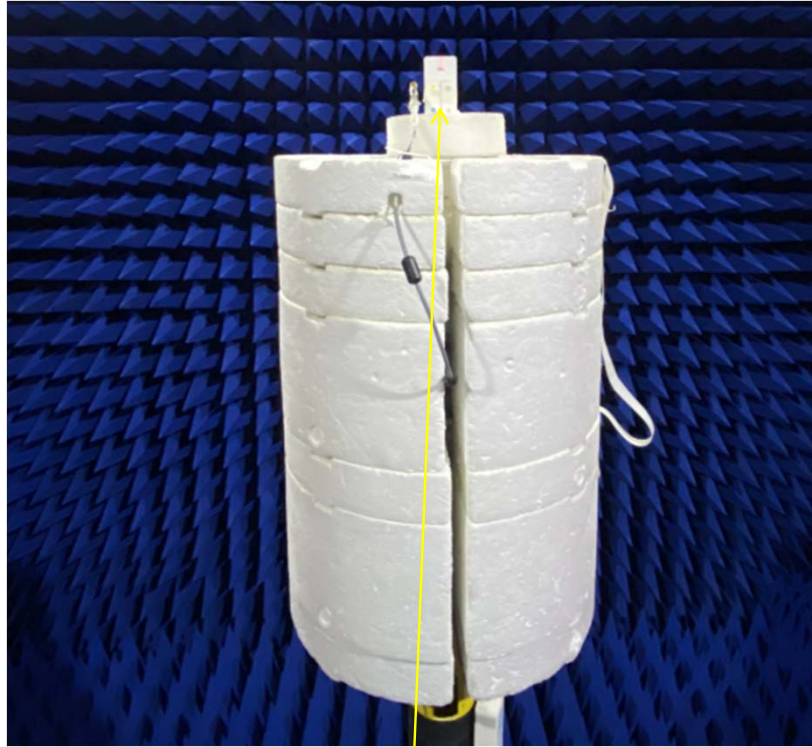


Antenna Study

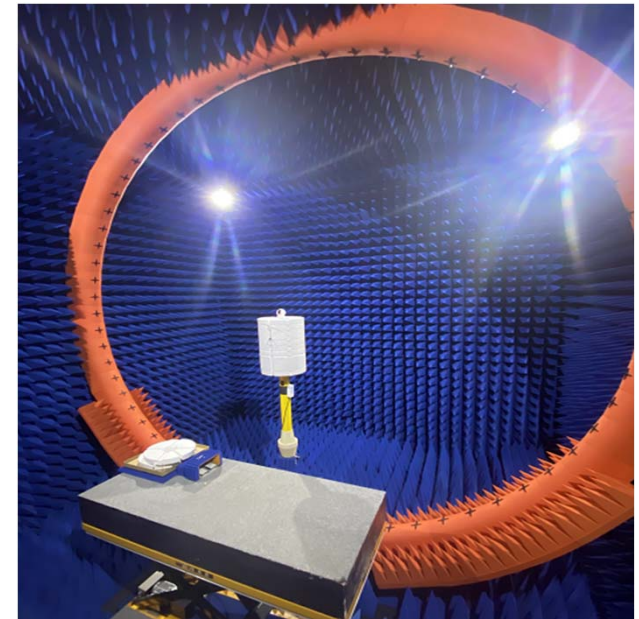
- **Client Name: Beyond Lighting Technology (Shanghai) Co., Ltd.**
- **Project Name : Dimmer switch**
- **Debugging frequency band: 2400-2500HMz**
- **Valuation date: 2023.09.08**

