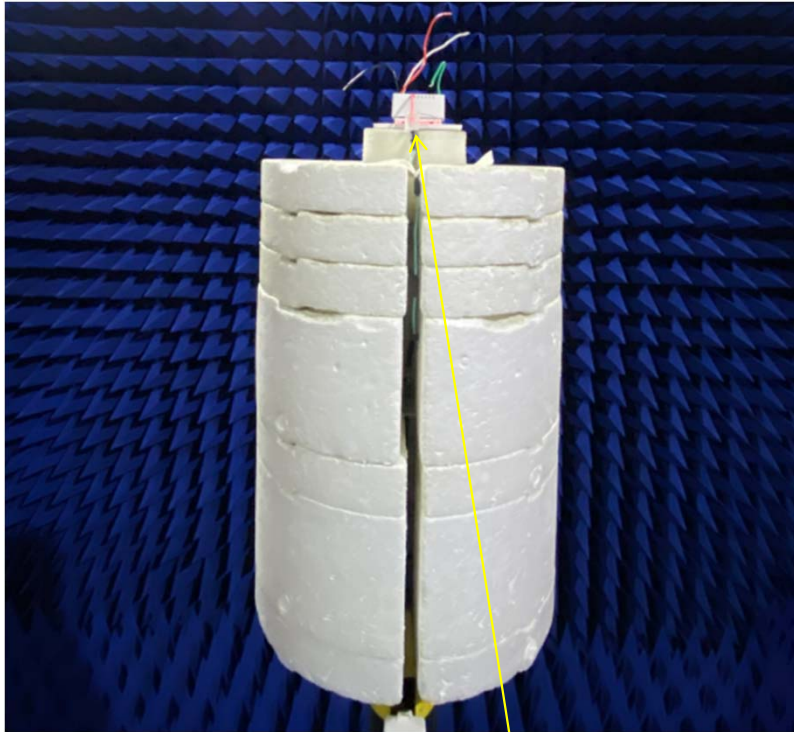


## Antenna Study

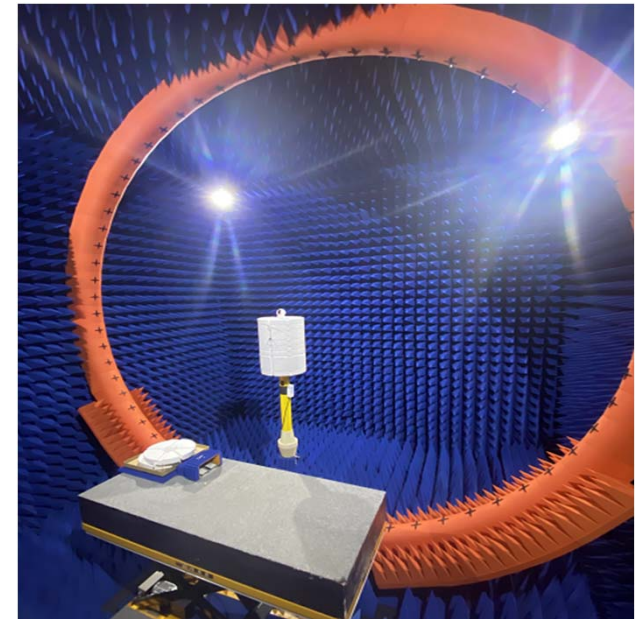
- **Client Name:U-tec Group Inc.**
- **Project Name : Smart Switch**
- **Debugging frequency band: 2400-2500HMz**
- **Valuation date: 2024.06.11**
- **Linkman contacts: gao shang 18925546490**

