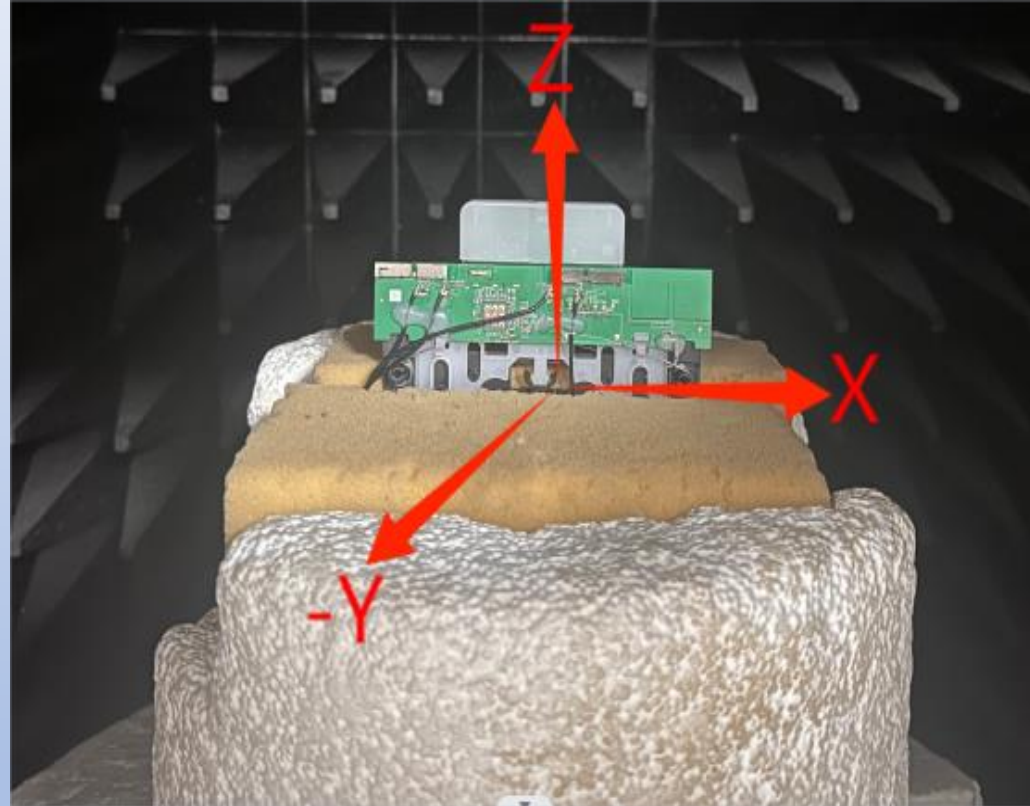
RayZone1800 Test Setup

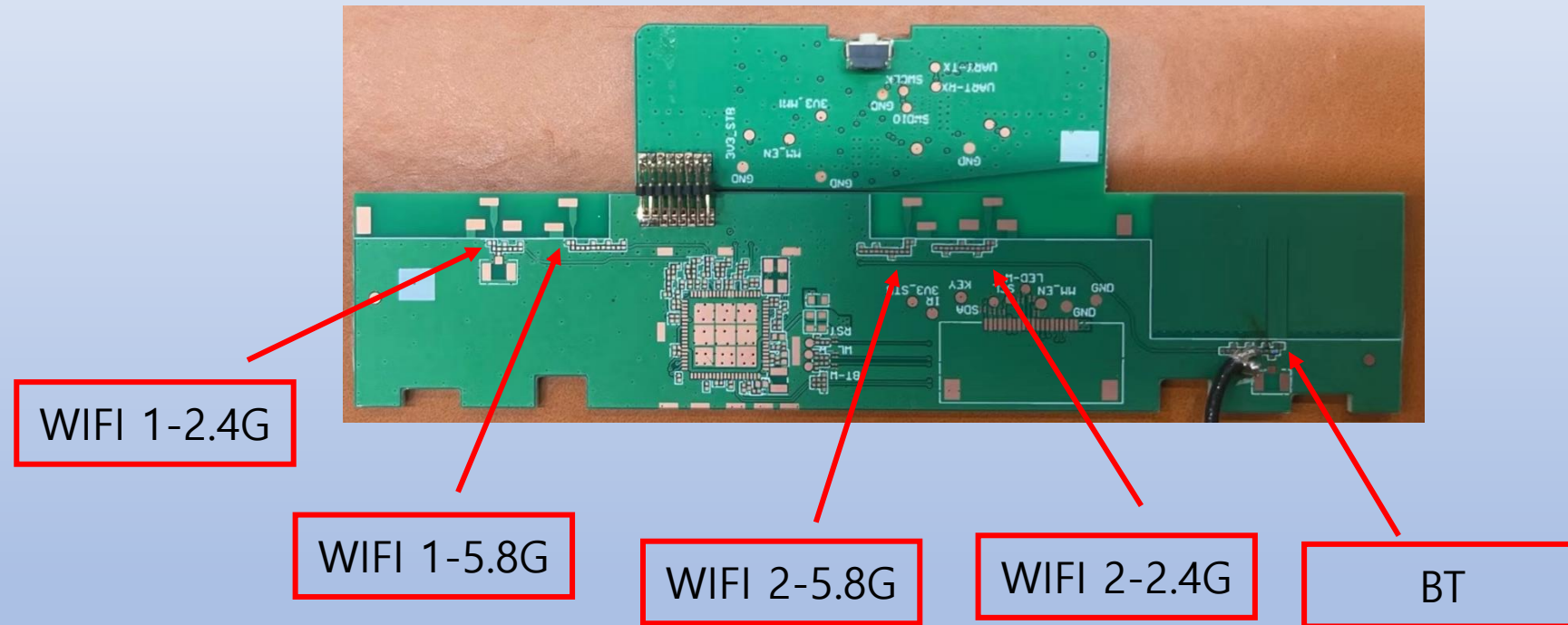


Test setup photo



