

Antenna Study

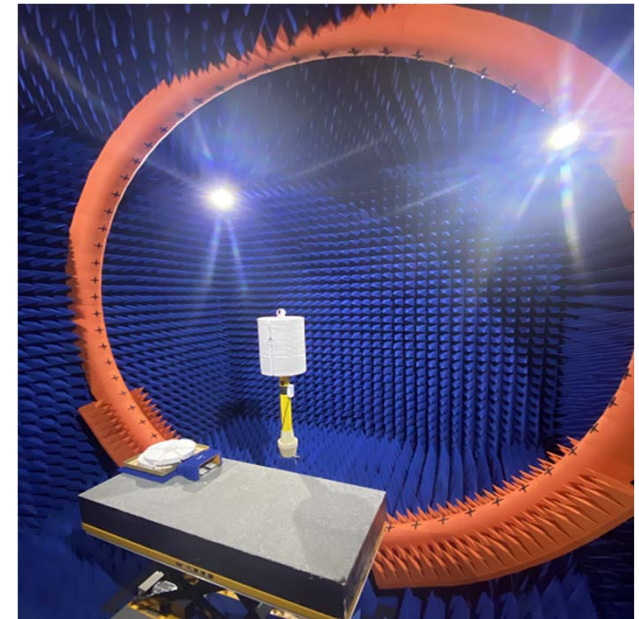
- **Client Name: LITE STAR ELECTRONICS TECHNOLOGY Co., Ltd.**
- **Project Name: Wireless Gaming Controller**
- **Debugging frequency band: 2400-2500MHz**
- **Valuation date: 2022.12.03**