# PCB Antenna

Dongguan UB Electronics Co., Ltd



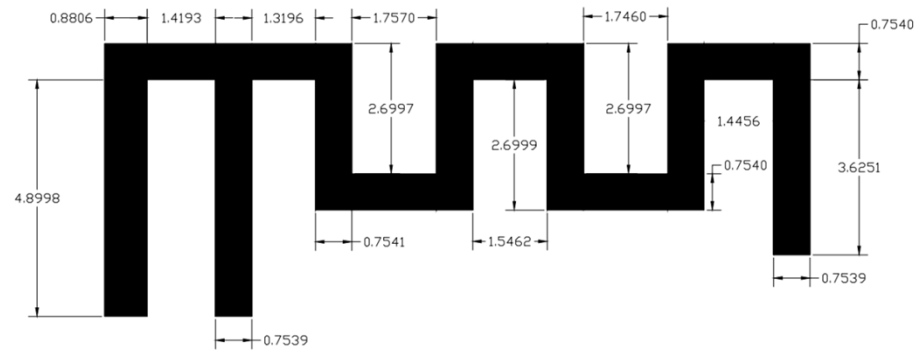
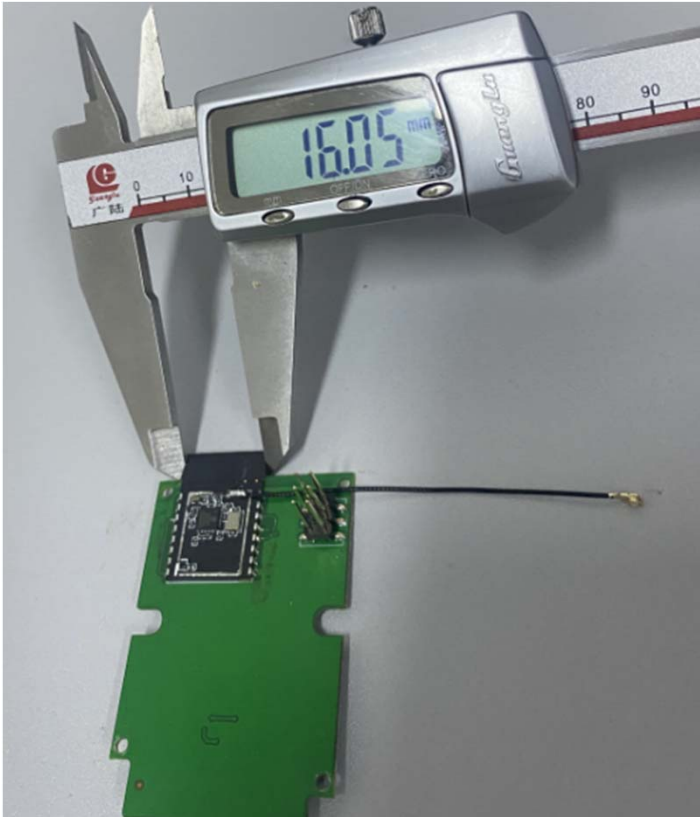
Testing environment



