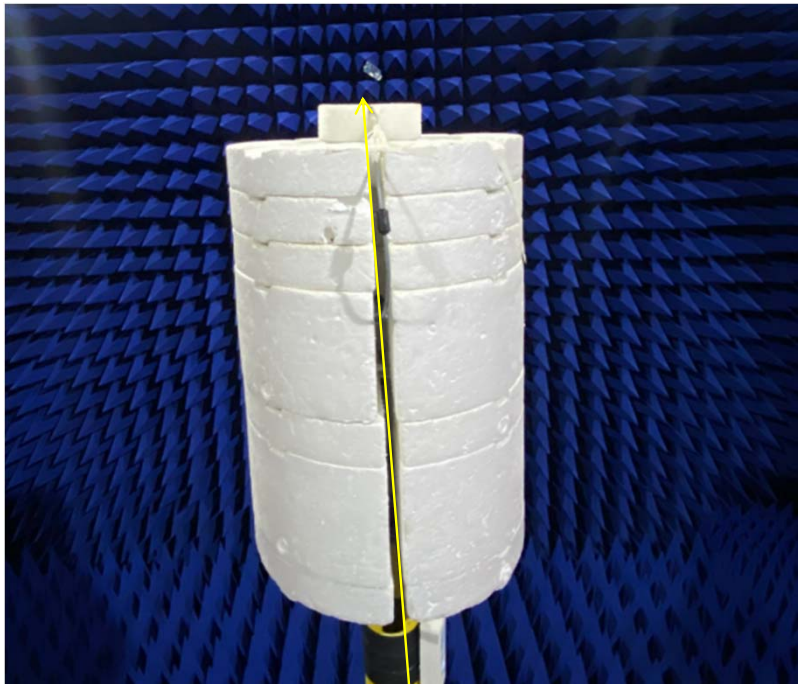


Antenna Study

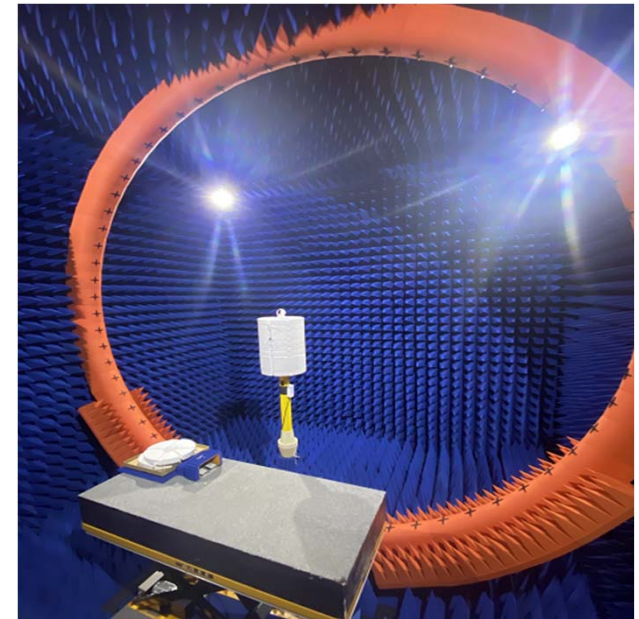
- **Client Name: Shenzhen Luomandi Electronic Technology Co., Ltd**
- **Project Name : smart watch**
- **Debugging frequency band: 2400-2500HMz**
- **Valuation date: 2023.08.12**