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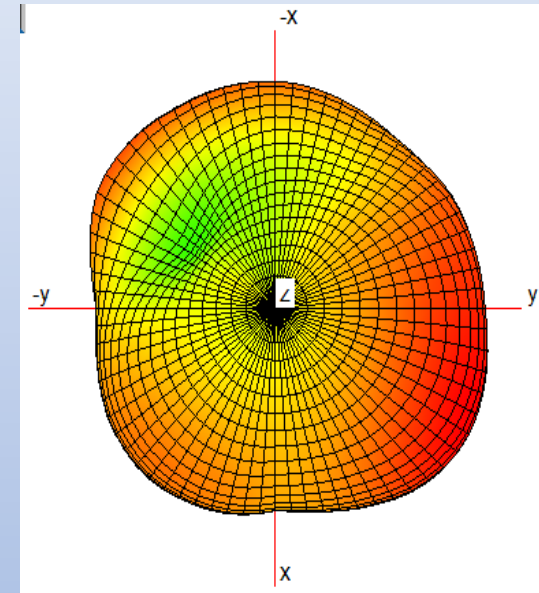
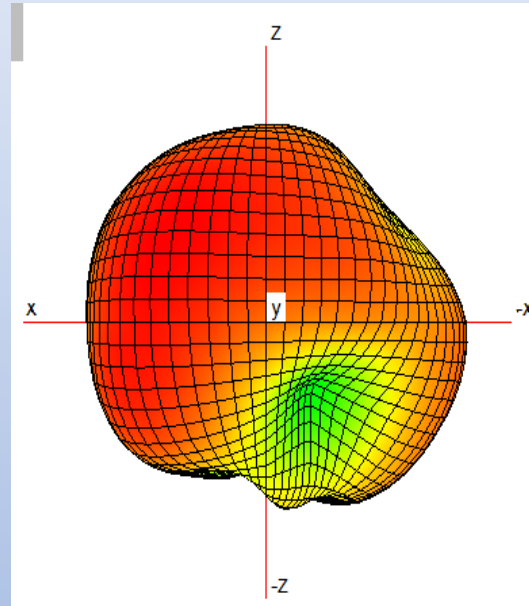
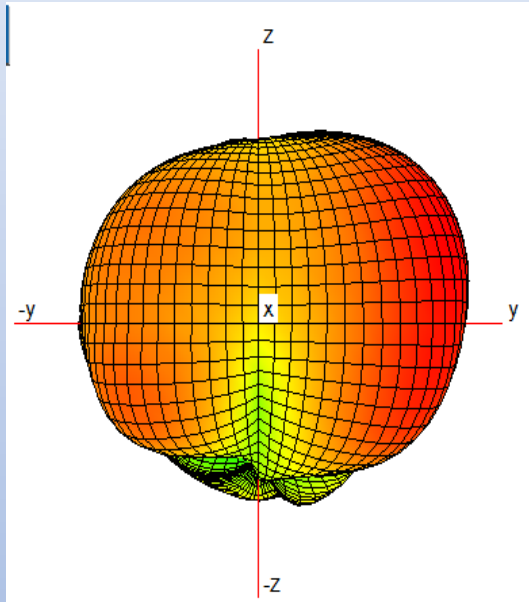