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

# PCB Antenna

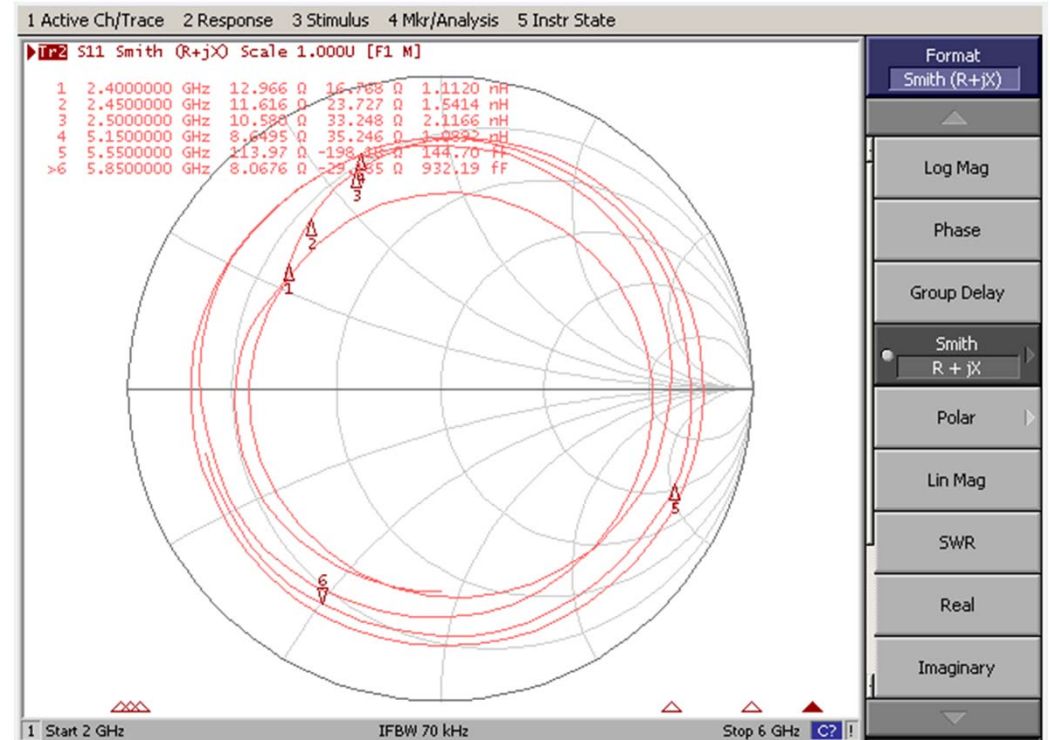
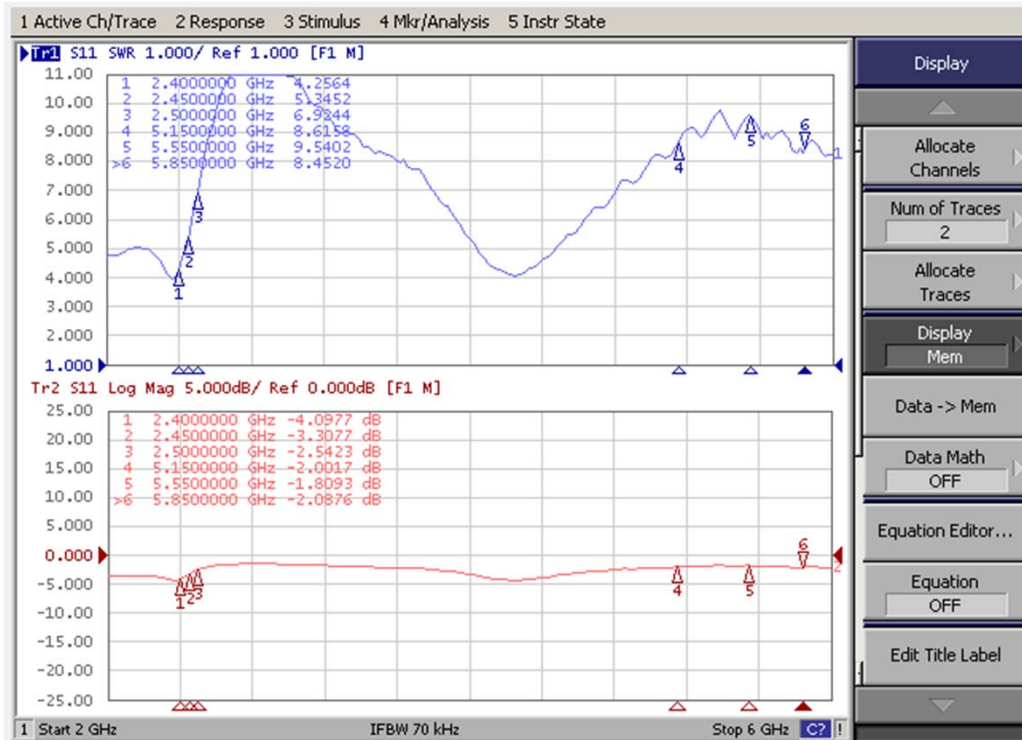
Dongguan UB Electronics Co., Ltd



