

好天线 · 优比造

Dongguan UB Electronics Co., Ltd

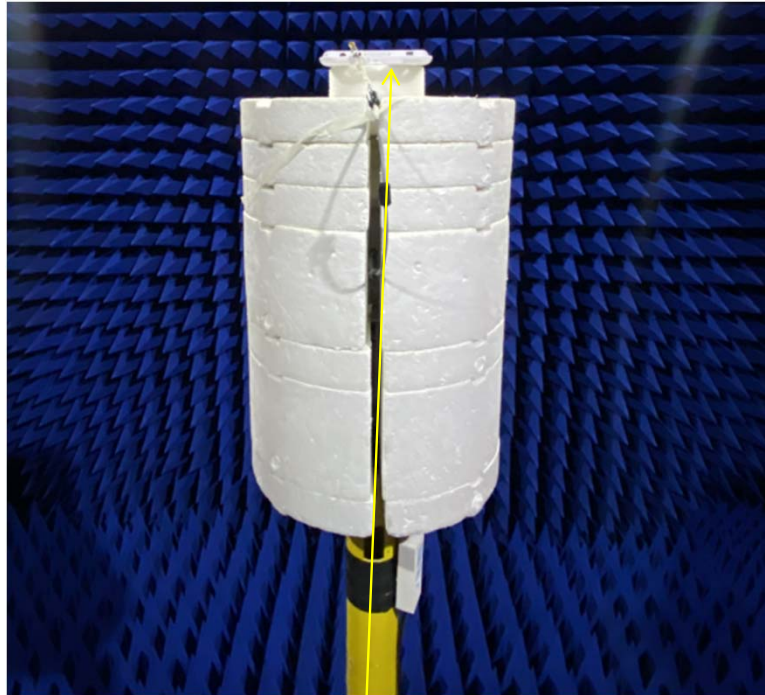
Room 101, Building 2, No. 9 Xinfu Road, Lincun, Tangxia Town, Dongguan, Guangdong, China

## Antenna Study

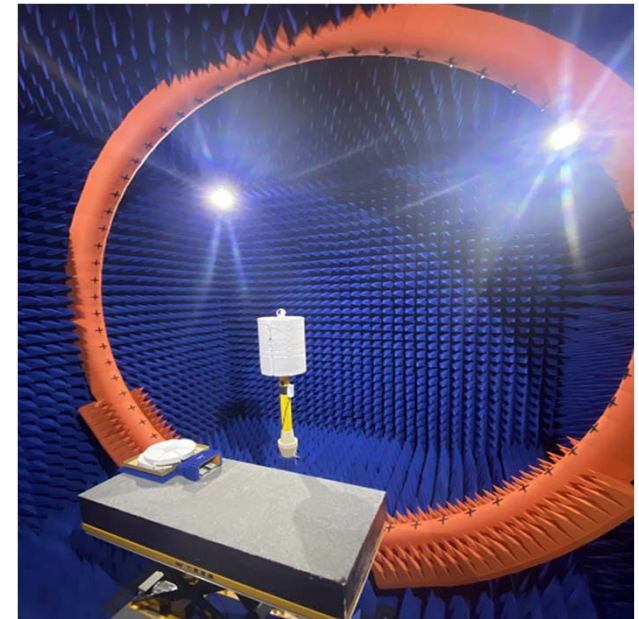
- **Client Name: Marukan Co., Ltd**
- **Project Name: Automatic Cat Litter Box**
- **Debugging frequency band: 2400-2500**
- **Valuation date: 2023.10.25**

# PCB Antenna & Internal Antenna

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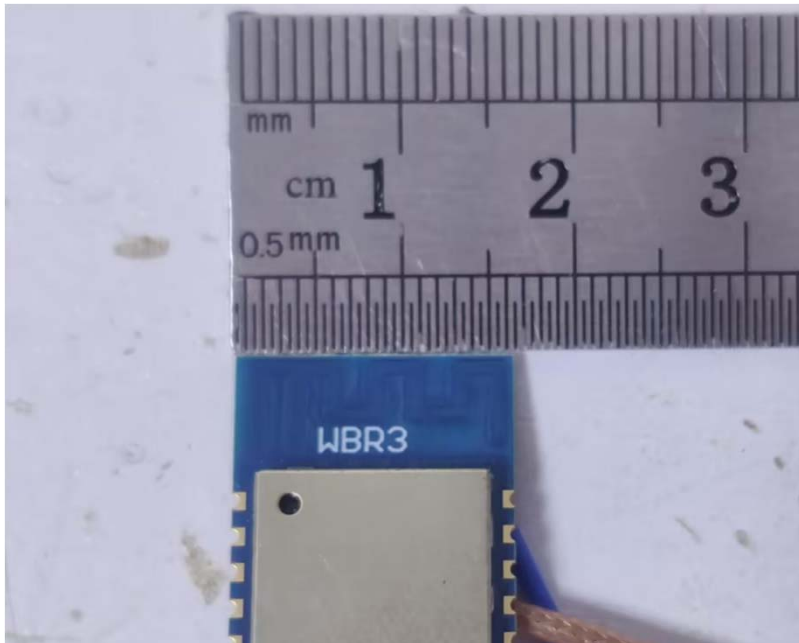
Testing environment