Internal Antenna

Dongguan UB Electronics Co., Ltd



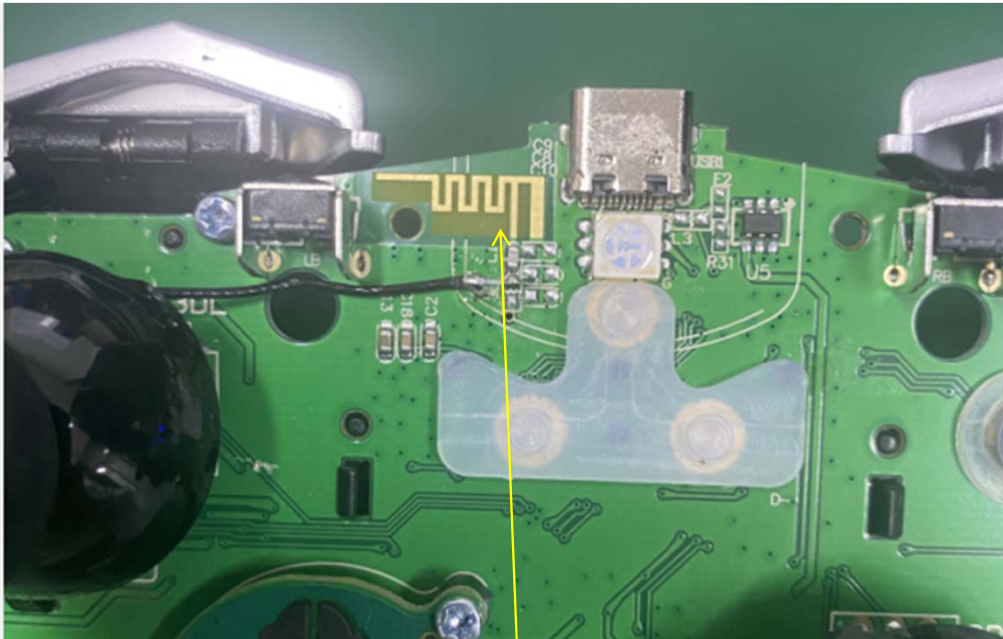
Testing environment



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

External Antenna

Dongguan UB Electronics Co., Ltd

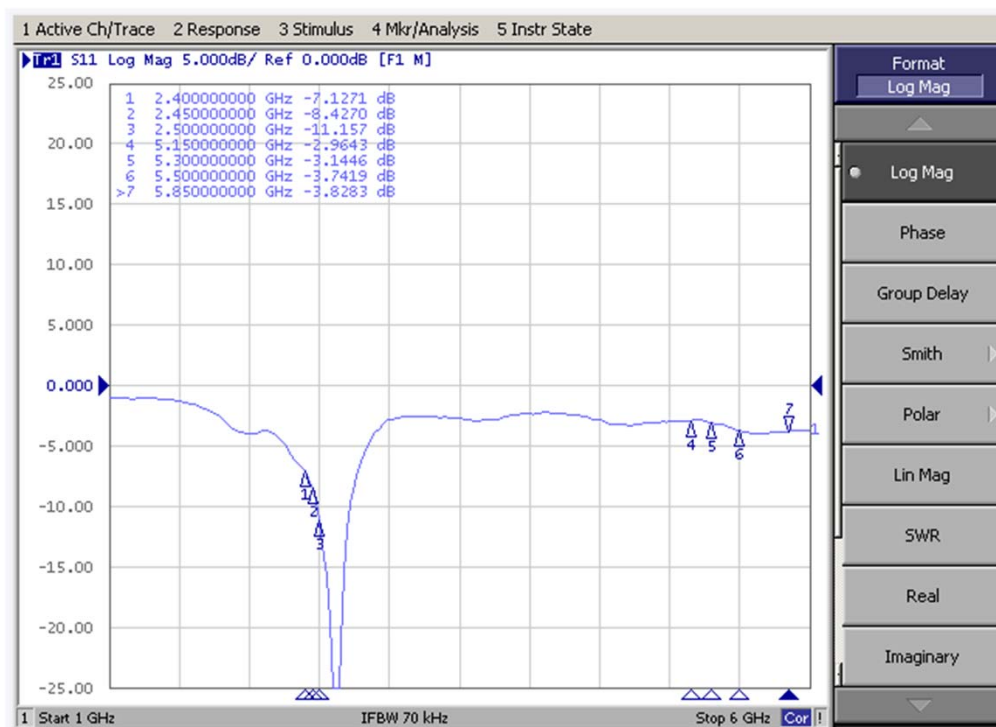
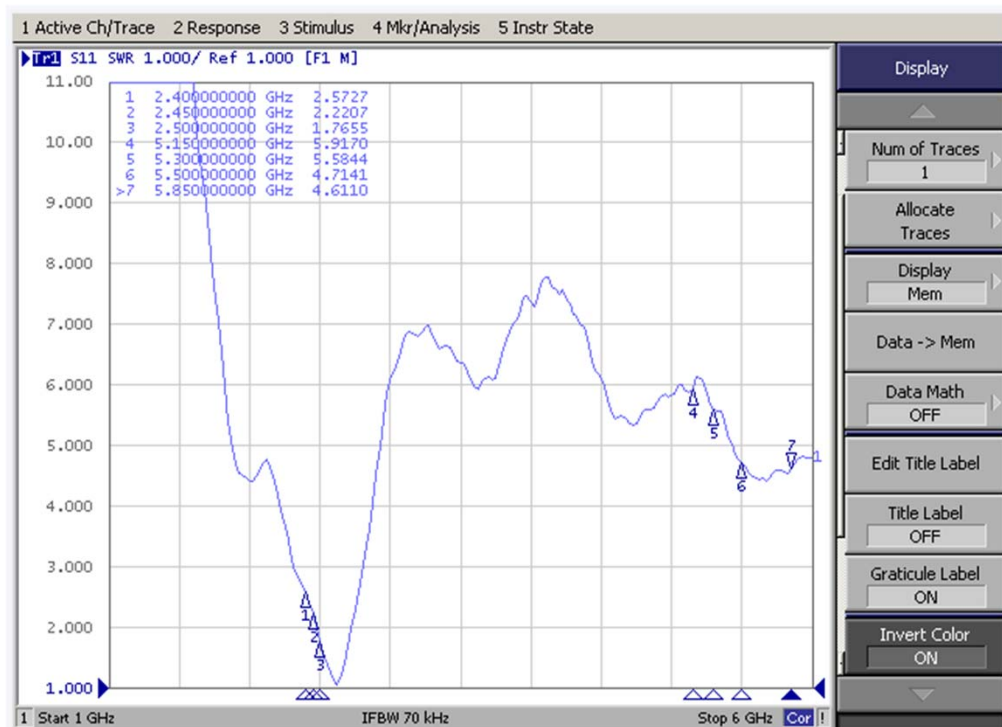