Antenna

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

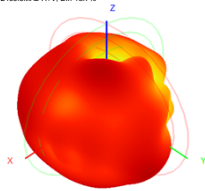
# S Parameter\_Return Loss&VSWR-Smith



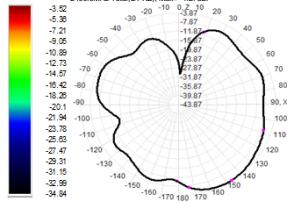
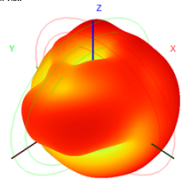
# Efficiency and Gain

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	-3.52	-3.61	-3.20	-3.59	-3.35	-3.69	-3.49	-3.88	-3.97	-4.48	-4.93
Efficiency (%)	13.75	13.20	14.52	13.45	14.34	12.72	12.82	11.48	11.21	9.96	8.92

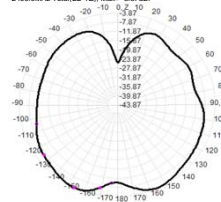
2400.0MHz H+V, Ef: 13.7%



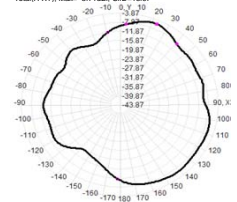
Back View



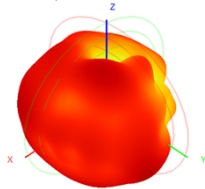
2400.0MHz Total(E+Z), Max=-3.87dB



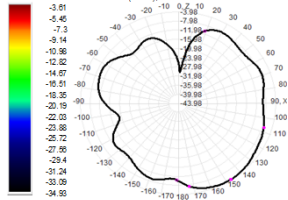
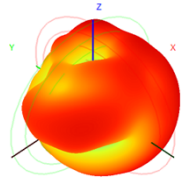
Total(H+Y), Max=-5.71dB, CrD=13.97



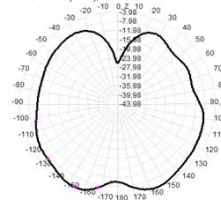
2410.0MHz H+V, Ef: 13.2%



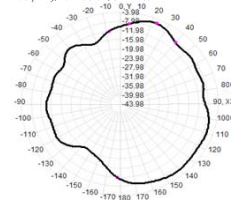
Back View



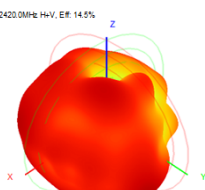
2410.0MHz Total(E+Z), Max=-4.52dB



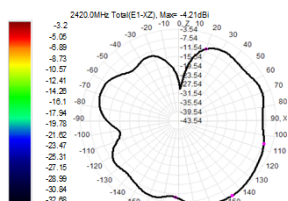
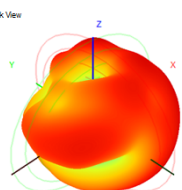
Total(H+Y), Max=-5.94dB, CrD=14.60



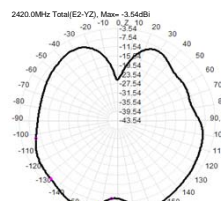
2420.0MHz H+V, Ef: 14.5%



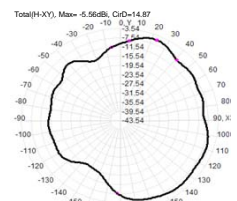
Back View



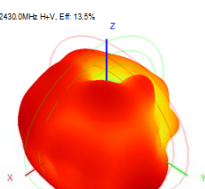
2420.0MHz Total(E+Z), Max=-4.21dB



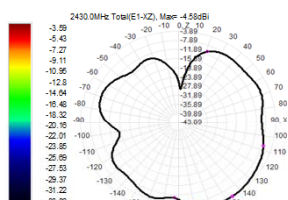
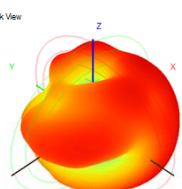
Total(H+Y), Max=-5.56dB, CrD=14.67