Internal Antenna

Dongguan UB Electronics Co., Ltd



Testing environment



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

External Antenna

Dongguan UB Electronics Co., Ltd

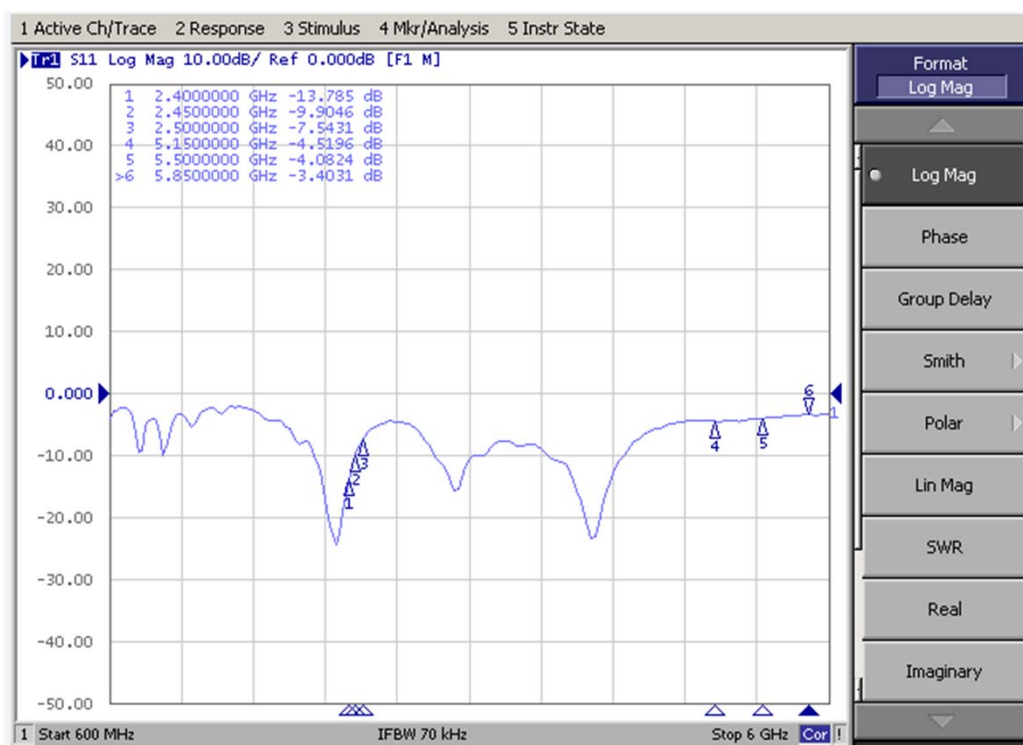
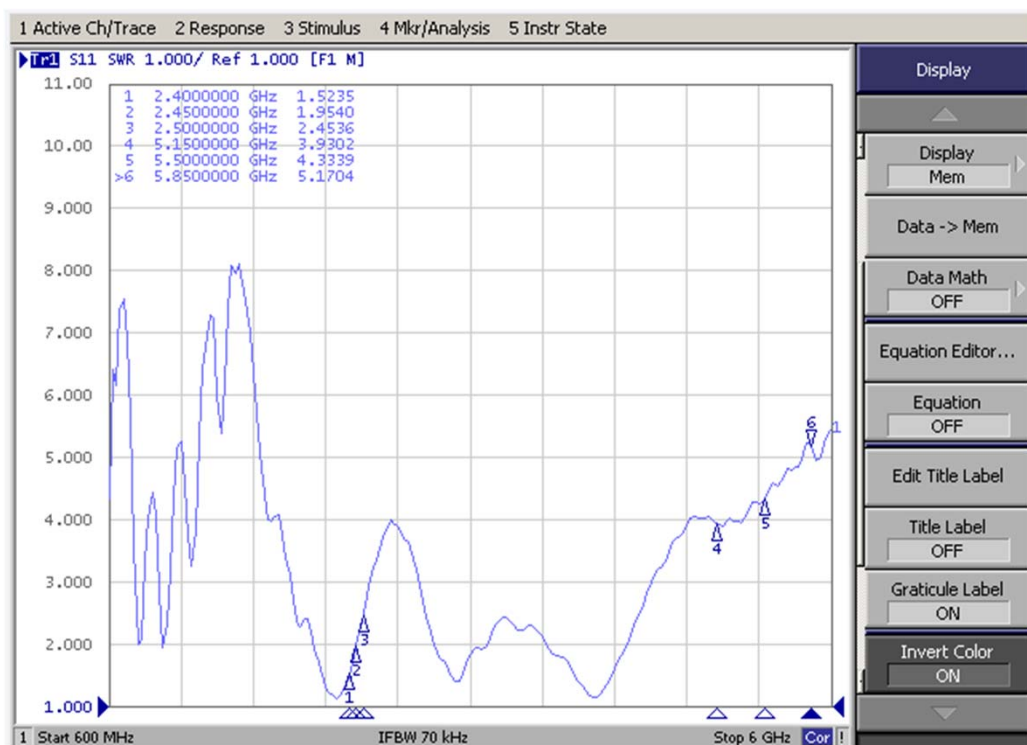


