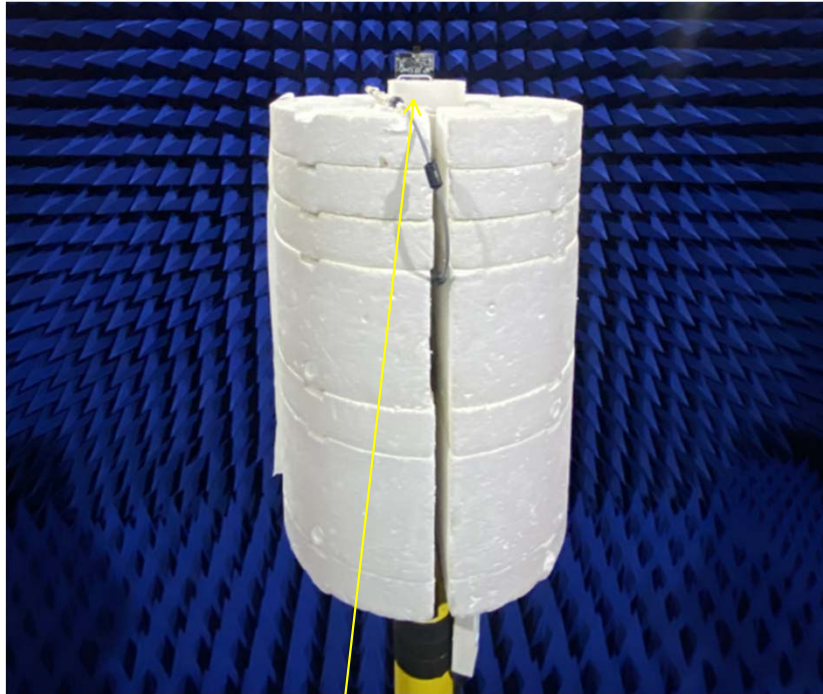


## Antenna Study

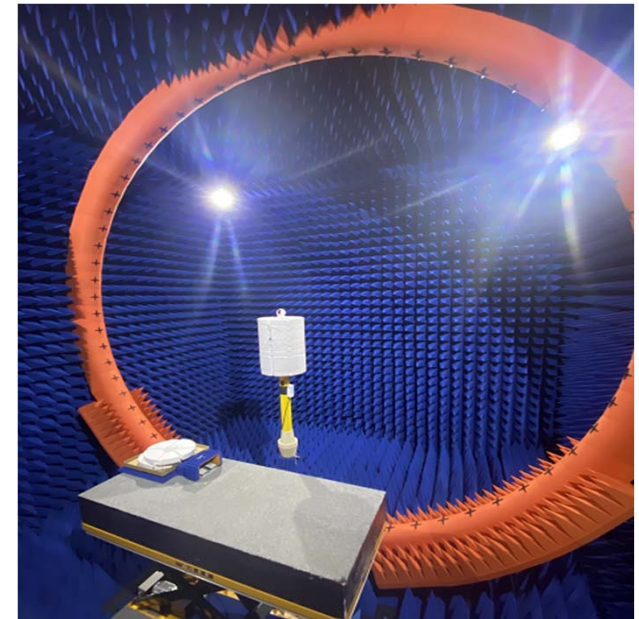
- **Client Name: Eccel Technology Limited**
- **Project Name: 2.4G antenna**
- **Debugging frequency band: 2.4G**
- **Valuation date: 2023.07.19**

