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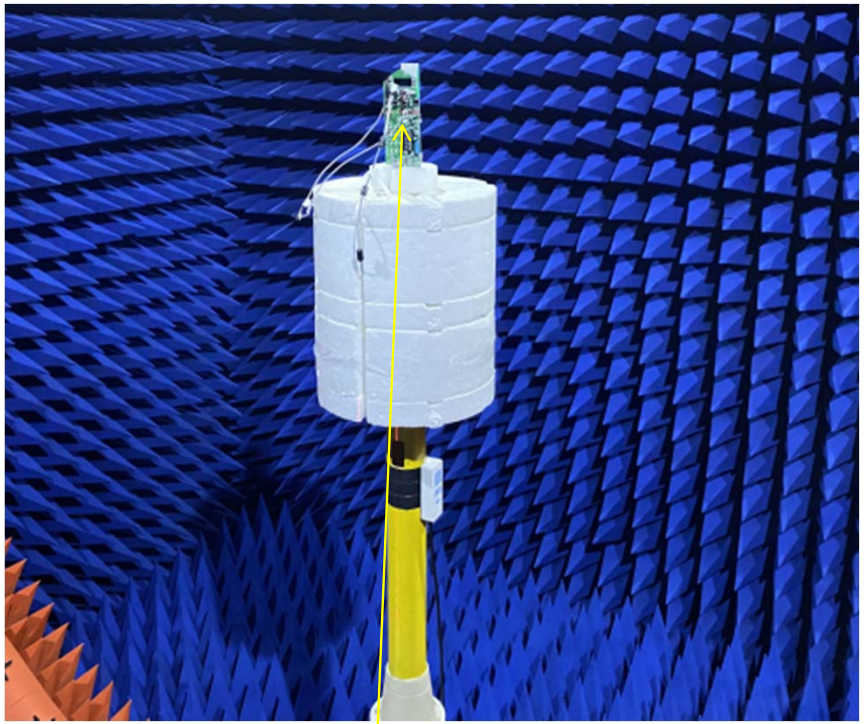
东莞市优比电子有限公司

Dongguan UB Electronics Co.,Ltd

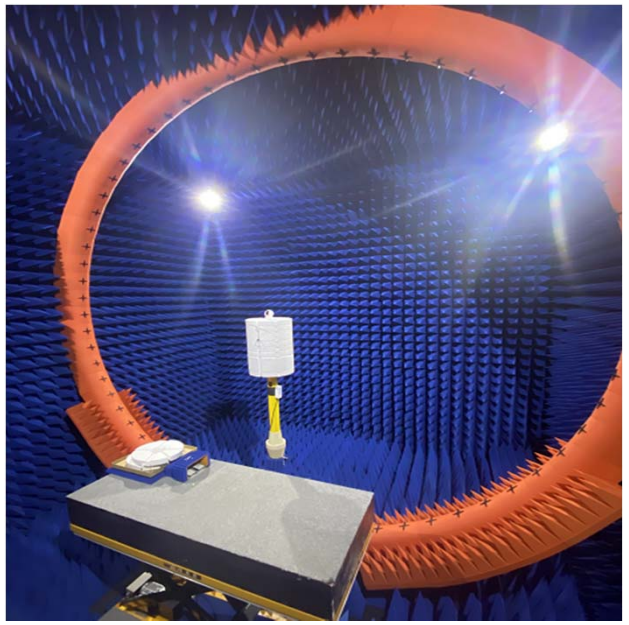
2.4G-PCB板载蓝牙天线 Antenna Study

- **Client Name:立讯检测**
- **Project Name:2.4G-PCB板载蓝牙天线**
- **Debugging frequency band: 2400-2500MHz**
- **Valuation date： 2022.11.12**