PCB Antenna

Dongguan UB Electronics Co., Ltd



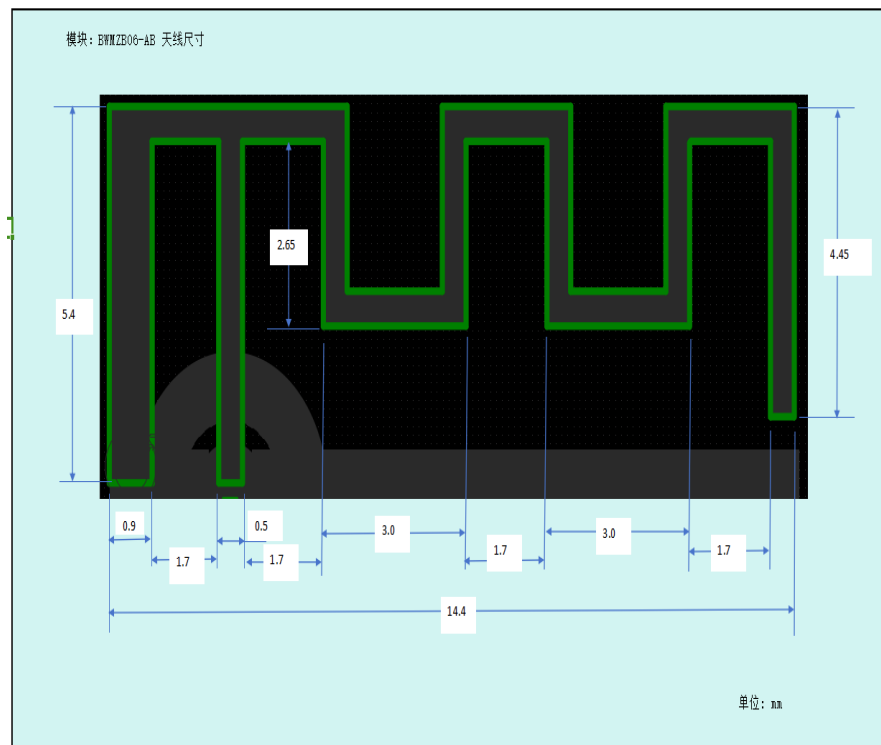
Testing environment



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

PCB Antenna

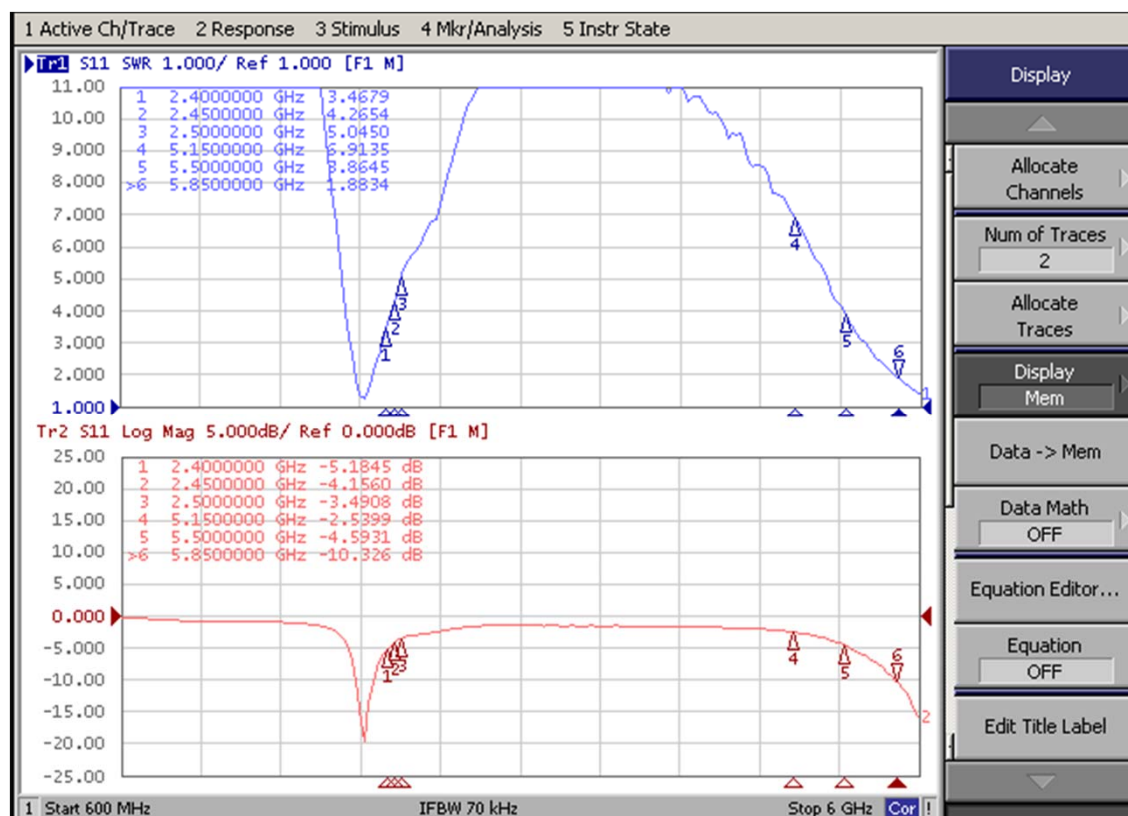
Dongguan UB Electronics Co., Ltd



- Antenna name: 2.4G
- Antenna Type: PCB
- Covers : 2.4G

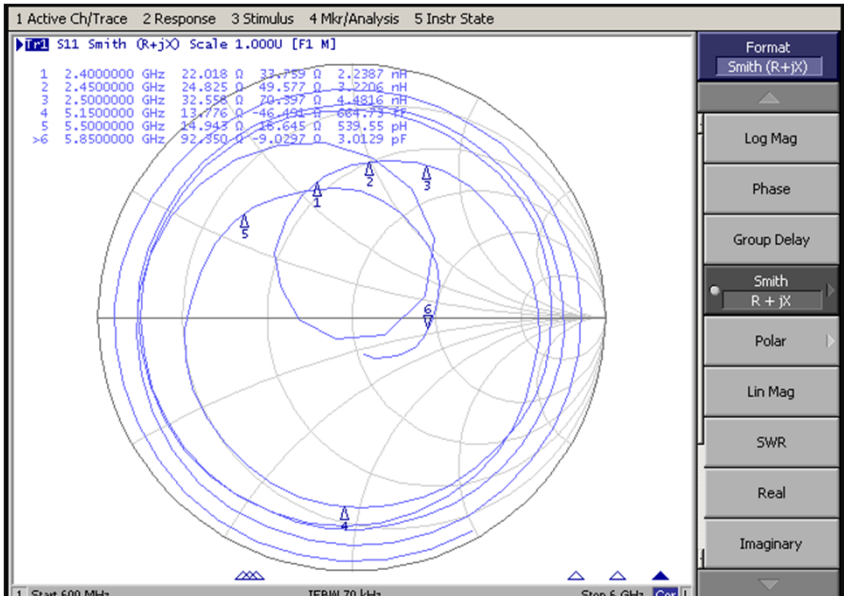
S Parameter_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd



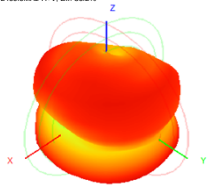
Efficiency and Gain-Smith

Dongguan UB Electronics Co., Ltd

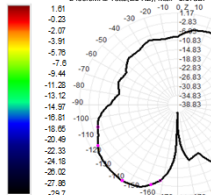
