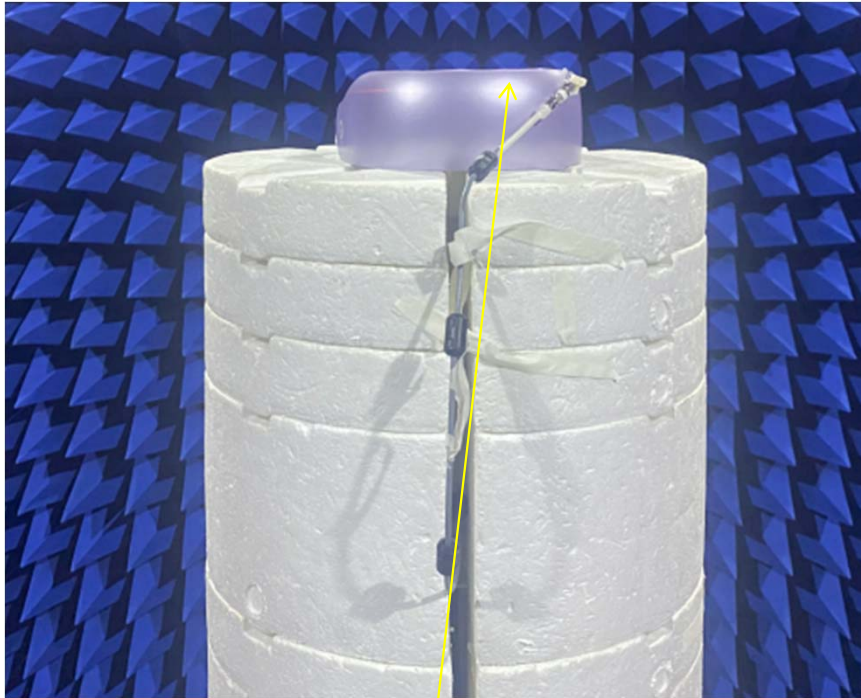


## Antenna Study

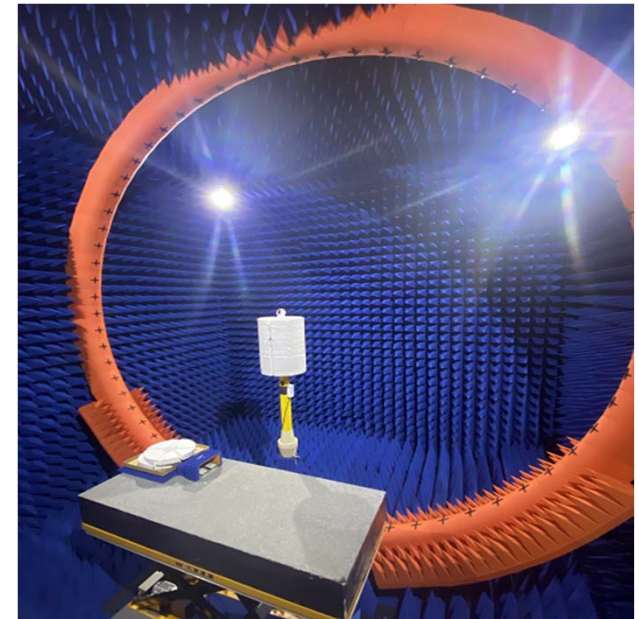
- **Client Name:** Tianjin Fruitech Technology Co., Ltd.
- **Project Name:** Intelligent Steam Eye Protector Air
- **Debugging frequency band:** 2400-2500MHz
- **Valuation date:** 2022.12.14