Internal Antenna

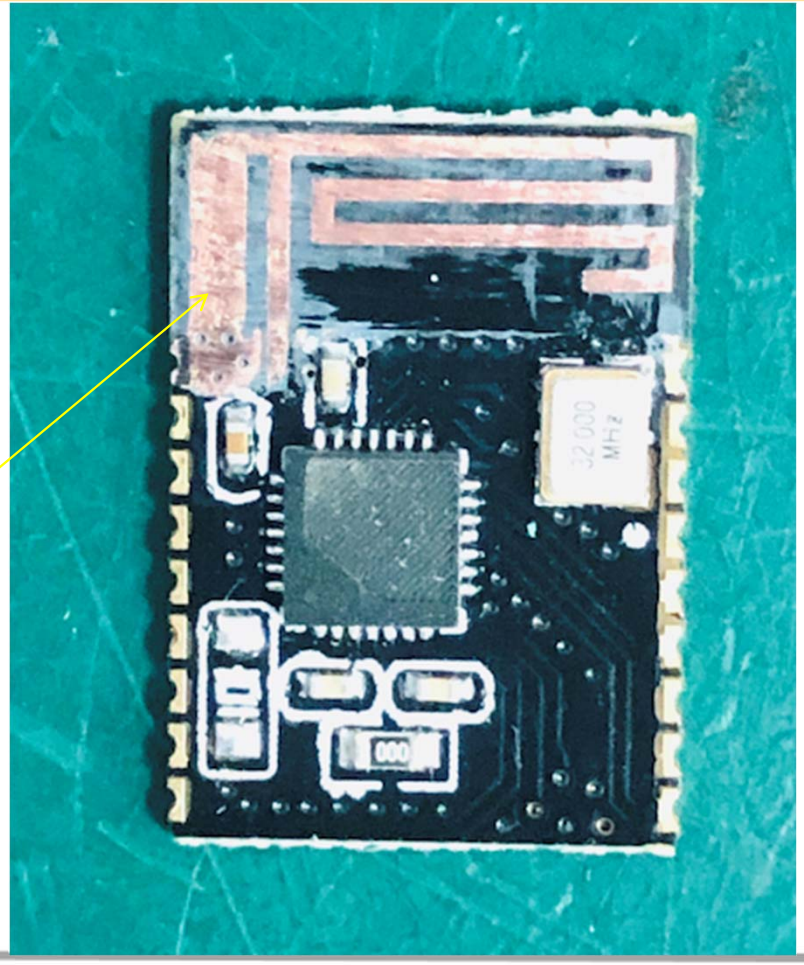


Testing environment



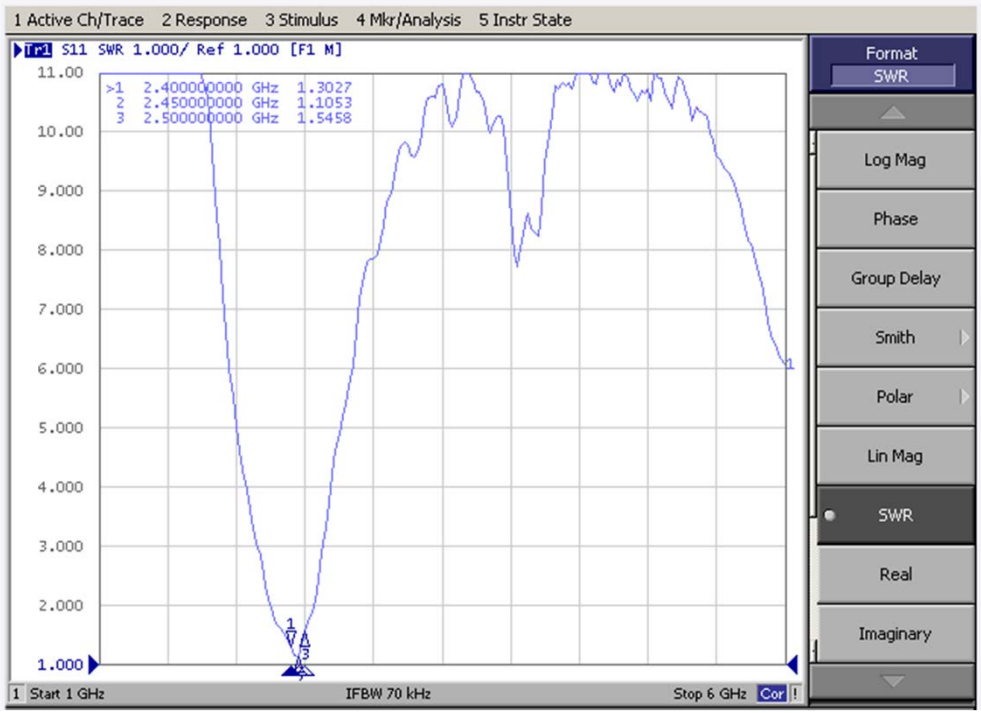
Testing 3D microwave darkroom(6m*6m*6m)