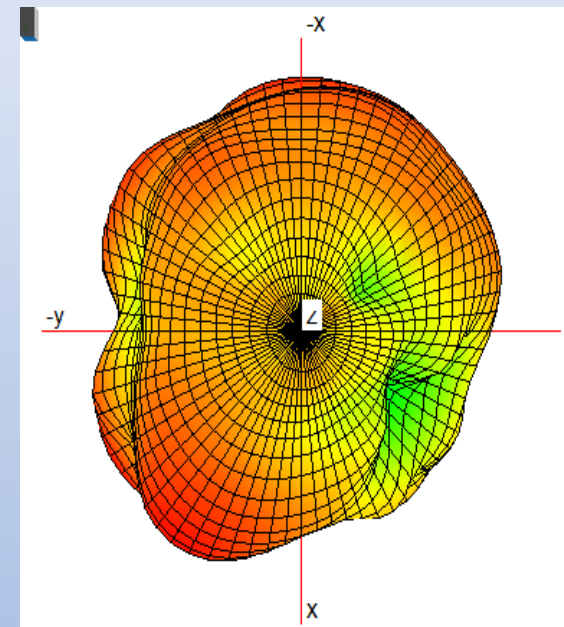
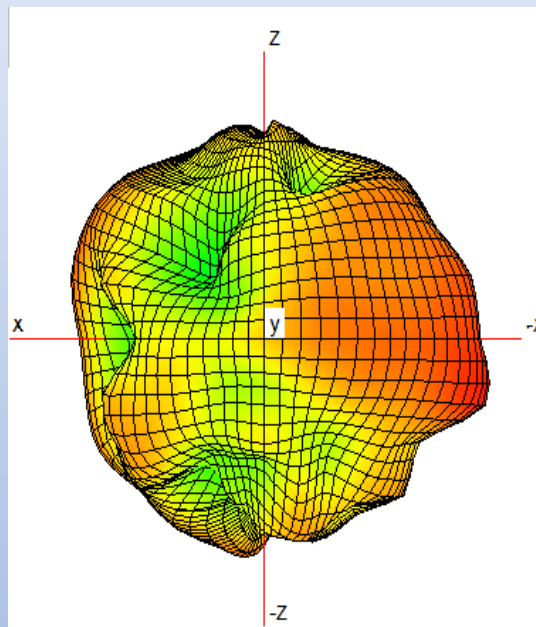
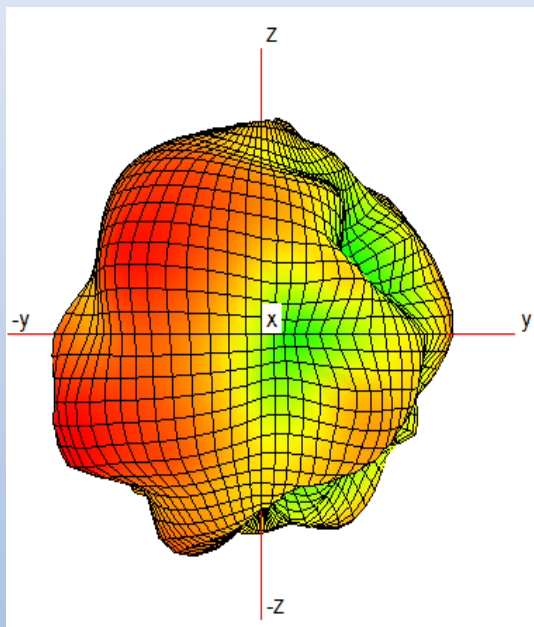
| WIFI-1 2.4G | | | |
|-------------|--------------|-------|-----------------|
| Freq | EfficiencydB | Gain | EfficiencyPcent |
| 2400 | -6.01 | -0.47 | 25.08 |
| 2410 | -5.84 | -0.36 | 26.08 |
| 2420 | -5.69 | -0.20 | 26.95 |
| 2430 | -5.71 | -0.33 | 26.88 |
| 2440 | -5.76 | -0.37 | 26.54 |
| 2450 | -5.88 | -0.53 | 25.81 |
| 2460 | -6.08 | -0.77 | 24.66 |
| 2470 | -6.37 | -1.06 | 23.07 |
| 2480 | -6.75 | -1.41 | 21.15 |
| 2490 | -7.15 | -1.85 | 19.29 |
| 2500 | -7.59 | -2.31 | 17.42 |

| WIFI-1 5.8G | | | |
|-------------|--------------|------|-----------------|
| Freq | EfficiencydB | Gain | EfficiencyPcent |
| 5150 | -3.59 | 1.04 | 43.79 |
| 5175 | -3.53 | 1.17 | 44.32 |
| 5200 | -3.49 | 1.27 | 44.8 |
| 5225 | -3.53 | 1.34 | 44.36 |
| 5250 | -3.65 | 1.23 | 43.1 |
| 5275 | -3.81 | 1.11 | 41.57 |
| 5300 | -3.93 | 0.93 | 40.47 |
| 5325 | -3.94 | 0.97 | 40.4 |
| 5350 | -3.86 | 1 | 41.15 |
| 5375 | -3.69 | 1.02 | 42.79 |
| 5400 | -3.72 | 0.96 | 42.49 |
| 5425 | -3.67 | 1.08 | 42.97 |
| 5450 | -3.86 | 0.97 | 41.16 |
| 5475 | -4.04 | 0.88 | 39.48 |
| 5500 | -4.08 | 0.93 | 39.06 |
| 5525 | -4.02 | 1.11 | 39.64 |
| 5550 | -3.91 | 1.38 | 40.63 |
| 5575 | -3.87 | 1.65 | 41.02 |
| 5600 | -3.68 | 2.06 | 42.88 |
| 5625 | -3.59 | 2.33 | 43.72 |
| 5650 | -3.45 | 2.7 | 45.19 |
| 5675 | -3.72 | 2.56 | 42.43 |
| 5700 | -3.56 | 2.87 | 44.07 |
| 5725 | -3.79 | 2.75 | 41.81 |
| 5750 | -3.64 | 2.89 | 43.26 |
| 5775 | -3.83 | 2.7 | 41.42 |
| 5800 | -3.66 | 2.83 | 43.01 |
| 5825 | -3.92 | 2.62 | 40.53 |
| 5850 | -3.85 | 2.78 | 41.24 |

