东莞市优比电子有限公司

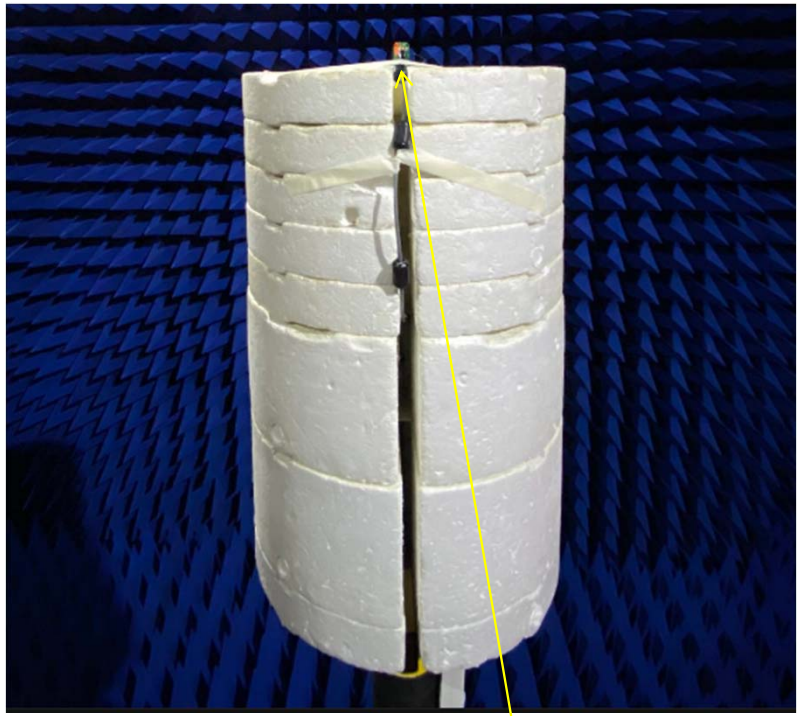
Dongguan UB Electronics Co.,Ltd

Antenna Study

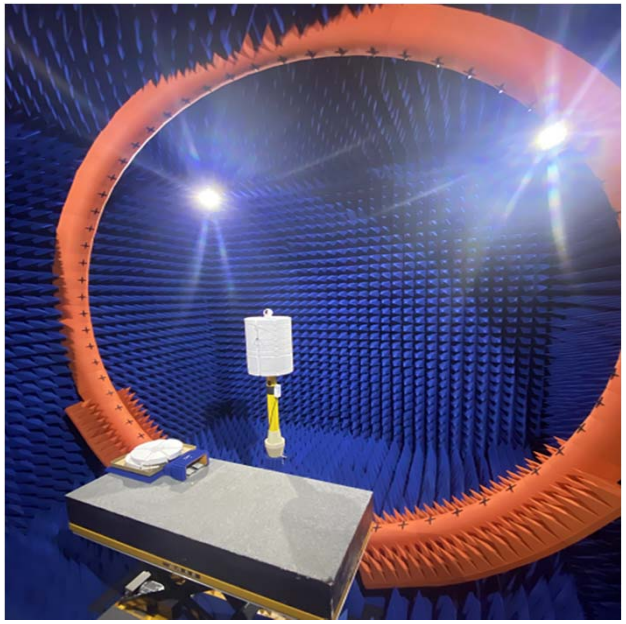
- **Client Name:JM Zengge Co.,Ltd**
- **Project Name：ZJ-ZBCKS-HC3-3K-44S V1.0**
- **Debugging frequency band: 2400-2500HMz**
- **Valuation date： 2024.10.28**