# PCB Antenna

Dongguan UB Electronics Co., Ltd



Testing environment



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

# PCB Antenna

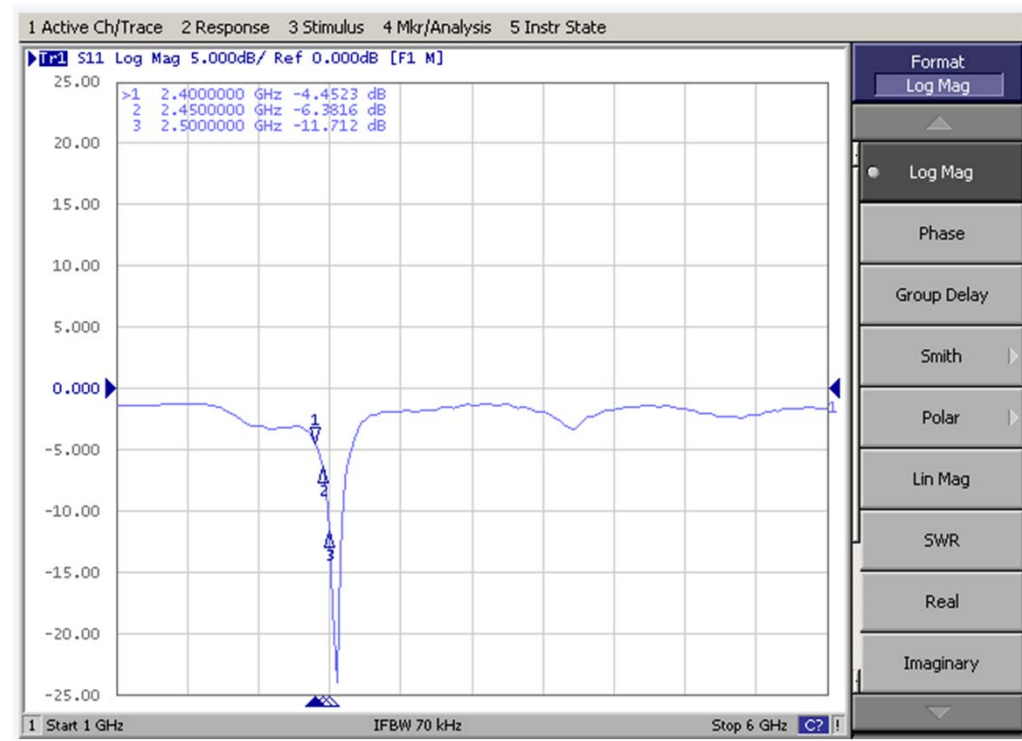
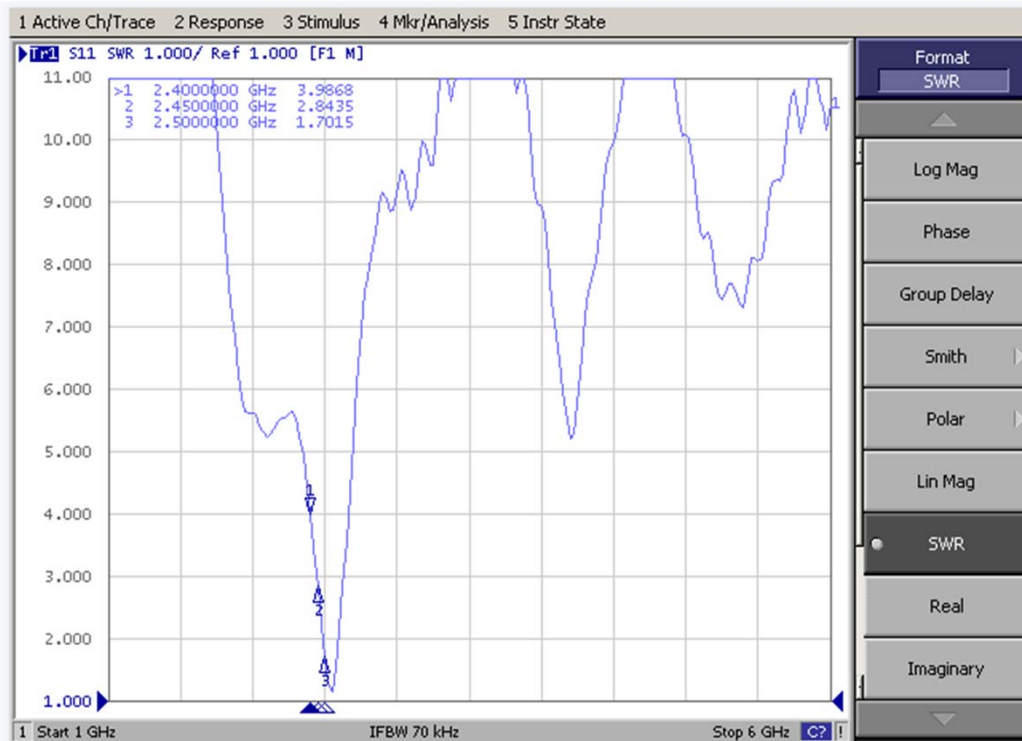
Dongguan UB Electronics Co., Ltd