2450MHZ



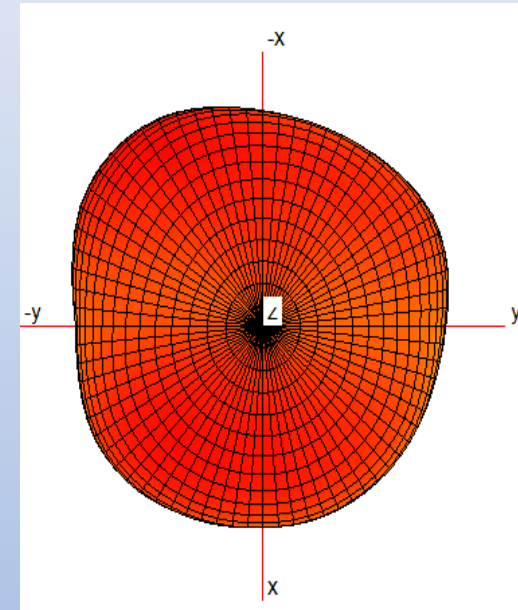
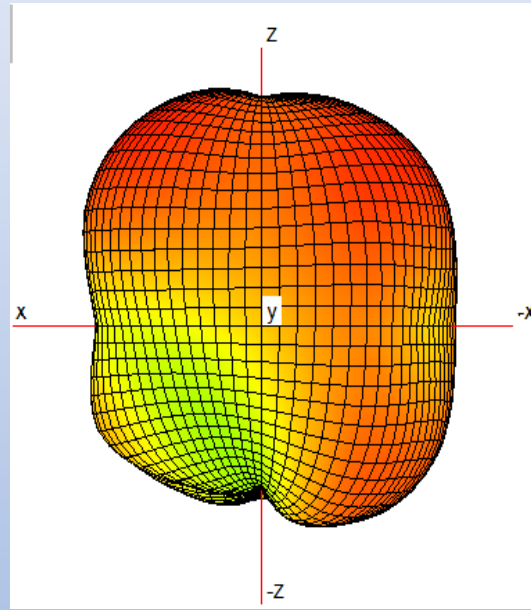
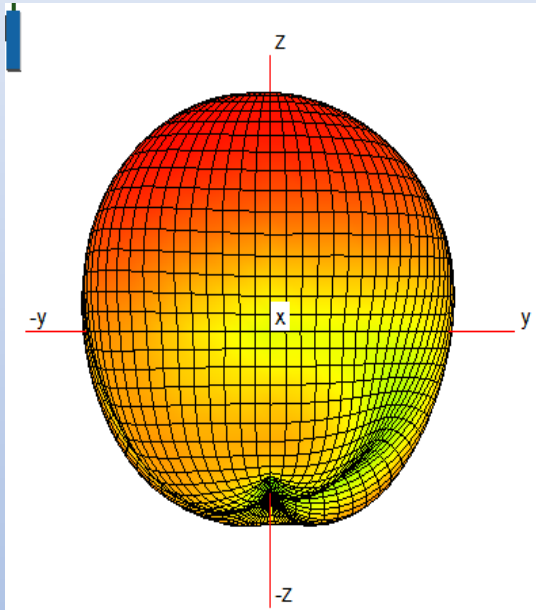
5550MHZ



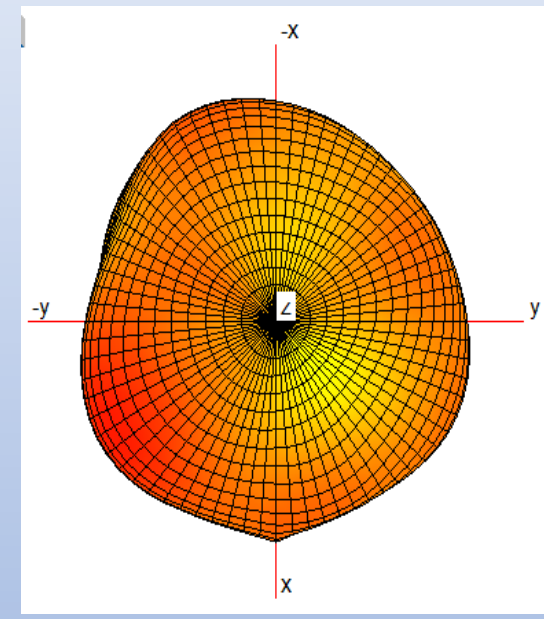
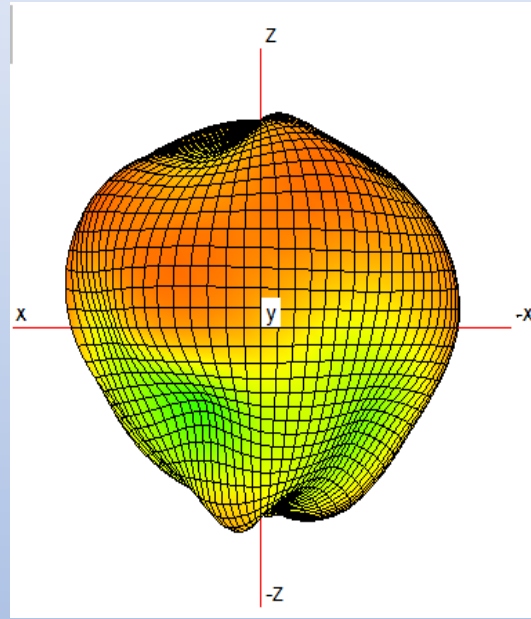
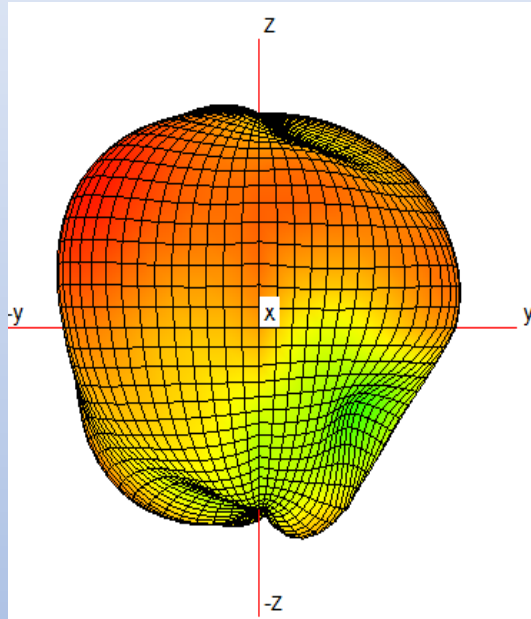
| WIFI-2 2.4G | | | |
|-------------|--------------|------|-----------------|
| Freq | EfficiencydB | Gain | EfficiencyPcent |
| 2400 | -3.77 | 0.58 | 42 |
| 2410 | -3.68 | 0.6 | 42.88 |
| 2420 | -3.62 | 0.62 | 43.44 |
| 2430 | -3.57 | 0.65 | 43.99 |
| 2440 | -3.56 | 0.68 | 44.06 |
| 2450 | -3.58 | 0.66 | 43.81 |
| 2460 | -3.55 | 0.7 | 44.13 |
| 2470 | -3.51 | 0.75 | 44.57 |
| 2480 | -3.48 | 0.82 | 44.85 |
| 2490 | -3.47 | 0.7 | 44.01 |
| 2500 | -3.45 | 0.71 | 44.23 |