Antenna

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

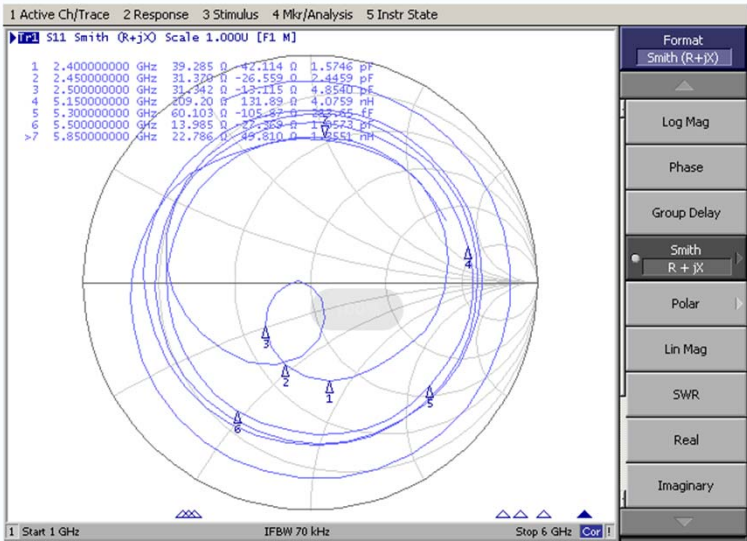
S Parameter_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd

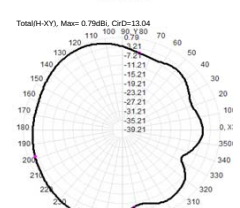
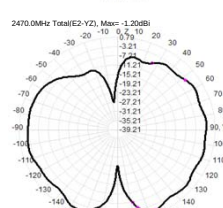
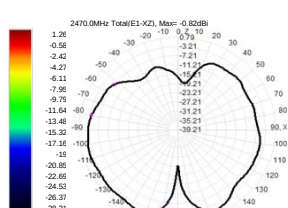
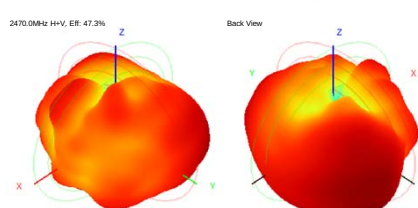
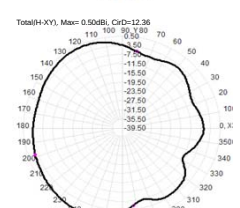
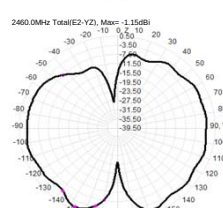
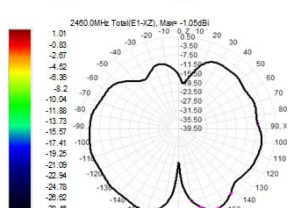
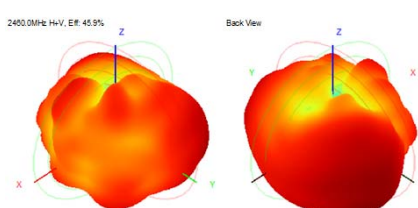
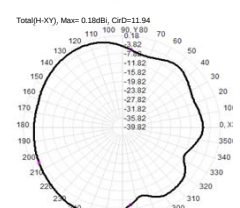
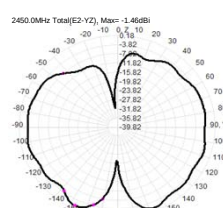
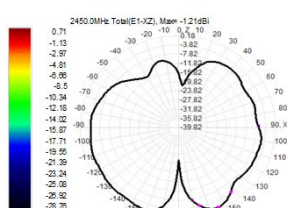
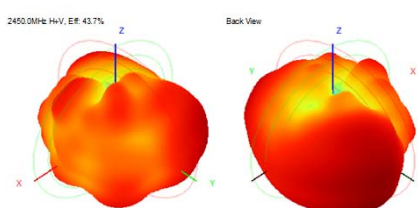
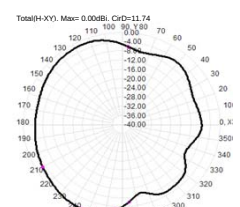
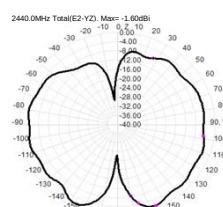
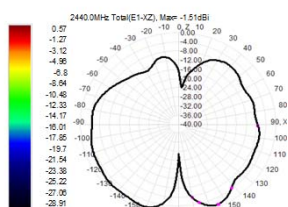
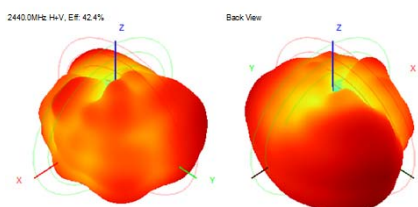
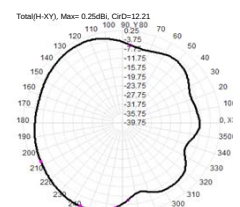
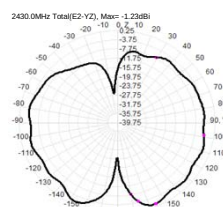
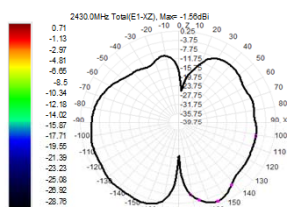
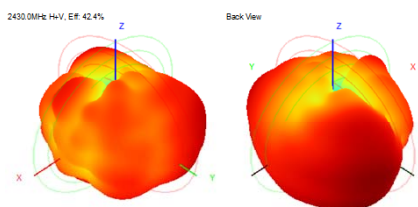
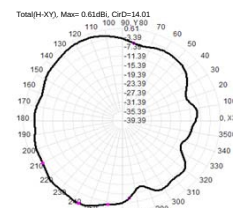
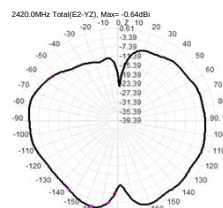
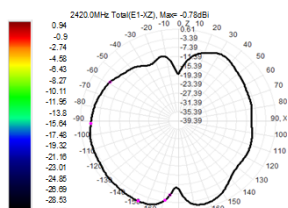
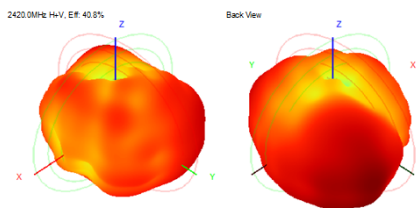
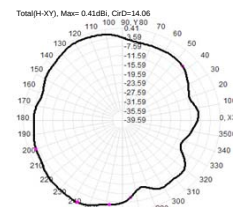
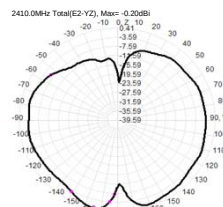
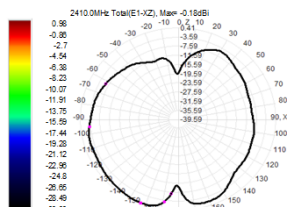
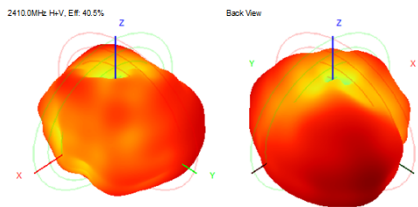
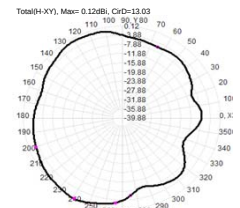
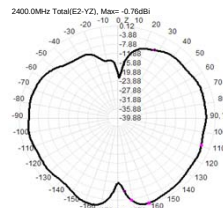
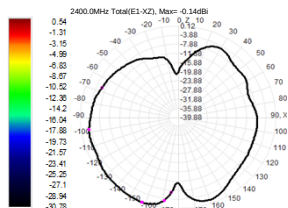
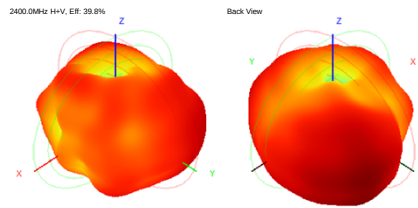