UB CONFIDENTIAL

PCB Antenna



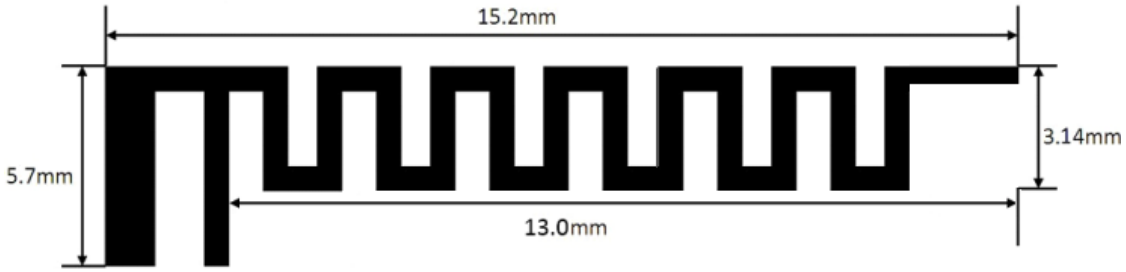
Testing environment



Testing 3D microwave darkroom(6m*6m*6m)

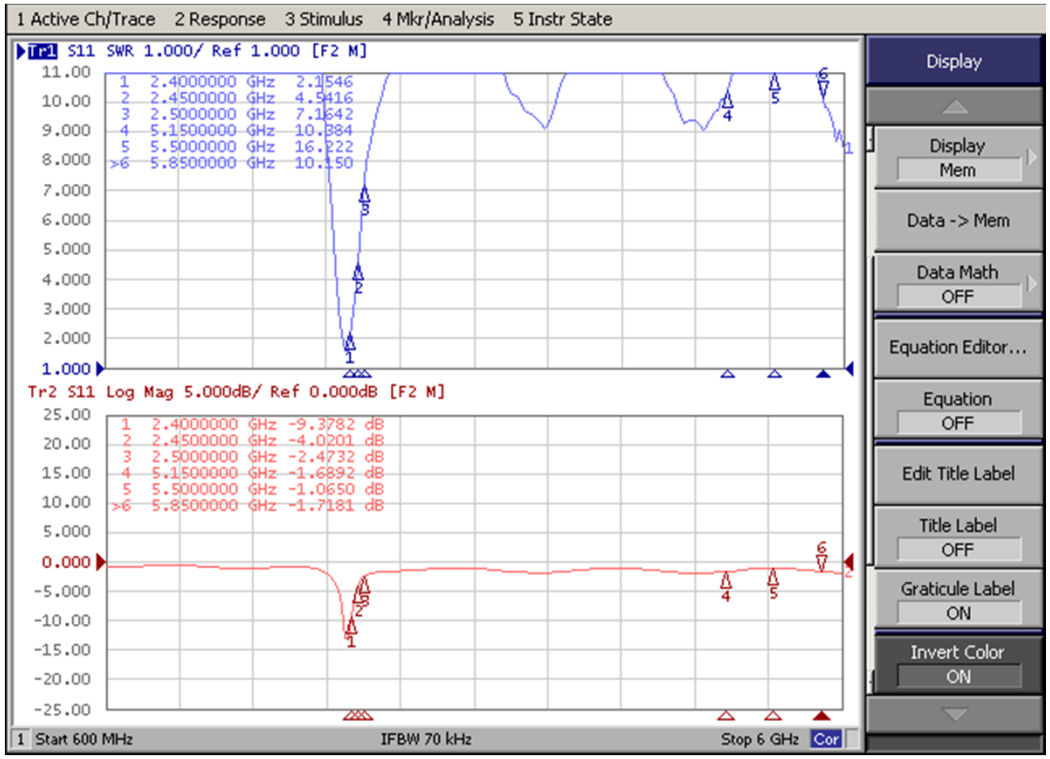
PCB Antenna

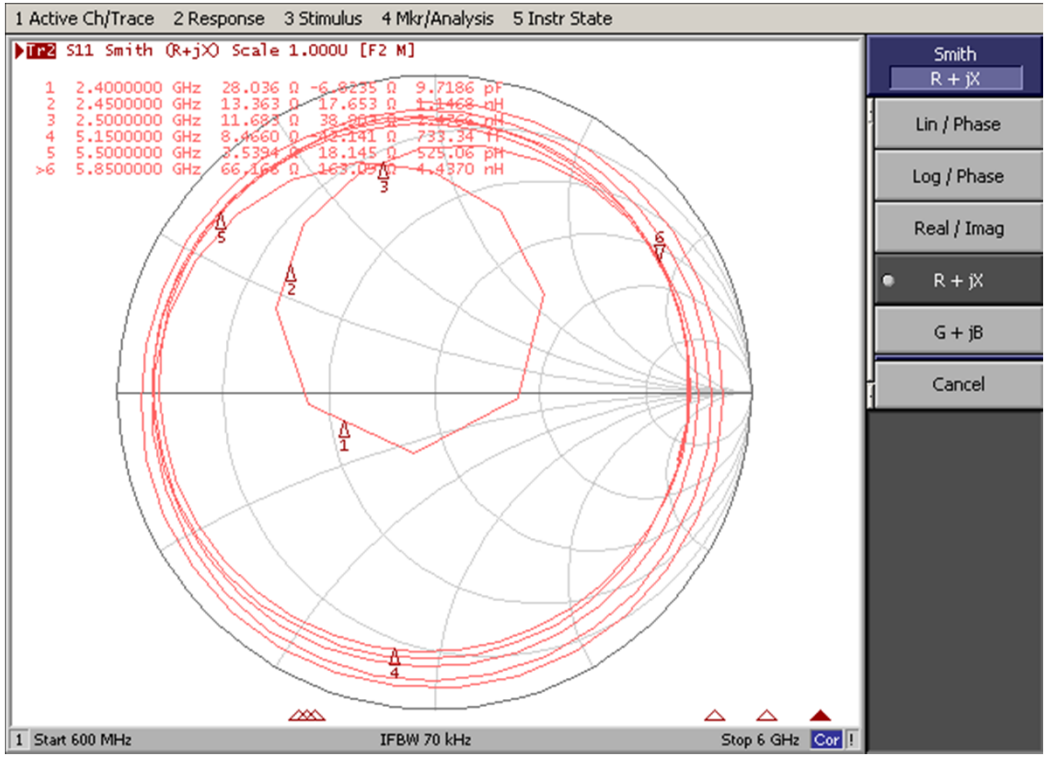
- Antenna name: 2.4G
- Antenna Type： PCB
- Covers ： 2400/2500MHz