Antenna

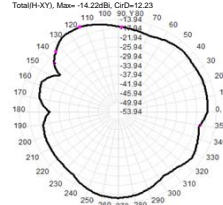
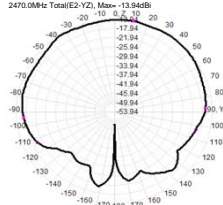
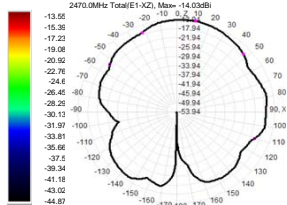
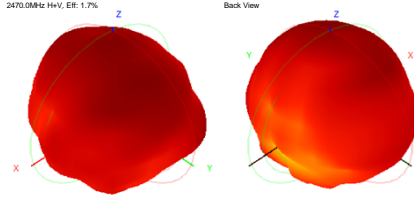
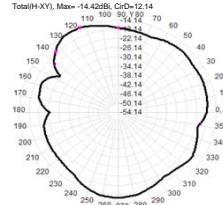
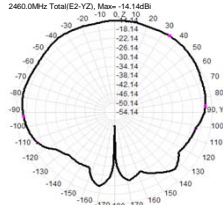
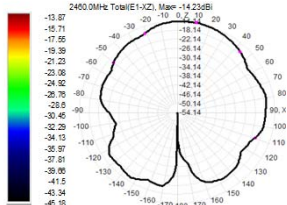
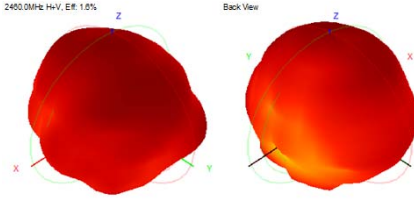
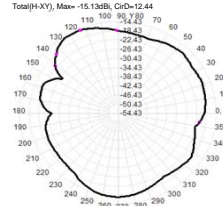
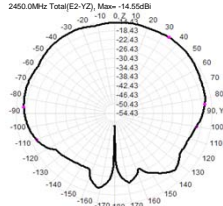
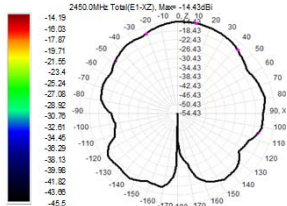
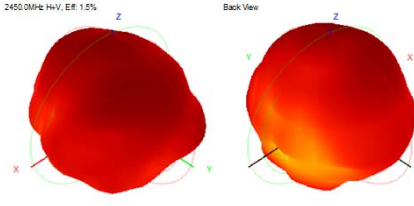
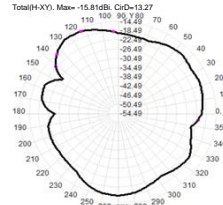
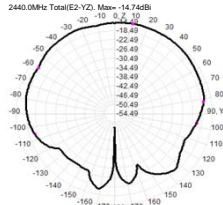
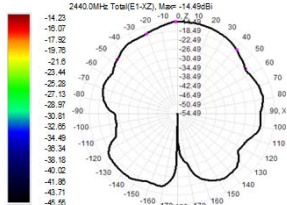
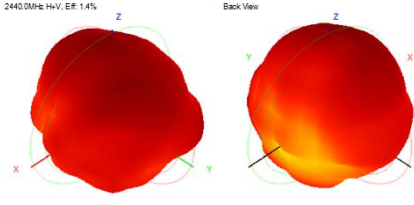
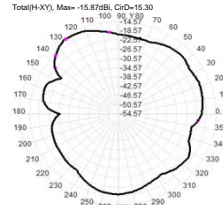
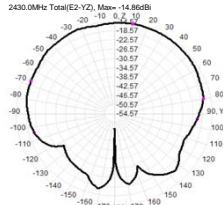
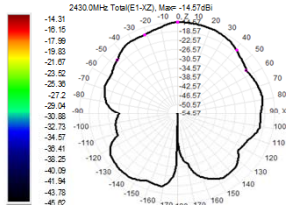
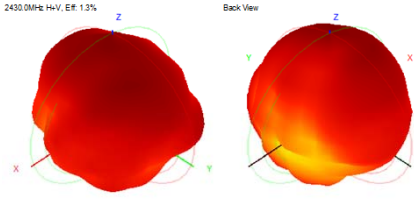
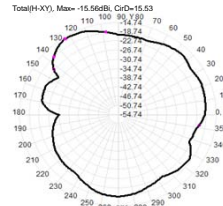
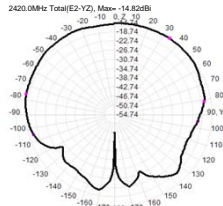
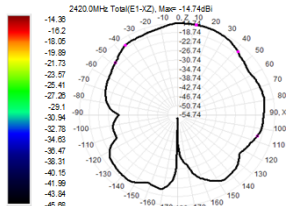
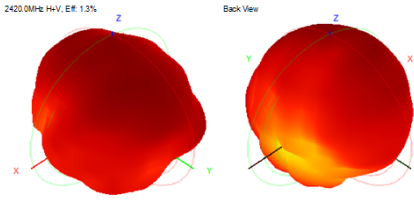
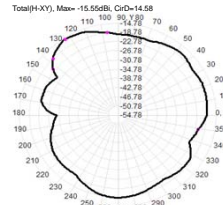
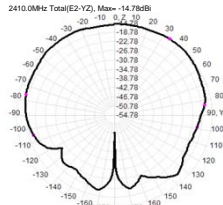
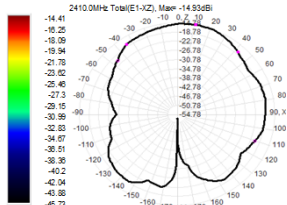
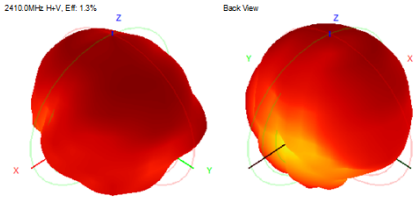
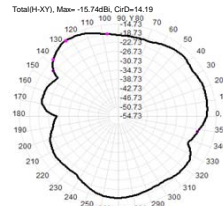
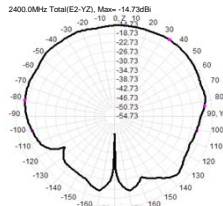
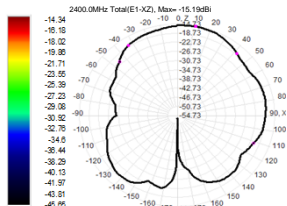
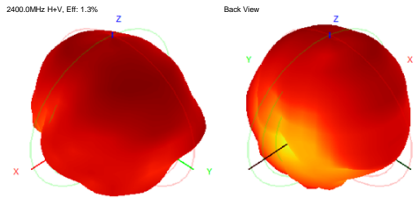
- Antenna name: 2.4G
- Antenna Type: PCB
- Covers : 2.4G