| WIFI-2 5.8G | | | |
|-------------|--------------|-------|-----------------|
| Freq | EfficiencydB | Gain | EfficiencyPcent |
| 5150 | -5.42 | -0.06 | 28.73 |
| 5175 | -5.4 | -0.22 | 28.81 |
| 5200 | -5.24 | -0.05 | 29.9 |
| 5225 | -5.14 | 0.06 | 30.65 |
| 5250 | -5.2 | -0.02 | 30.2 |
| 5275 | -5.48 | -0.43 | 28.32 |
| 5300 | -5.63 | -0.72 | 27.36 |
| 5325 | -5.62 | -0.99 | 27.44 |
| 5350 | -5.59 | -0.81 | 27.58 |
| 5375 | -5.5 | -0.34 | 28.19 |
| 5400 | -5.55 | -0.01 | 27.85 |
| 5425 | -5.53 | 0.25 | 27.99 |
| 5450 | -5.8 | 0.15 | 26.3 |
| 5475 | -6.08 | 0.03 | 24.64 |
| 5500 | -6.13 | -0.12 | 24.39 |
| 5525 | -5.97 | 0.45 | 25.29 |
| 5550 | -5.78 | 0.82 | 26.43 |
| 5575 | -5.71 | 0.91 | 26.84 |
| 5600 | -5.51 | 1.22 | 28.14 |
| 5625 | -5.48 | 1.31 | 28.35 |
| 5650 | -5.26 | 1.41 | 29.78 |
| 5675 | -5.47 | 1.39 | 28.38 |
| 5700 | -5.22 | 1.88 | 30.06 |
| 5725 | -5.48 | 1.37 | 28.28 |
| 5750 | -5.22 | 1.92 | 30.08 |
| 5775 | -5.35 | 1.33 | 29.14 |
| 5800 | -5.15 | 1.95 | 30.56 |
| 5825 | -5.48 | 1.31 | 28.34 |
| 5850 | -5.42 | 1.35 | 28.72 |

2450MHZ



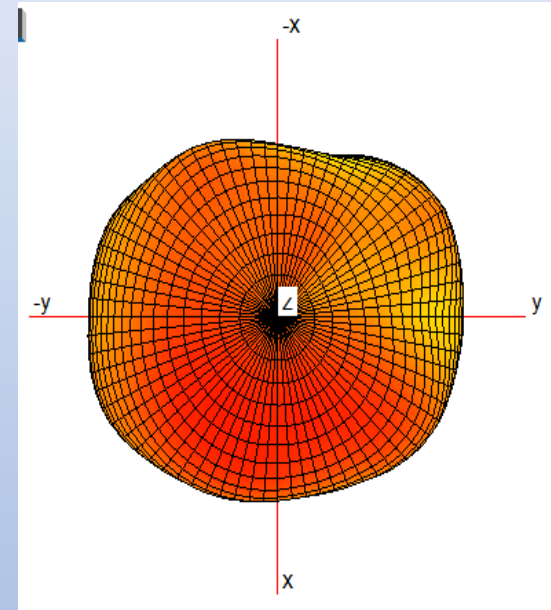
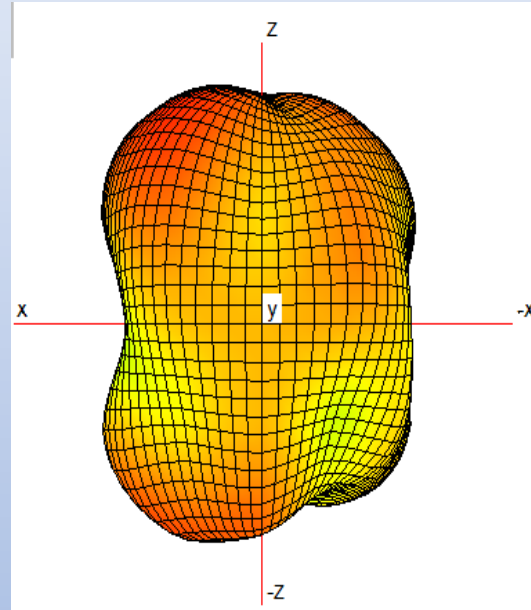
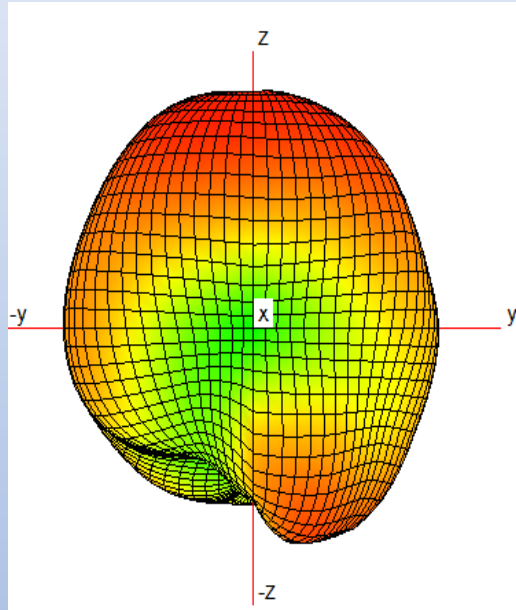
5550MHZ