Antenna

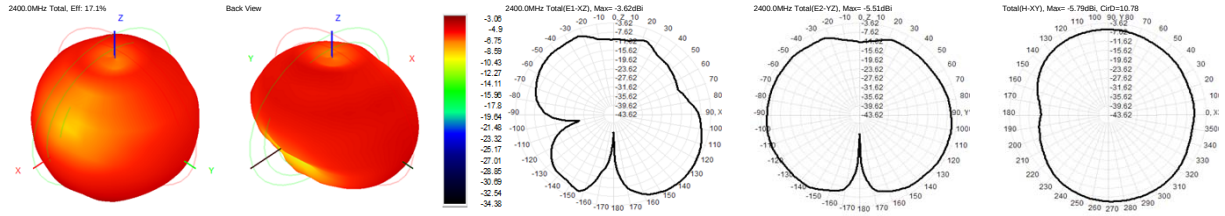
S Parameter_Return Loss&VSWR-Smith

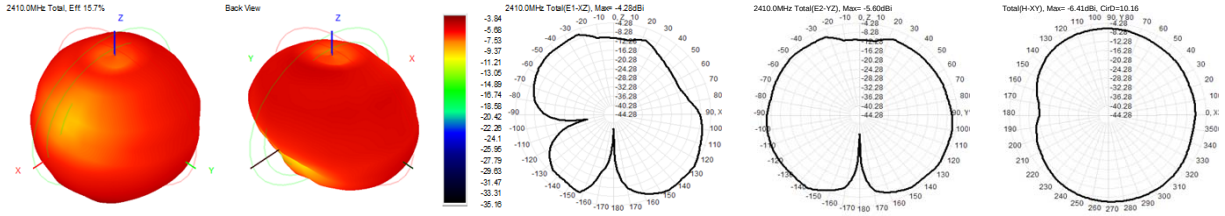


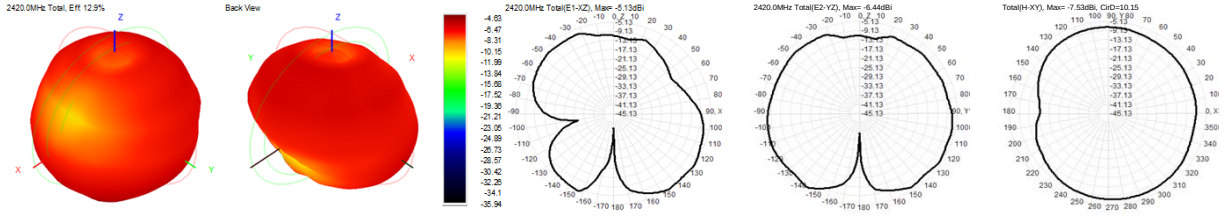


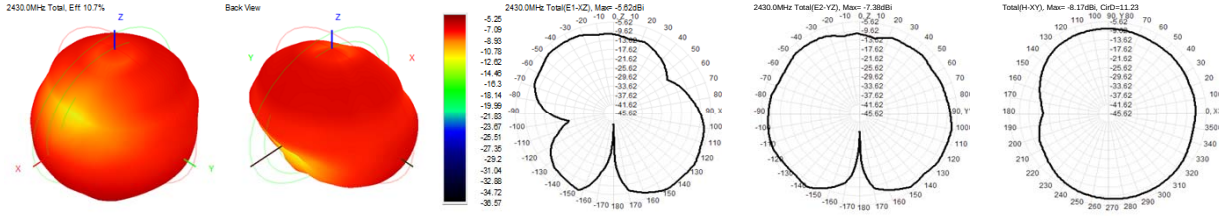
Efficiency and Gain

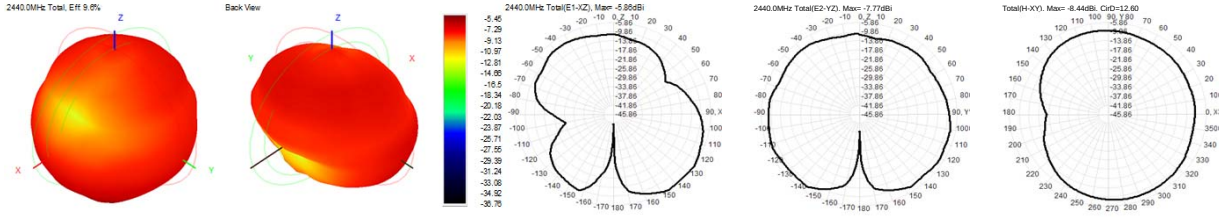
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	-3.06	-3.84	-4.63	-5.25	-5.45	-5.72	-6.35	-6.59	-2.63	-2.44	-6.39
Efficiency (%)	17.13	15.69	12.86	10.75	9.64	9.11	8.44	7.58	6.51	5.63	5.03

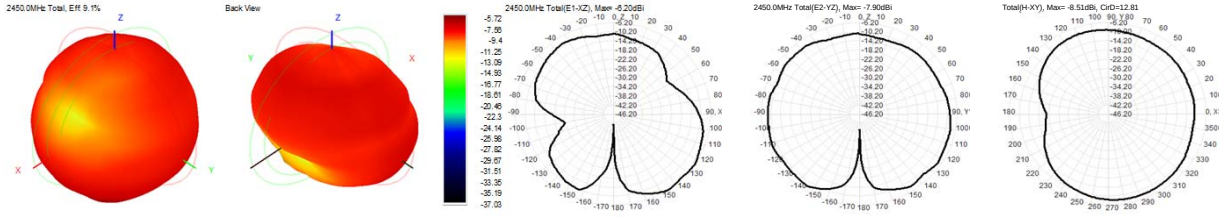

2400.0MHz Total, Eff: 17.1%
Back View
2400.0MHz Total(E1-XZ), Max= -3.62dBi
2400.0MHz Total(E2-YZ), Max= -5.51dBi
Total(H-XY), Max= -5.79dBi, CirD=10.78