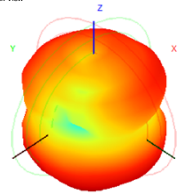


Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	1.61	1.45	1.22	0.92	0.36	-0.02	0.28	0.08	-0.19	-0.17	-0.67
Efficiency (%)	36.25	34.32	30.94	29.79	29.10	27.86	28.25	26.88	24.33	24.06	22.23

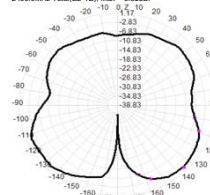
2400.0MHz H+V, E# 35.2%



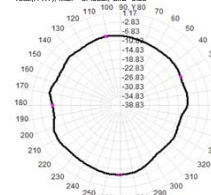
Back View



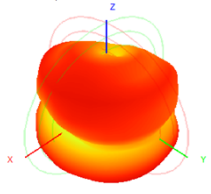
2400.0MHz Total(E2-YZ), Max=-0.81dB



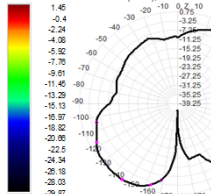
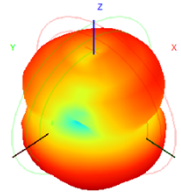
Total(H+V), Max=-8.43dB, C/D=5.25