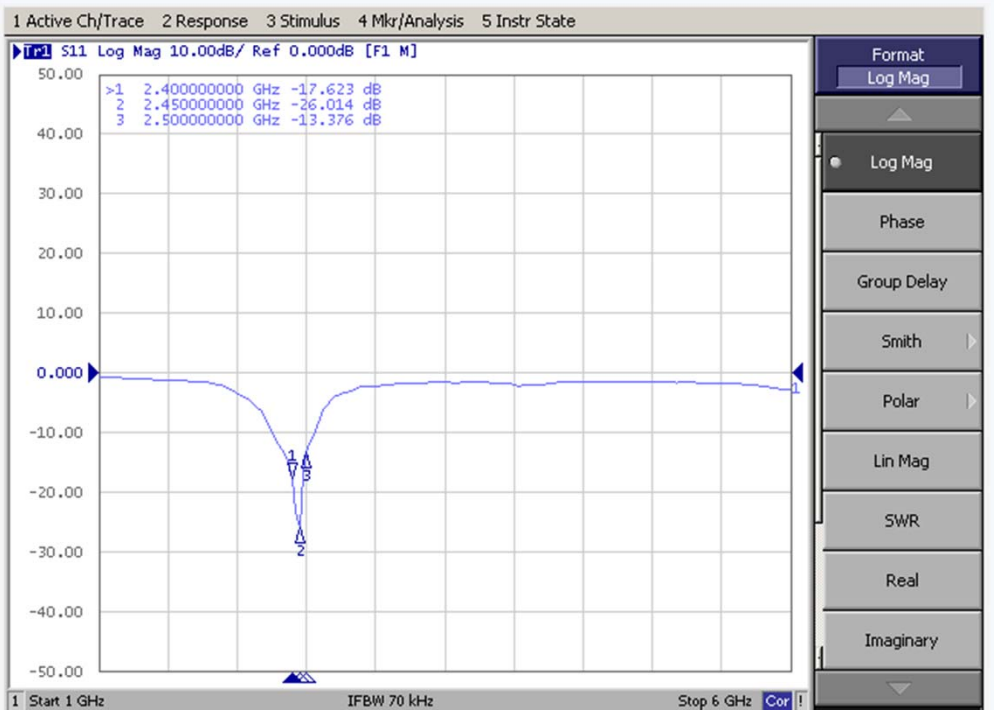
External Antenna



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

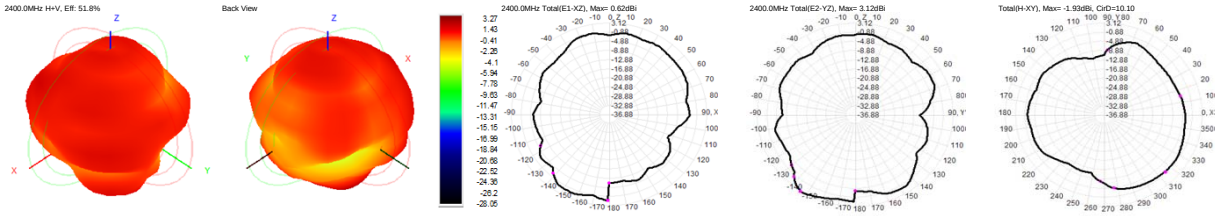
S Parameter_Return Loss&VSWR

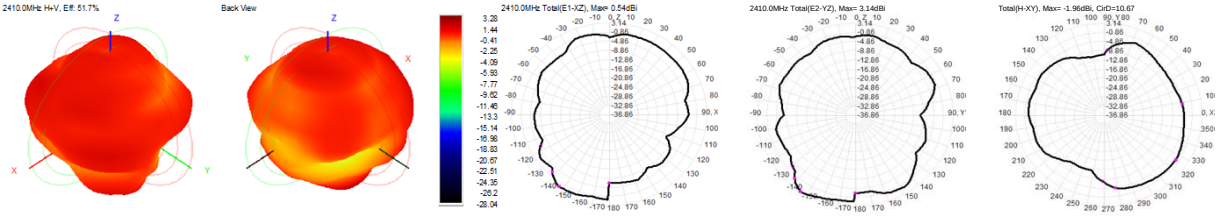


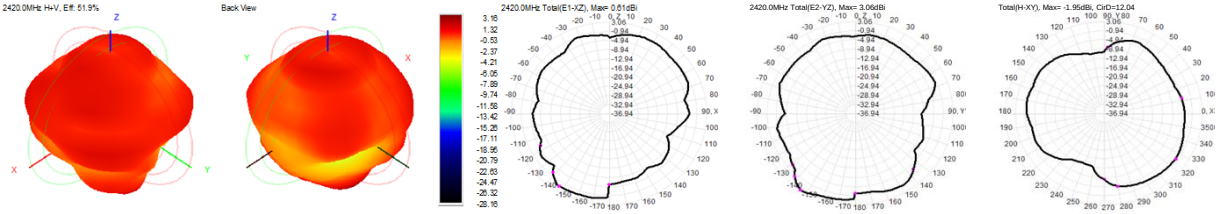


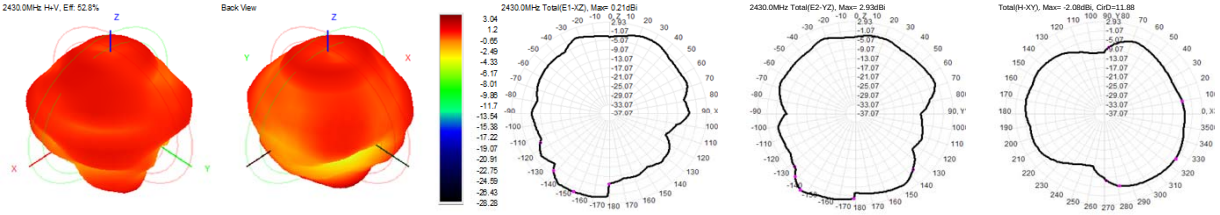
Efficiency and Gain

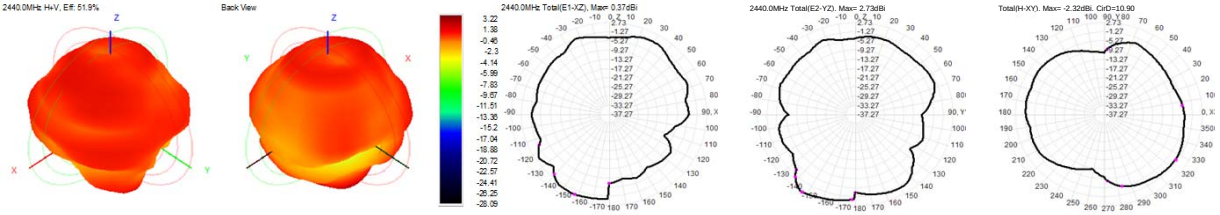