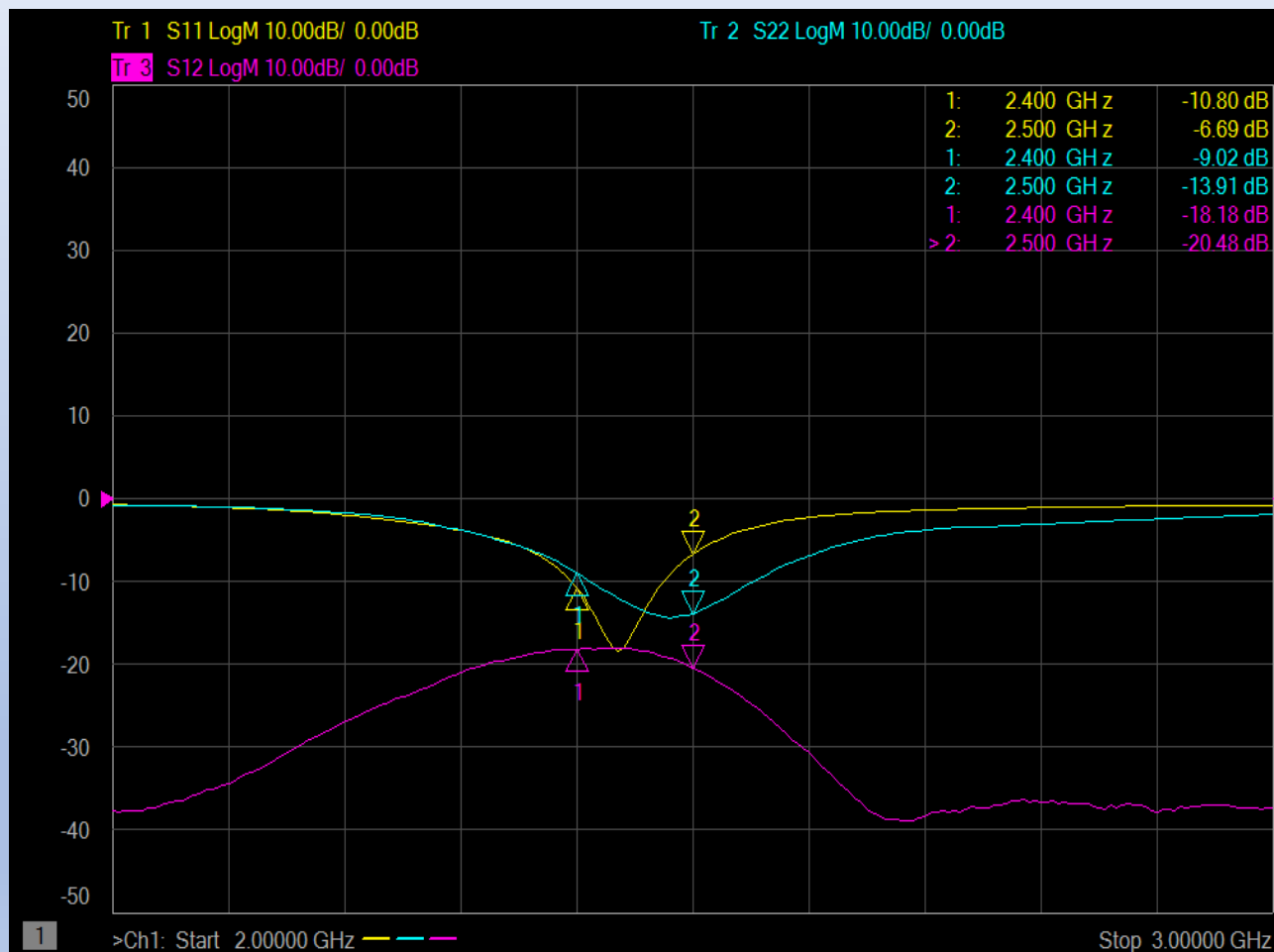


| BT | | | |
|------|--------------|-------|-----------------|
| Freq | EfficiencydB | Gain | EfficiencyPcent |
| 2400 | -10.68 | -2.83 | 8.56 |
| 2410 | -10.13 | -2.2 | 9.71 |
| 2420 | -9.63 | -1.85 | 10.89 |
| 2430 | -9.17 | -1.34 | 12.12 |
| 2440 | -8.77 | -0.88 | 13.27 |
| 2450 | -8.56 | -0.72 | 13.95 |
| 2460 | -8.45 | -0.63 | 14.3 |
| 2470 | -8.48 | -0.7 | 14.2 |
| 2480 | -8.74 | -1.11 | 13.36 |
| 2490 | -9.16 | -1.53 | 12.15 |
| 2500 | -9.59 | -2.01 | 10.98 |