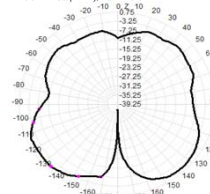
2410.0MHz H+V, E# 34.3%



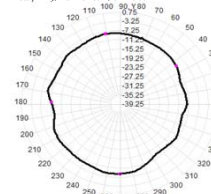
Back View



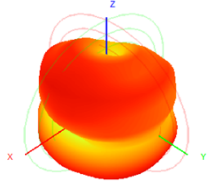
2410.0MHz Total(E2-YZ), Max=-1.02dB



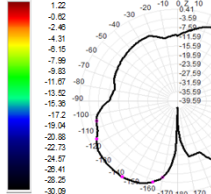
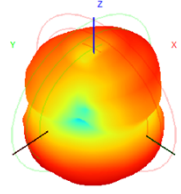
Total(H+V), Max=-8.18dB, C/D=5.56



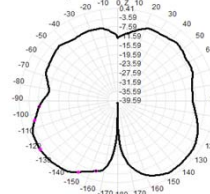
2420.0MHz H+V, E# 30.9%



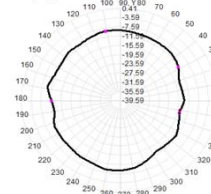
Back View



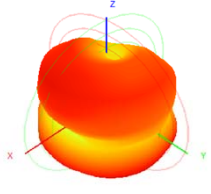
2420.0MHz Total(E2-YZ), Max=-1.69dB



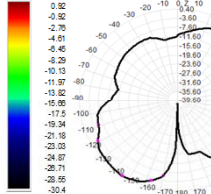
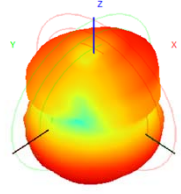
Total(H+V), Max=-8.86dB, C/D=6.22



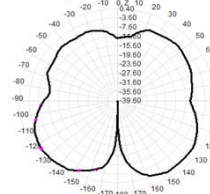
2430.0MHz H+V, E# 29.8%



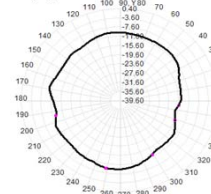
Back View



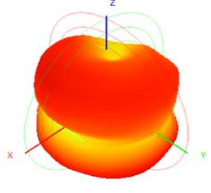
2430.0MHz Total(E2-YZ), Max=-2.39dB



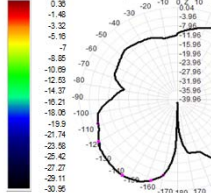
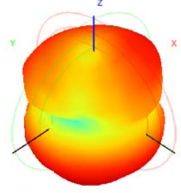
Total(H+V), Max=-9.88dB, C/D=7.10



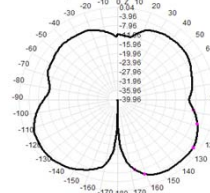
2440.0MHz H+V, E# 29.1%



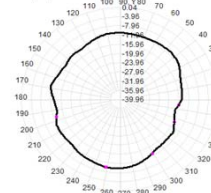
Back View



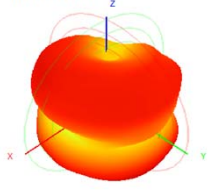
2440.0MHz Total(E2-YZ), Max=-2.65dB



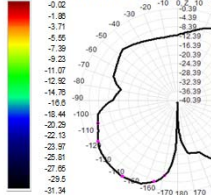
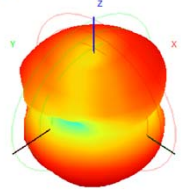
Total(H+V), Max=-10.05dB, C/D=7.21



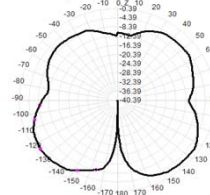
2450.0MHz H+V, E# 27.9%



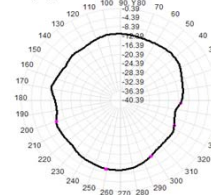
Back View



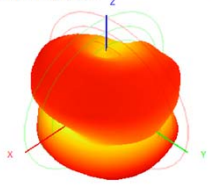
2450.0MHz Total(E2-YZ), Max=-2.58dB



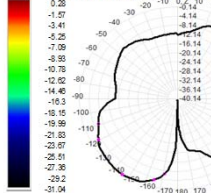
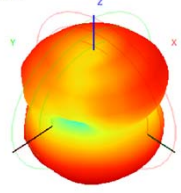
Total(H+V), Max=-9.88dB, C/D=7.69