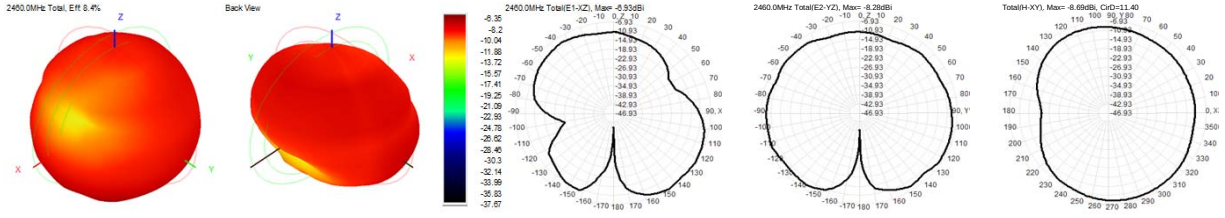

2410.0MHz Total, Eff: 15.7%
Back View
2410.0MHz Total(E1-XZ), Max= -4.28dBi
2410.0MHz Total(E2-YZ), Max= -5.60dBi
Total(H-XY), Max= -6.41dBi, CirD=10.16

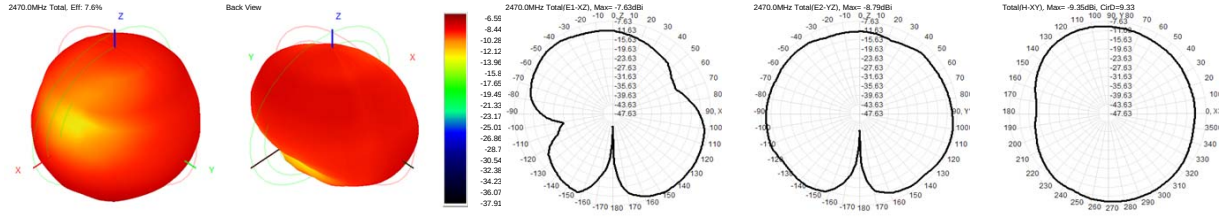

2420.0MHz Total, Eff: 12.9%
Back View
2420.0MHz Total(E1-XZ), Max= -5.13dBi
2420.0MHz Total(E2-YZ), Max= -6.44dBi
Total(H-XY), Max= -7.53dBi, CirD=10.15