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

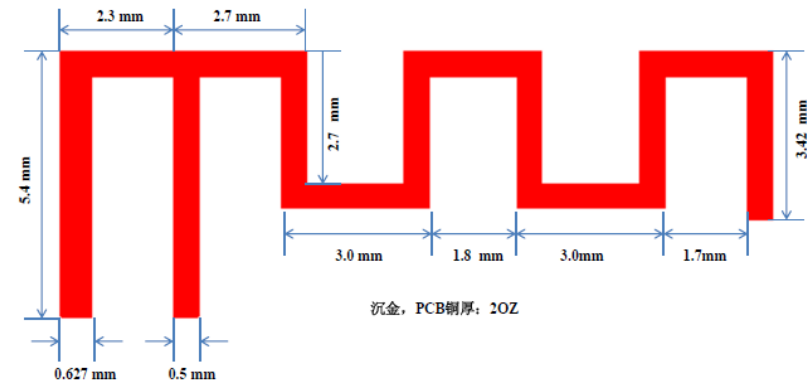
# PCB Antenna & Internal Antenna & Antenna Dimension

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Antenna 15x6mm

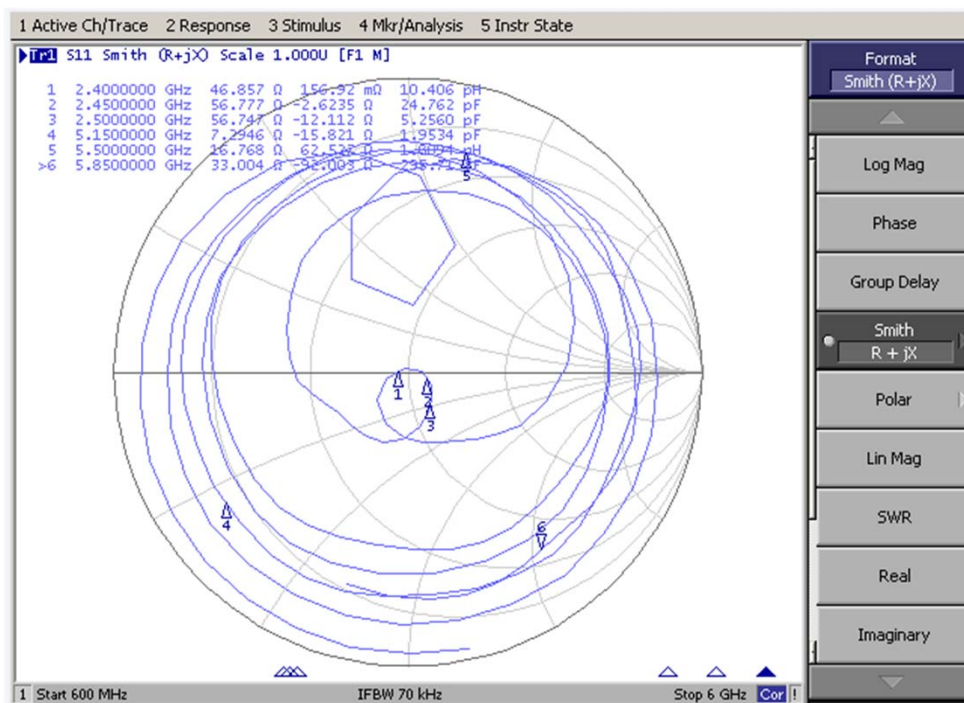
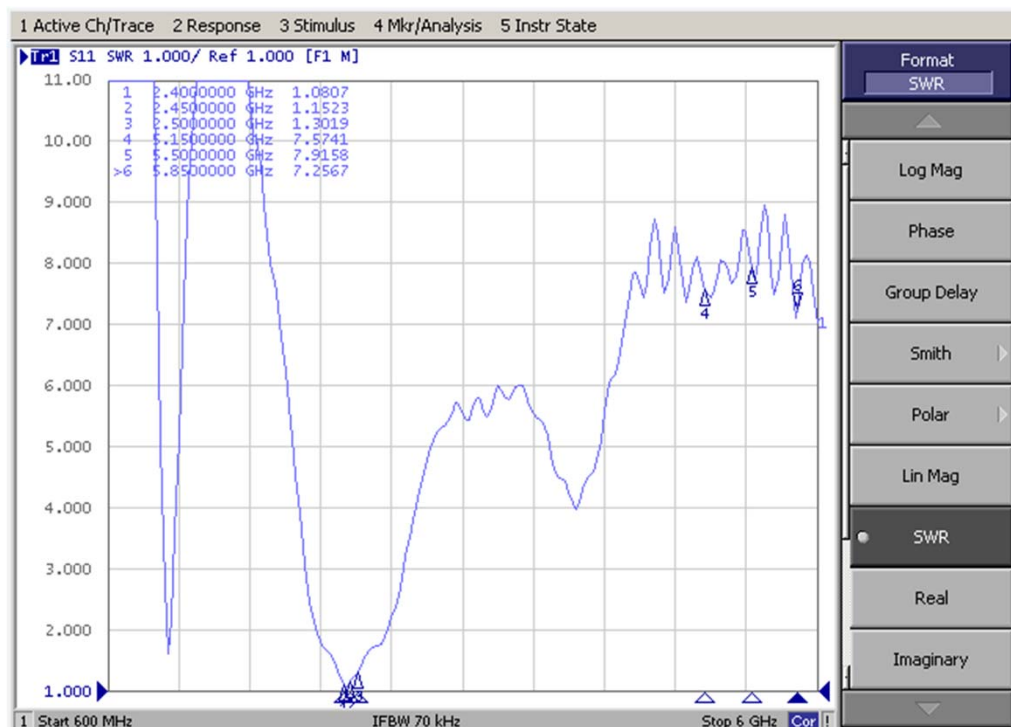
- Antenna name: PCB Antenna
- Covers : 2.4G