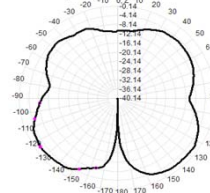
2460.0MHz H+V, E# 28.3%



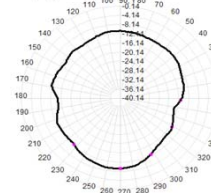
Back View



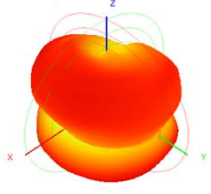
2460.0MHz Total(E2-YZ), Max=-2.41dB



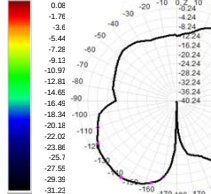
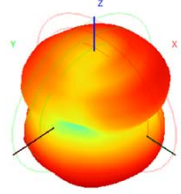
Total(H+V), Max=-9.55dB, C/D=8.40



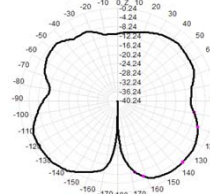
2470.0MHz H+V, E# 26.9%



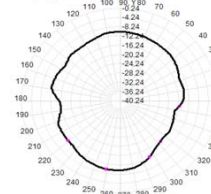
Back View



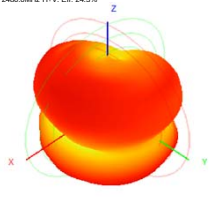
2470.0MHz Total(E2-YZ), Max=-2.60dB



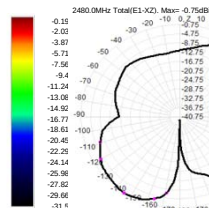
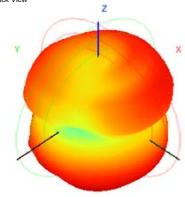
Total(H+V), Max=-10.14dB, C/D=7.63



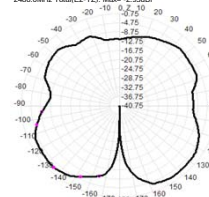
2480.0MHz H+V, EF: 24.3%



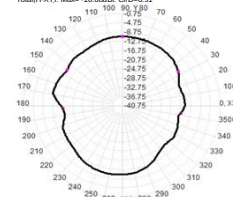
Back View



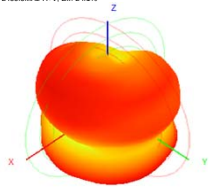
2480.0MHz Total(E2-YZ), Max=-2.95dB



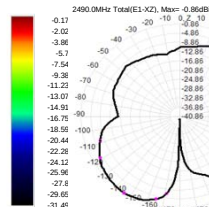
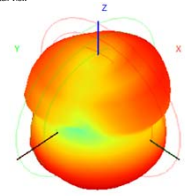
Total(H+V), Max=-10.68dB, CrD=6.91



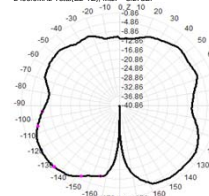
2490.0MHz H+V, EF: 24.1%



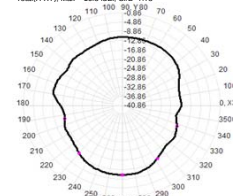
Back View



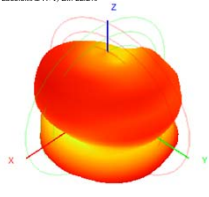
2490.0MHz Total(E2-YZ), Max=-3.27dB



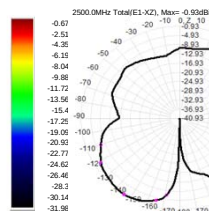
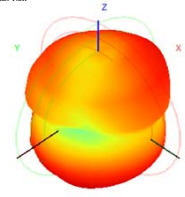
Total(H+V), Max=-10.84dB, CrD=7.78



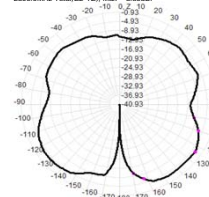
2500.0MHz H+V, EF: 22.2%



Back View



2500.0MHz Total(E2-YZ), Max=-3.80dB



Total(H+V), Max=-11.11dB, CrD=9.11