# Internal Antenna

Dongguan UB Electronics Co., Ltd



Testing environment



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

# External Antenna

Dongguan UB Electronics Co., Ltd

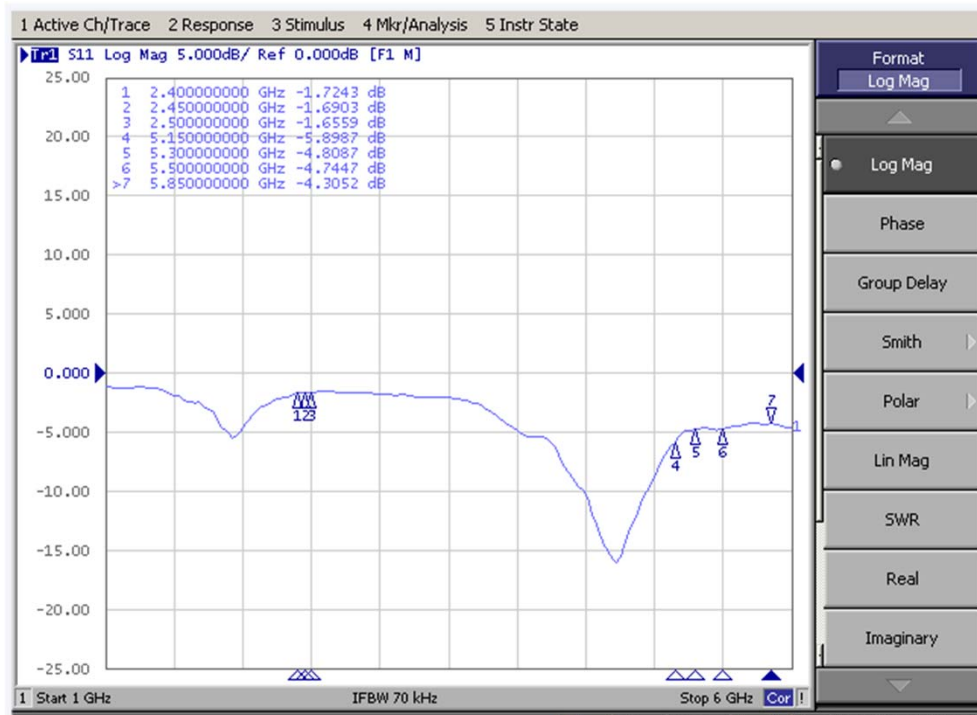
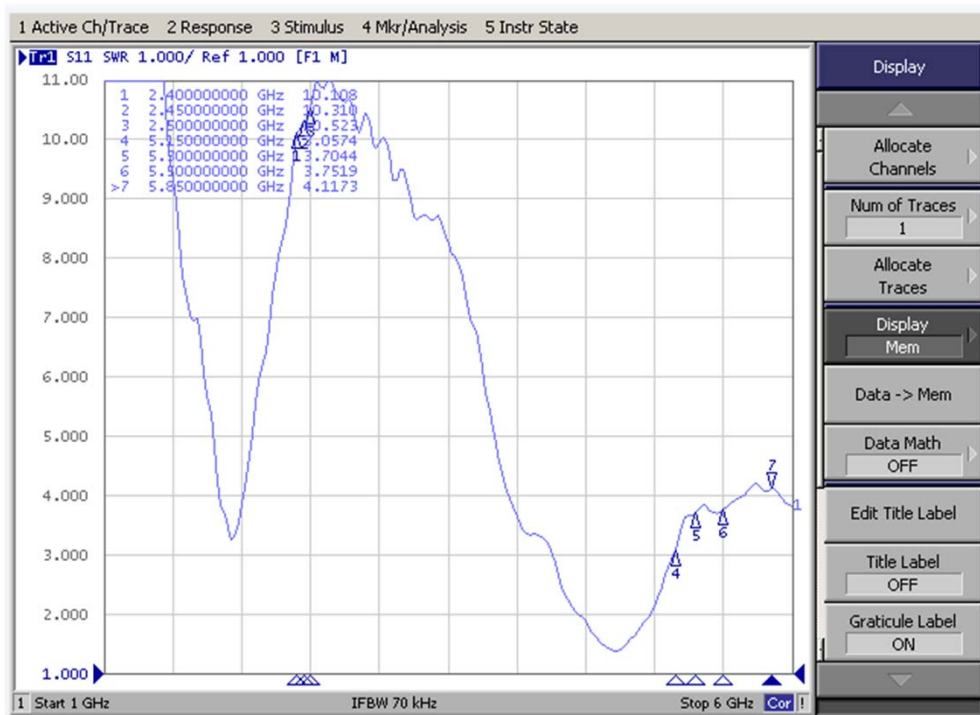