- Antenna name: 2.4G
- Antenna Type: Monopole
- Covers : 2.4G

Antenna

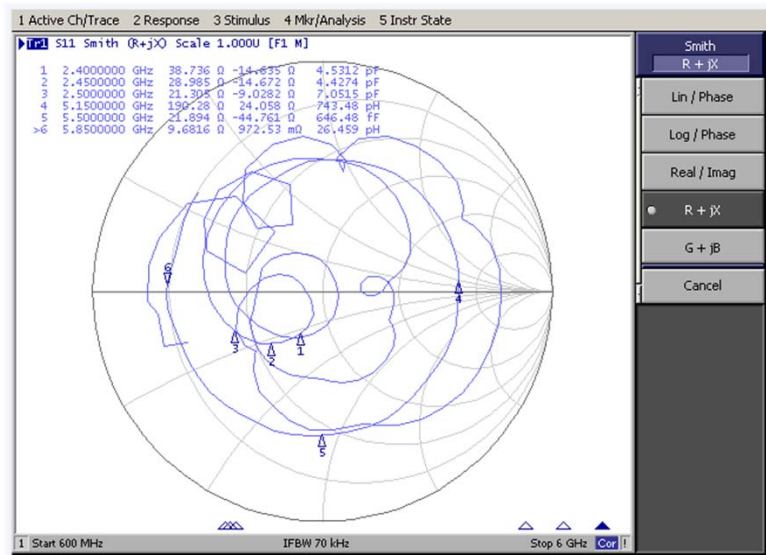
S Parameter_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd

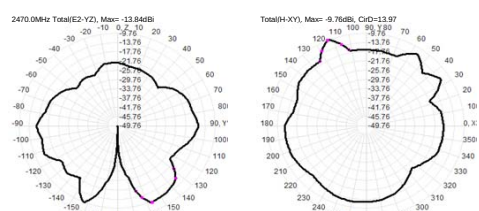
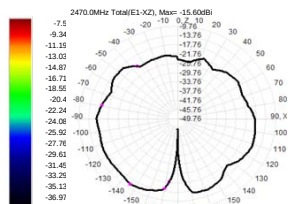
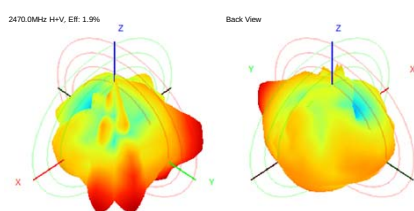
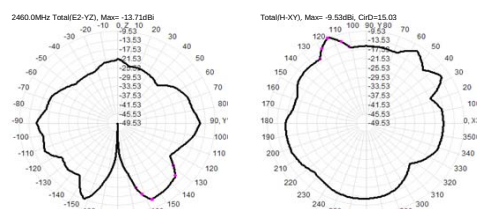
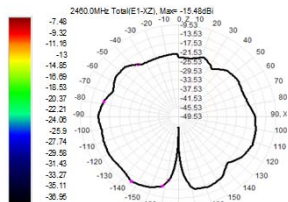
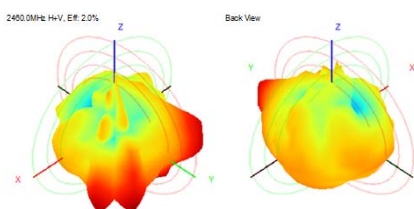
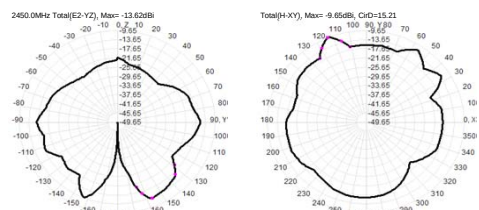
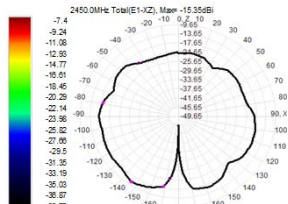
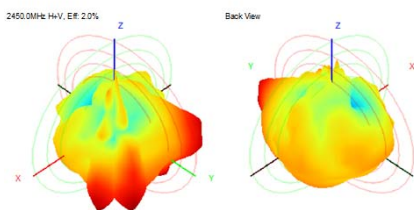
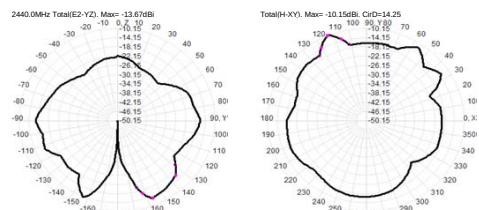
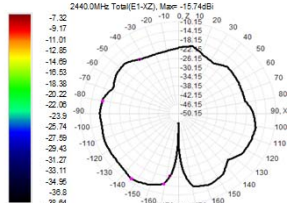
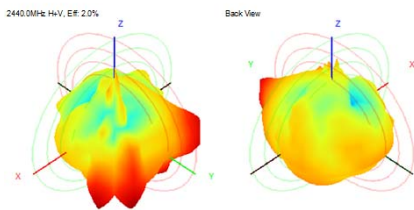
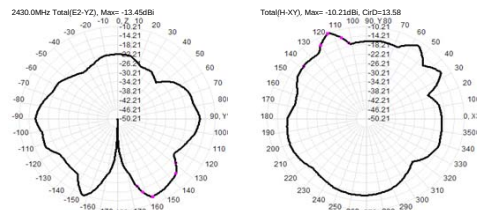
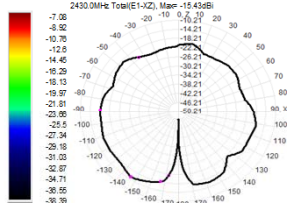
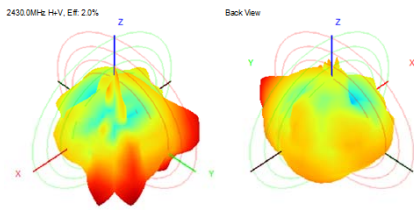
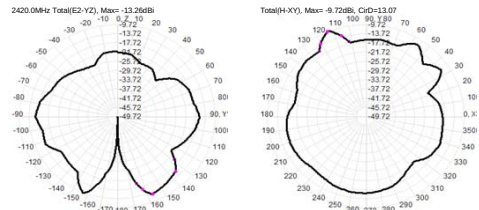
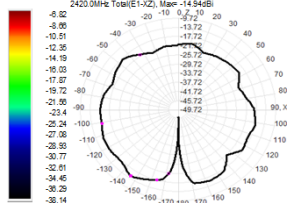
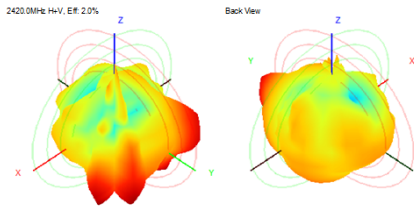
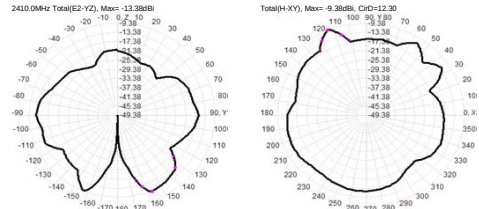
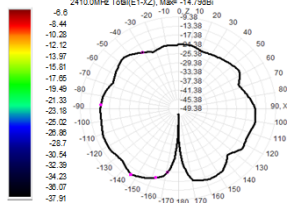
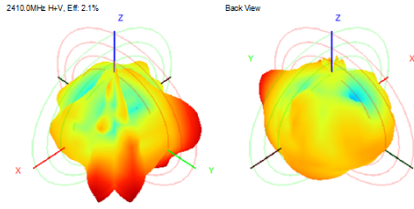
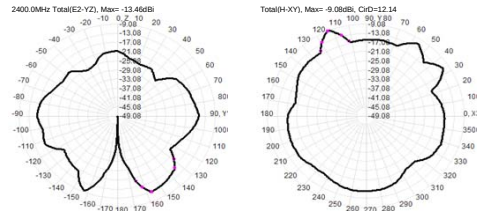
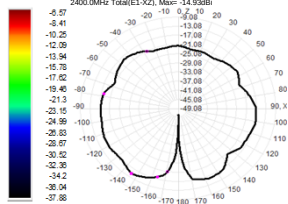
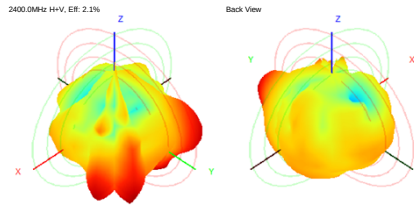