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	3.27	3.28	3.16	3.04	3.22	3.64	3.61	3.47	3.20	3.04	3.25
Efficiency (%)	51.81	51.73	51.92	52.79	51.86	52.47	54.02	53.67	51.59	50.01	50.19

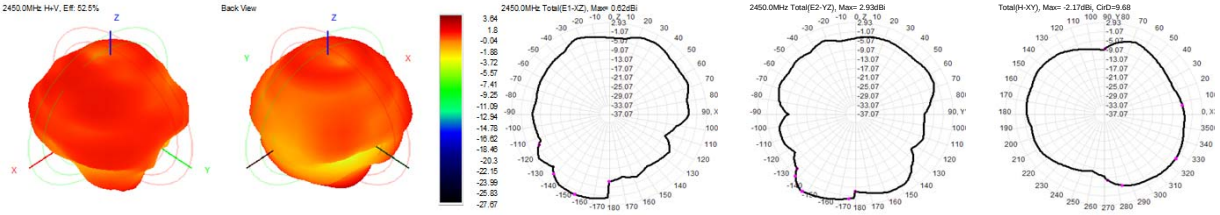

2400.0MHz H+V, Eff: 51.8%
Back View
2400.0MHz Total(E1-XZ), Max= 0.62dBi
2400.0MHz Total(E2-YZ), Max= 3.12dBi
Total(H-XY), Max= -1.93dBi, CirD=10.10