Antenna

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

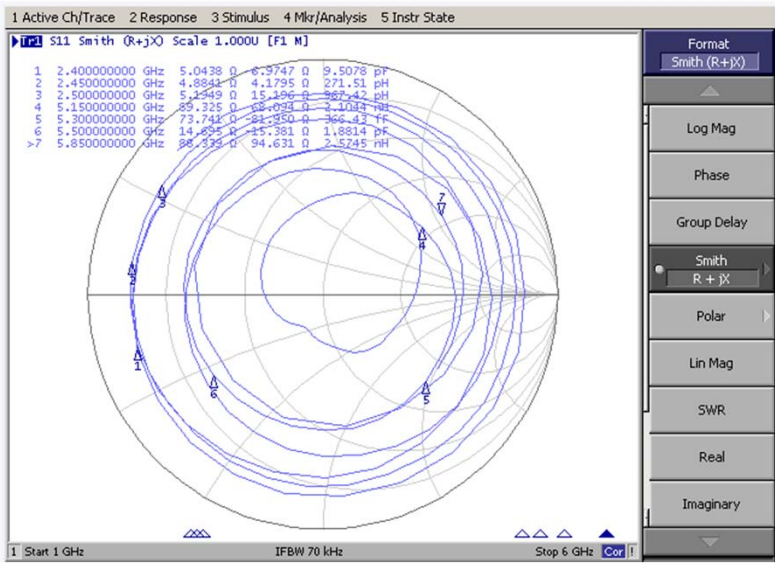
# S Parameter\_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd