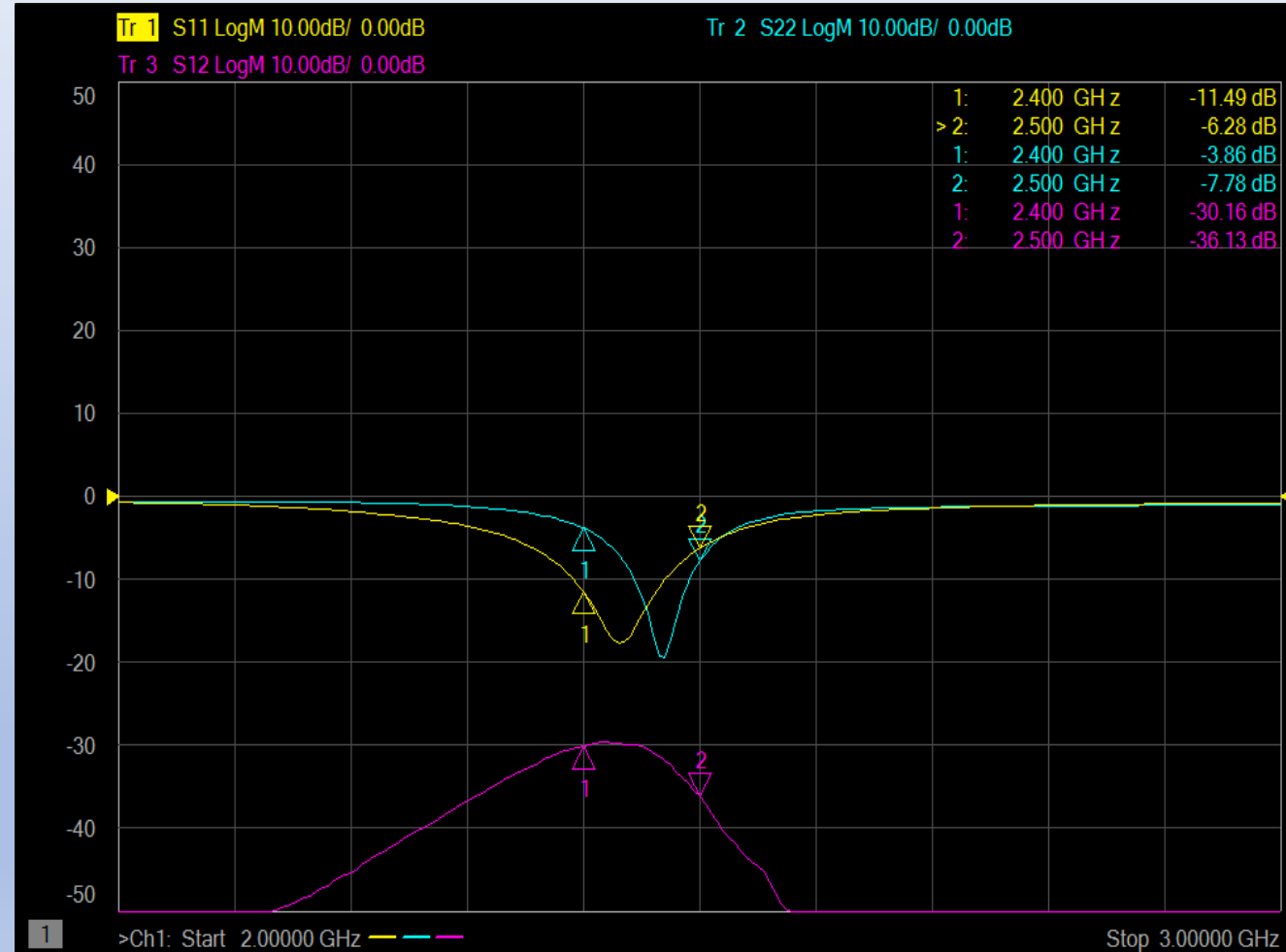
2450MHZ



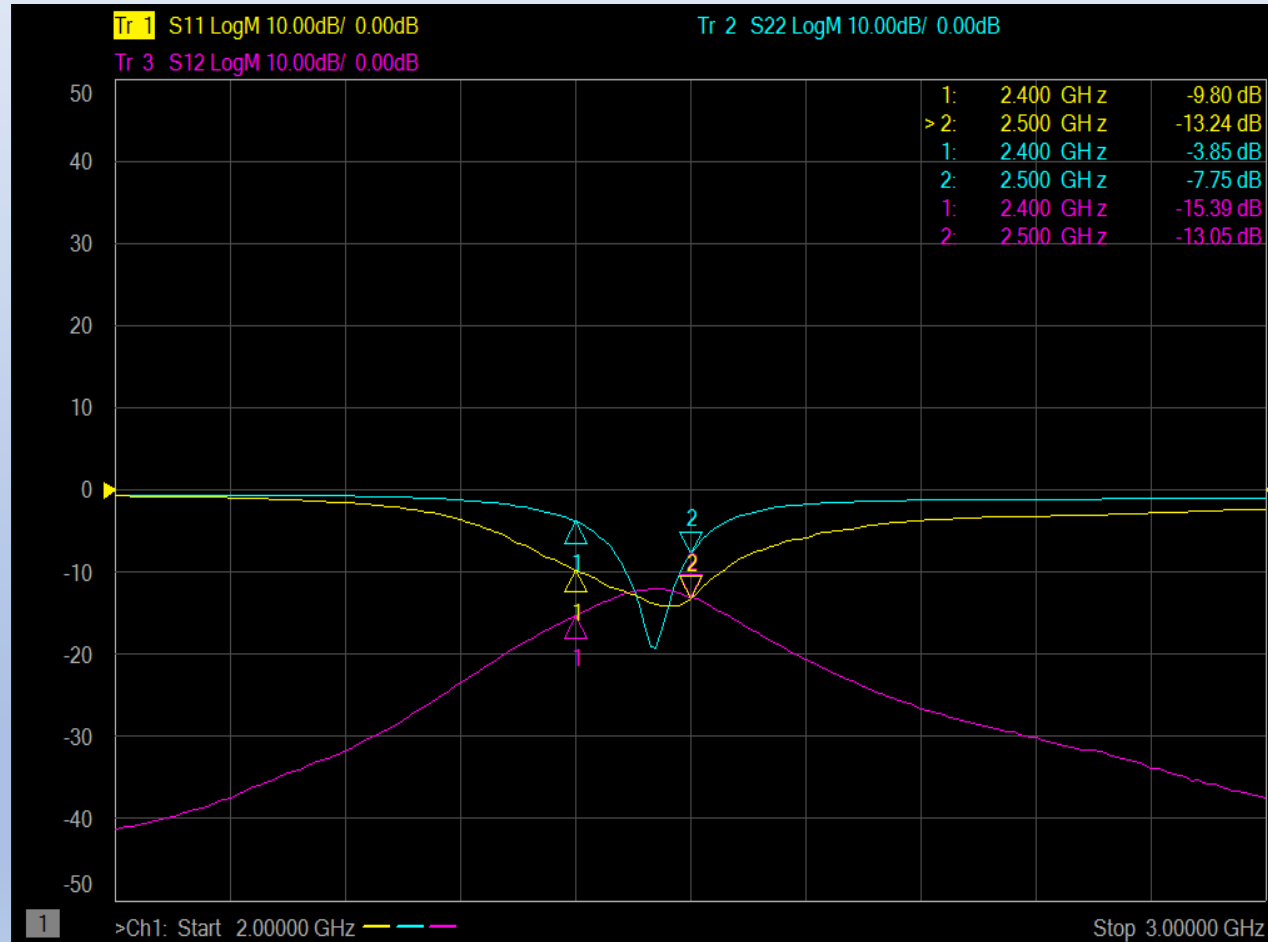
S11-2.4G-1&S22-2.4G-2



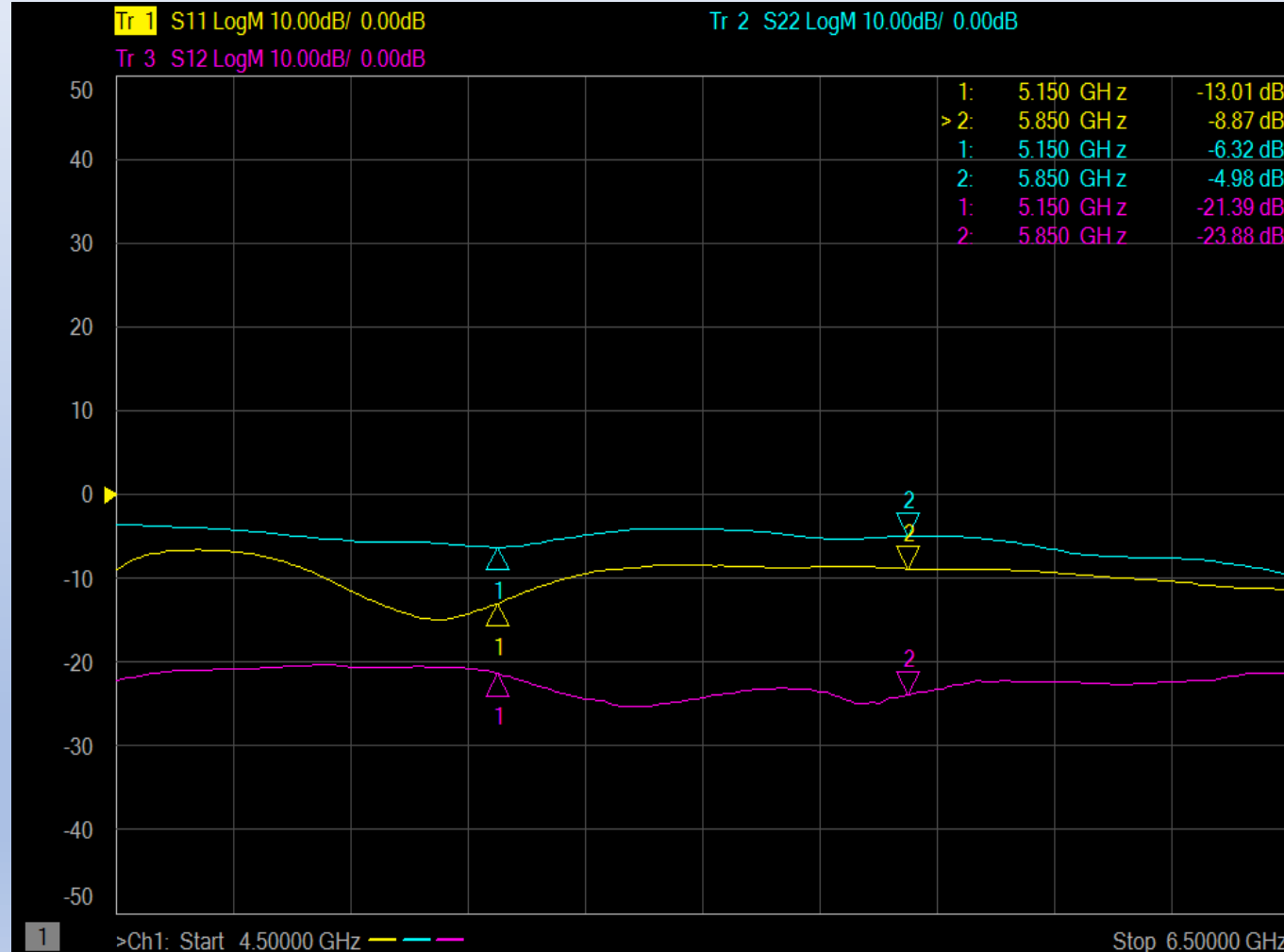
S11-2.4G-1&S22-BT



S11-2.4G-2&S22-BT



S11-5G-1&S22-5G-2





深圳汉阳天线设计有限公司

SHENZHEN HANYANG ANTENNA DESIGN CO., LTD.

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Welcome calls consultations, negotiations and guidance come!

Thank you

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电话：0755-23069700

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