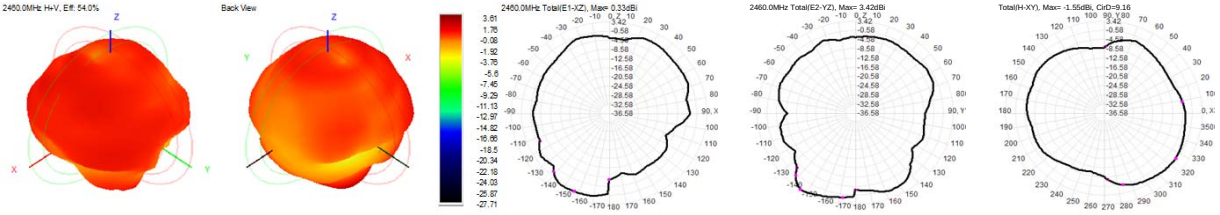

2410.0MHz H+V, Eff: 51.7%
Back View
2410.0MHz Total(E1-XZ), Max= 0.54dBi
2410.0MHz Total(E2-YZ), Max= 3.14dBi
Total(H-XY), Max= -1.96dBi, CirD=10.67

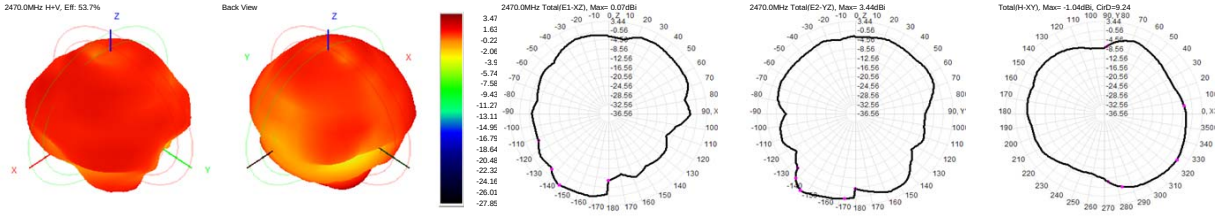

2420.0MHz H+V, Eff: 51.9%
Back View
2420.0MHz Total(E1-XZ), Max= 0.61dBi
2420.0MHz Total(E2-YZ), Max= 3.06dBi
Total(H-XY), Max= -1.95dBi, CirD=12.04

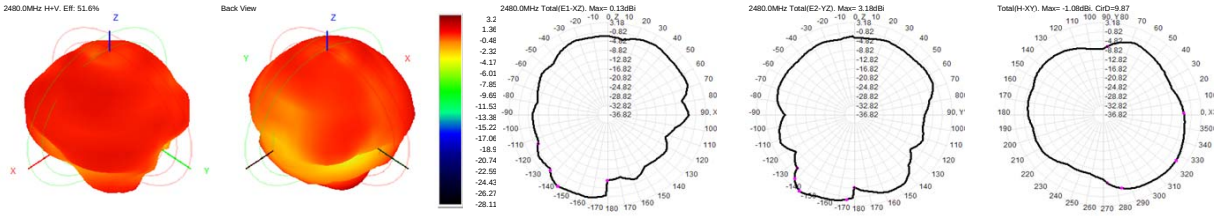

2430.0MHz H+V, Eff: 52.8%
Back View
2430.0MHz Total(E1-XZ), Max= 0.21dBi
2430.0MHz Total(E2-YZ), Max= 2.93dBi
Total(H-XY), Max= -2.08dBi, CirD=11.88