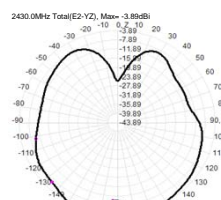
2430.0MHz H+V, Ef: 13.5%



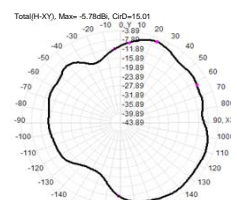
Back View



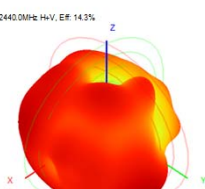
2430.0MHz Total(E+Z), Max=-3.88dB



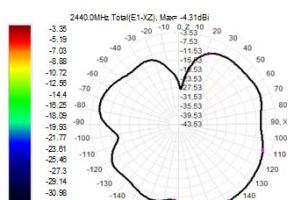
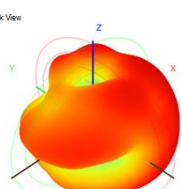
Total(H+Y), Max=-5.78dB, CrD=10.01



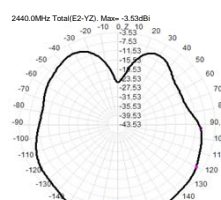
2440.0MHz H+V, Ef: 14.3%



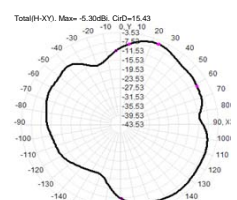
Back View



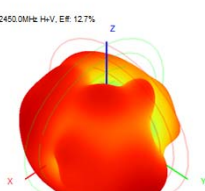
2440.0MHz Total(E+Z), Max=-3.53dB



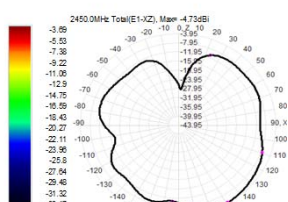
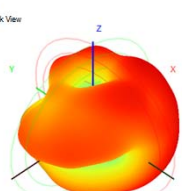
Total(H+Y), Max=-5.30dB, CrD=15.43



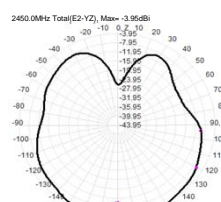
2450.0MHz H+V, Ef: 12.7%



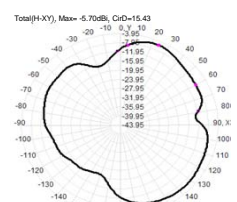
Back View



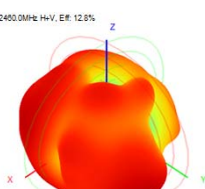
2450.0MHz Total(E+Z), Max=-3.95dB



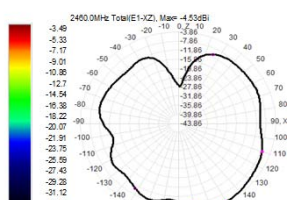
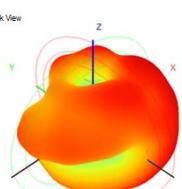
Total(H+Y), Max=-5.70dB, CrD=15.43



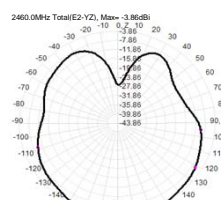
2460.0MHz H+V, Ef: 12.8%



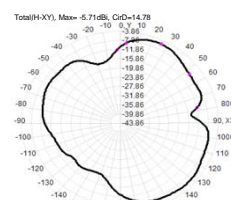
Back View



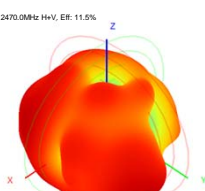
2460.0MHz Total(E+Z), Max=-3.96dB



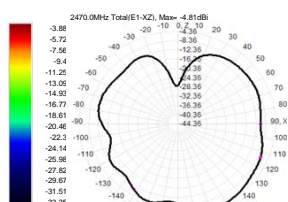
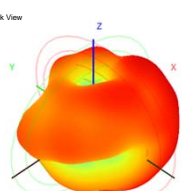
Total(H+Y), Max=-5.71dB, CrD=14.78