沉金, PCB铜厚: 20Z

# S Parameter\_Return Loss&VSW (BT)

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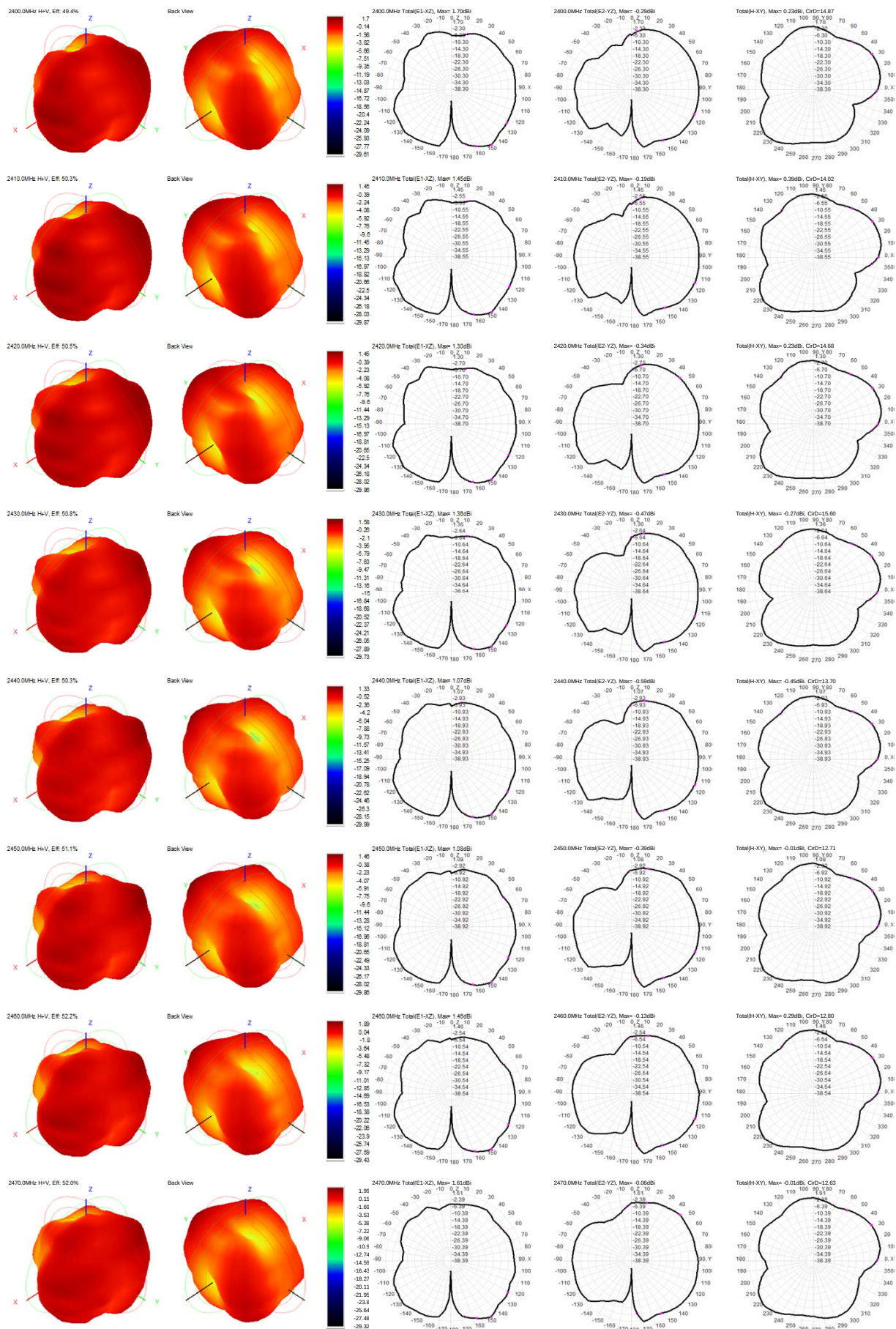