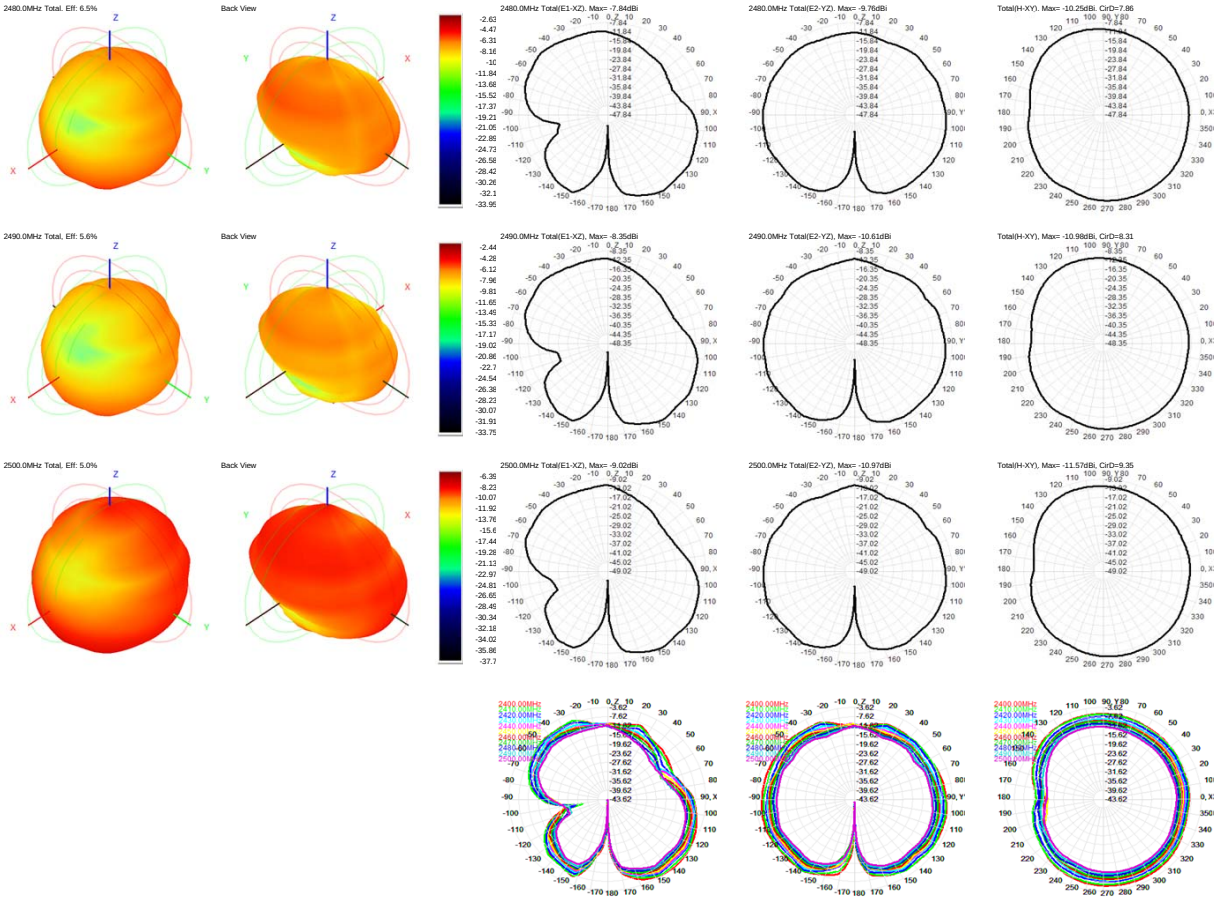

2430.0MHz Total, Eff: 10.7%
Back View
2430.0MHz Total(E1-XZ), Max= -5.62dBi
2430.0MHz Total(E2-YZ), Max= -7.38dBi
Total(H-XY), Max= -8.17dBi, CirD=11.23


2440.0MHz Total, Eff: 9.6%
Back View
2440.0MHz Total(E1-XZ), Max= -5.86dBi
2440.0MHz Total(E2-YZ), Max= -7.77dBi
Total(H-XY), Max= -8.44dBi, CirD=12.60


2450.0MHz Total, Eff: 9.1%
Back View
2450.0MHz Total(E1-XZ), Max= -6.20dBi
2450.0MHz Total(E2-YZ), Max= -7.90dBi
Total(H-XY), Max= -8.51dBi, CirD=12.81


2460.0MHz Total, Eff: 8.4%
Back View
2460.0MHz Total(E1-XZ), Max= -6.93dBi
2460.0MHz Total(E2-YZ), Max= -8.28dBi
Total(H-XY), Max= -8.69dBi, CirD=11.40


2470.0MHz Total, Eff: 7.6%
Back View
2470.0MHz Total(E1-XZ), Max= -7.63dBi
2470.0MHz Total(E2-YZ), Max= -8.79dBi
Total(H-XY), Max= -9.35dBi, CirD=9.33


2480.0MHz Total, Eff: 6.5%
Back View
2480.0MHz Total(E1-XZ), Max= -7.84dBi
2480.0MHz Total(E2-YZ), Max= -9.76dBi
Total(H-XY), Max= -10.25dBi, CirD=7.86
2490.0MHz Total, Eff: 5.6%
Back View
2490.0MHz Total(E1-XZ), Max= -8.35dBi
2490.0MHz Total(E2-YZ), Max= -10.61dBi
Total(H-XY), Max= -10.98dBi, CirD=8.31
2500.0MHz Total, Eff: 5.0%
Back View
2500.0MHz Total(E1-XZ), Max= -9.02dBi
2500.0MHz Total(E2-YZ), Max= -10.97dBi
Total(H-XY), Max= -11.57dBi, CirD=9.35
2400.00MHz
2420.00MHz
2440.00MHz
2460.00MHz
2480.00MHz
2500.00MHz