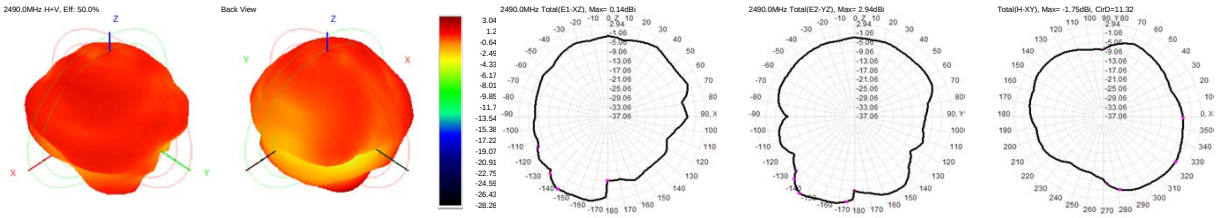

2440.0MHz H+V, Eff: 51.9%
Back View
2440.0MHz Total(E1-XZ), Max= 0.37dBi
2440.0MHz Total(E2-YZ), Max= 2.73dBi
Total(H-XY), Max= -2.32dBi, CirD=10.90

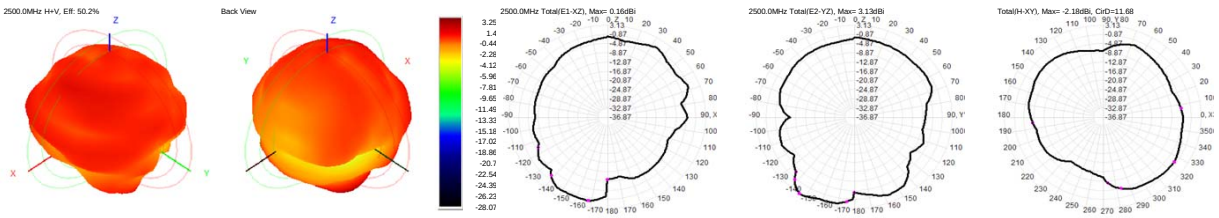

2450.0MHz H+V, Eff: 52.5%
Back View
2450.0MHz Total(E1-XZ), Max= 0.62dBi
2450.0MHz Total(E2-YZ), Max= 2.93dBi
Total(H-XY), Max= -2.17dBi, CirD=9.68

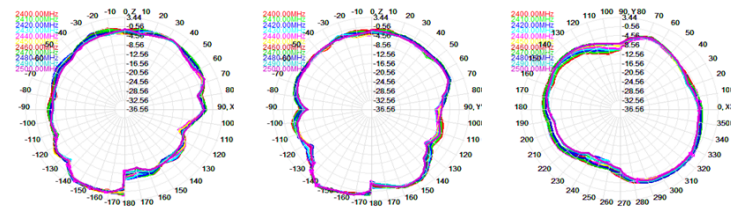

2460.0MHz H+V, Eff: 54.0%
Back View
2460.0MHz Total(E1-XZ), Max= 0.33dBi
2460.0MHz Total(E2-YZ), Max= 3.42dBi
Total(H-XY), Max= -1.55dBi, CirD=9.16


2470.0MHz H+V, Eff: 53.7%
Back View
2470.0MHz Total(E1-XZ), Max= 0.07dBi
2470.0MHz Total(E2-YZ), Max= 3.44dBi
Total(H-XY), Max= -1.04dBi, CirD=9.24


2480.0MHz H+V, Eff: 51.6%
Back View
2480.0MHz Total(E1-XZ), Max= 0.13dBi
2480.0MHz Total(E2-YZ), Max= 3.18dBi
Total(H-XY), Max= -1.08dBi, CirD=9.87


2490.0MHz H+V, Eff: 50.0%
Back View
2490.0MHz Total(E1-XZ), Max= 0.14dBi
2490.0MHz Total(E2-YZ), Max= 2.94dBi
Total(H-XY), Max= -1.75dBi, CirD=11.32


2500.0MHz H+V, Eff: 50.2%
Back View
2500.0MHz Total(E1-XZ), Max= 0.16dBi
2500.0MHz Total(E2-YZ), Max= 3.13dBi
Total(H-XY), Max= -2.18dBi, CirD=11.68


2400.00MHz
2420.00MHz
2440.00MHz
2460.00MHz
2480.00MHz
2500.00MHz