# Efficiency and Gain-Smith

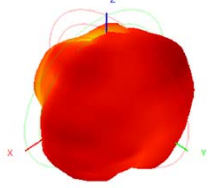
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| Frequency ID    | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency (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)      | 2.70   | 2.45   | 2.45   | 2.58   | 3.00   | 2.46   | 2.89   | 2.99   | 2.76   | 2.42   | 2.31   |
| Efficiency (%)  | 49.45  | 50.27  | 50.52  | 50.78  | 50.29  | 51.09  | 52.22  | 51.99  | 50.42  | 49.80  | 49.29  |

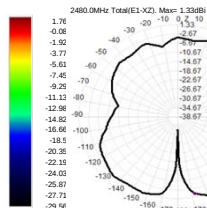
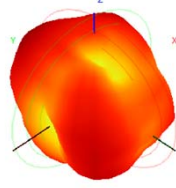




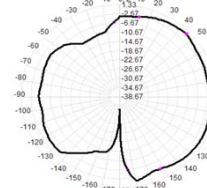
2480.0MHz H+V, ER: 50.4%



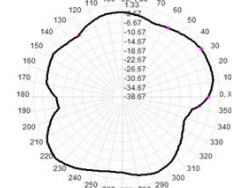
Back View



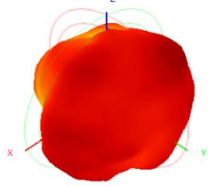
2480.0MHz Total(E2-YZ), Max: -0.18dB



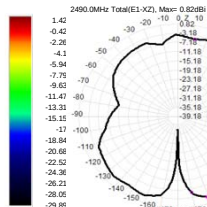
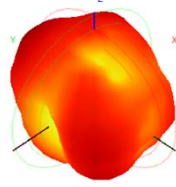
Total(H+V), Max: -0.54dB, CRD:12.19



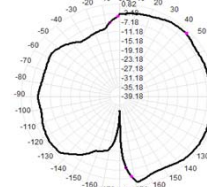
2490.0MHz H+V, ER: 49.9%



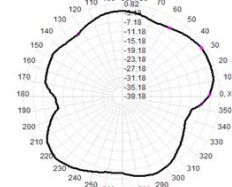
Back View



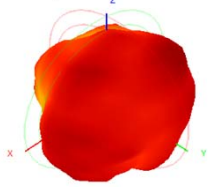
2490.0MHz Total(E2-YZ), Max: -0.74dB



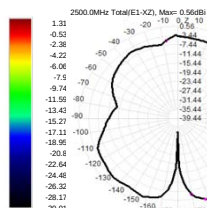
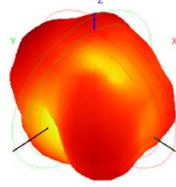
Total(H+V), Max: -0.85dB, CRD:12.07



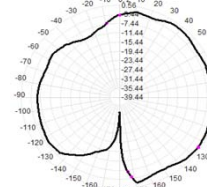
2500.0MHz H+V, ER: 49.3%



Back View



2500.0MHz Total(E2-YZ), Max: -0.77dB



Total(H+V), Max: -1.00dB, CRD:12.56