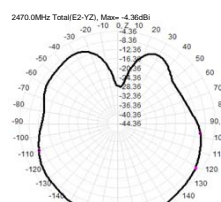
2470.0MHz H+V, Ef: 11.5%



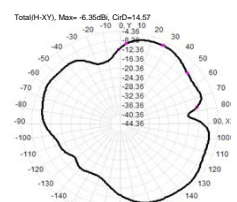
Back View



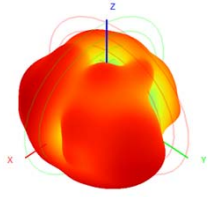
2470.0MHz Total(E+Z), Max=-4.81dB



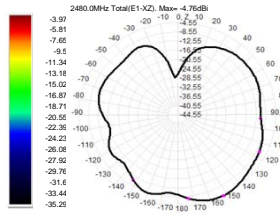
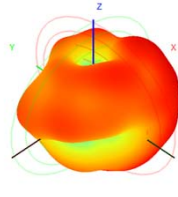
Total(H+Y), Max=-6.36dB, CrD=14.57



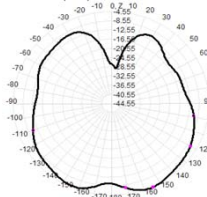
2480.0MHz H+V, Ef: 11.2%



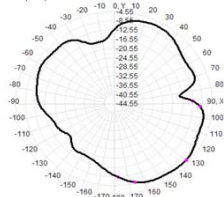
Back View



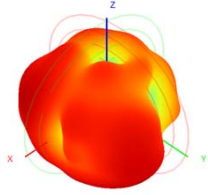
2480.0MHz Total(E2-YZ), Max=-4.55dBi



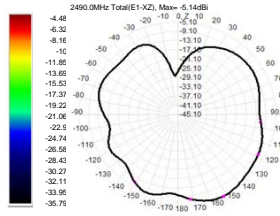
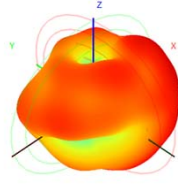
Total(H+V), Max=-6.39dBi, C/D=15.57



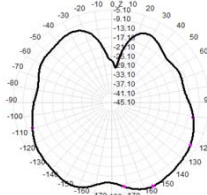
2490.0MHz H+V, Ef: 10.0%



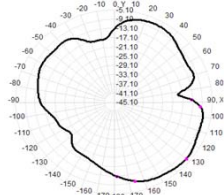
Back View



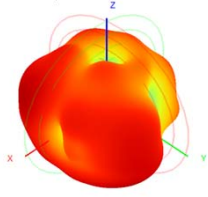
2490.0MHz Total(E2-YZ), Max=-5.10dBi



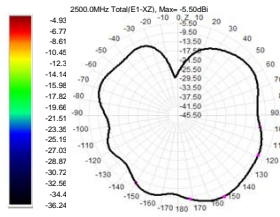
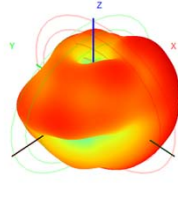
Total(H+V), Max=-6.96dBi, C/D=16.20



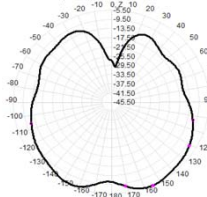
2500.0MHz H+V, Ef: 8.9%



Back View



2500.0MHz Total(E2-YZ), Max=-5.55dBi



Total(H+V), Max=-7.54dBi, C/D=16.32