# S Parameter\_Return Loss&VSWR

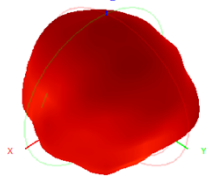


# Efficiency and Gain-Smith

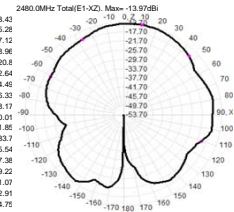
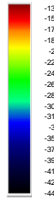
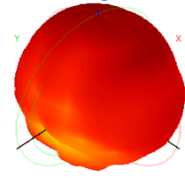
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	-14.34	-14.41	-14.36	-14.31	-14.23	-14.19	-13.87	-13.55	-13.43	-13.58	-13.50
Efficiency (%)	1.27	1.28	1.29	1.30	1.38	1.50	1.63	1.71	1.74	1.80	1.88



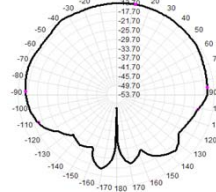
2480.0MHz H+V, Ef: 1.7%



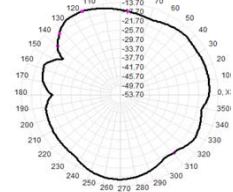
Back View



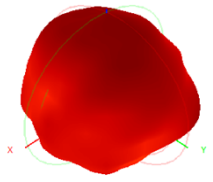
2480.0MHz Total(E+YZ), Max=-13.70dB



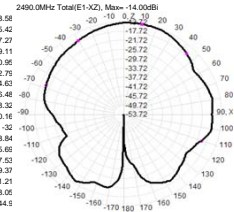
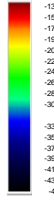
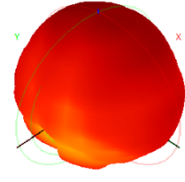
Total(H+XY), Max=-14.36dB, CirD=12.03



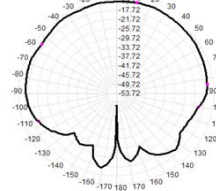
2490.0MHz H+V, Ef: 1.8%



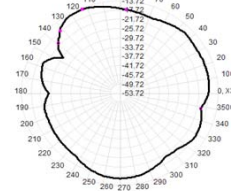
Back View



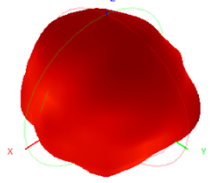
2490.0MHz Total(E+YZ), Max=-13.72dB



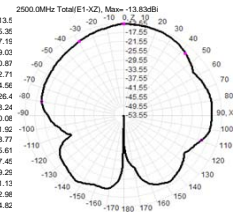
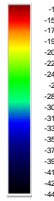
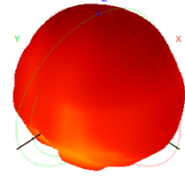
Total(H+XY), Max=-14.32dB, CirD=11.86



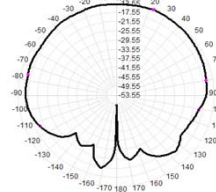
2500.0MHz H+V, Ef: 1.9%



Back View



2500.0MHz Total(E+YZ), Max=-13.55dB



Total(H+XY), Max=-14.23dB, CirD=11.38