Efficiency and Gain-Smith

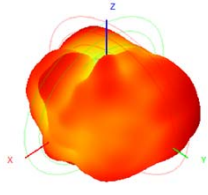
Dongguan UB Electronics Co., Ltd



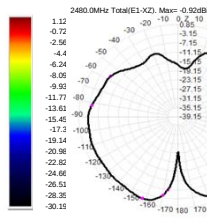
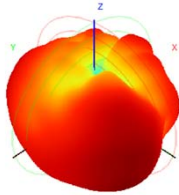
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	0.54	0.98	0.94	0.71	0.57	0.71	1.01	1.26	1.12	1.04	1.16
Efficiency (%)	39.82	40.52	40.83	42.40	42.39	43.67	45.88	47.35	46.50	46.37	48.60



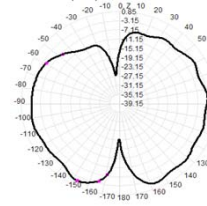
2480.0MHz H+V, ER: 46.5%



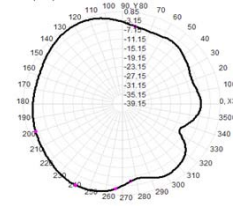
Back View



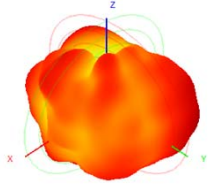
2480.0MHz Total(E2-YZ), Max=-1.61dBi



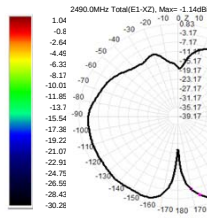
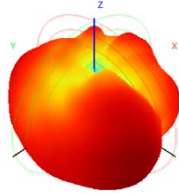
Total(H+V), Max= 0.85dBi, CrD=14.10



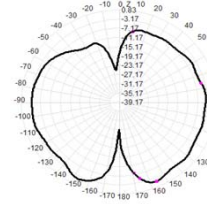
2490.0MHz H+V, ER: 46.4%



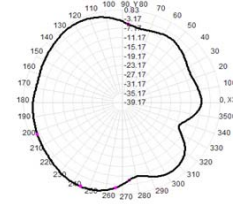
Back View



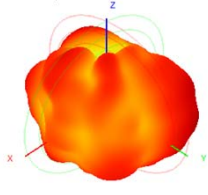
2490.0MHz Total(E2-YZ), Max=-1.89dBi



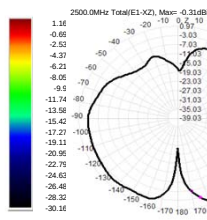
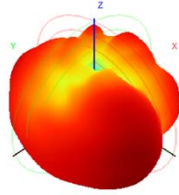
Total(H+V), Max= 0.83dBi, CrD=14.78



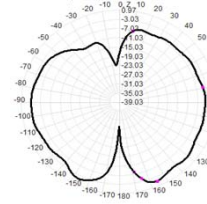
2500.0MHz H+V, ER: 48.6%



Back View



2500.0MHz Total(E2-YZ), Max=-1.53dBi



Total(H+V), Max= 0.97dBi, CrD=14.28