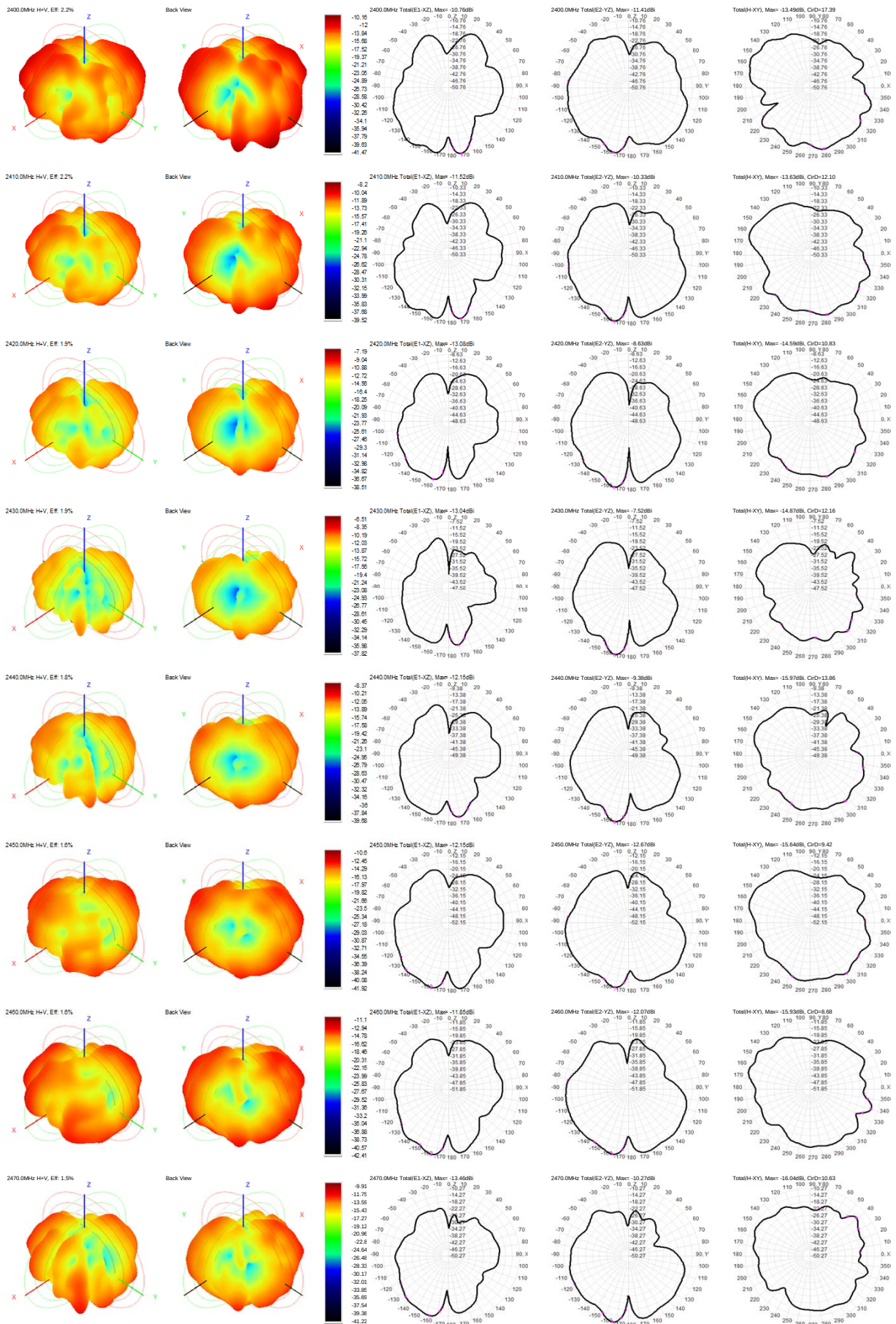


# Efficiency and Gain-Smith

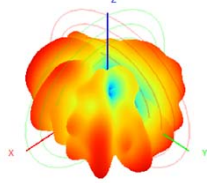
Dongguan UB Electronics Co., Ltd



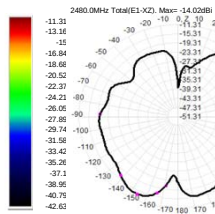
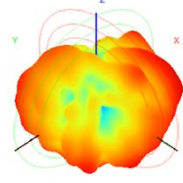
| Frequency ID    | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz) | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 |
| Gain (dBi)      | -10.76 | -10.33 | -8.63  | -7.52  | -9.38  | -12.15 | -11.85 | -10.27 | -11.31 | -13.02 | -13.42 |
| Efficiency (%)  | 2.2    | 2.2    | 1.9    | 1.9    | 1.8    | 1.6    | 1.6    | 1.5    | 1.3    | 1.3    | 1.1    |



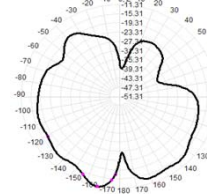
2480.0MHz H+V, Eff: 1.3%



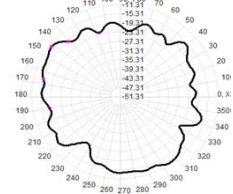
Back View



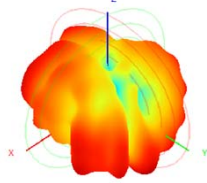
2480.0MHz Total(E2-YZ), Max=-11.31dB



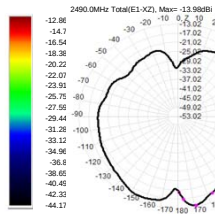
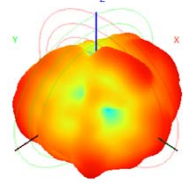
Total(H-XY), Max=-16.21dB, Crd=11.12



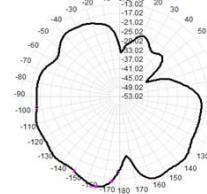
2490.0MHz H+V, Eff: 1.3%



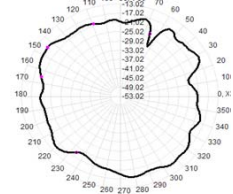
Back View



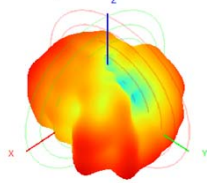
2490.0MHz Total(E2-YZ), Max=-13.02dB



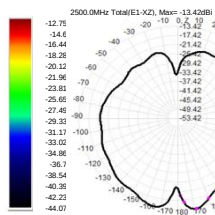
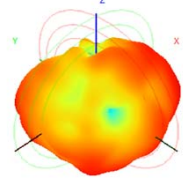
Total(H-XY), Max=-16.94dB, Crd=12.00



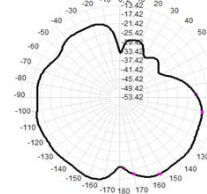
2500.0MHz H+V, Eff: 1.1%



Back View



2500.0MHz Total(E2-YZ), Max=-16.22dB



Total(H-XY), Max=-17.43dB, Crd=7.80