Efficiency and Gain-Smith

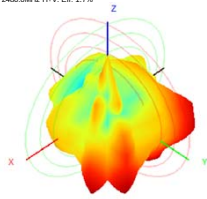
Dongguan UB Electronics Co., Ltd



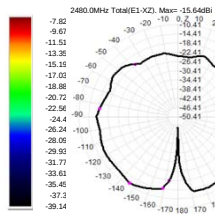
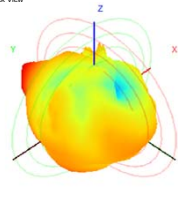
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	-6.57	-6.60	-6.82	-7.08	-7.32	-7.40	-7.48	-7.50	-7.82	-8.34	-8.43
Efficiency (%)	2.12	2.05	2.01	1.99	1.99	2.03	1.97	1.88	1.72	1.48	1.41



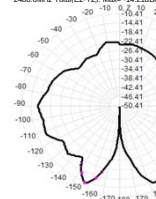
2480.0MHz H+V, Eff: 1.7%



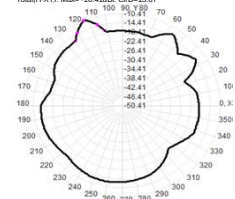
Back View



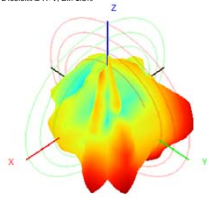
2480.0MHz Total(E2-YZ), Max=-14.23dBi



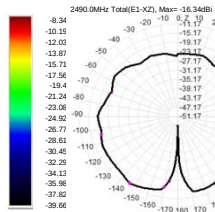
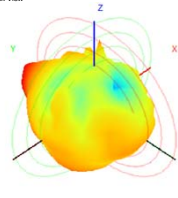
Total(H+V), Max=-10.41dBi, CrD=13.67



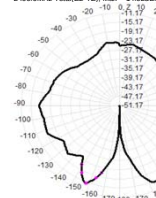
2490.0MHz H+V, Eff: 1.5%



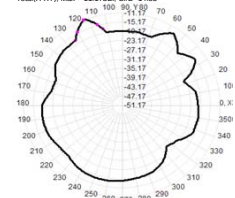
Back View



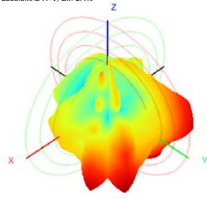
2490.0MHz Total(E2-YZ), Max=-14.92dBi



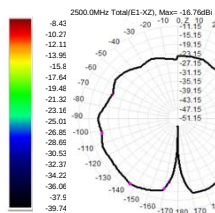
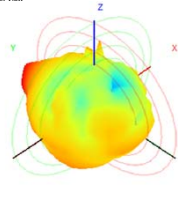
Total(H+V), Max=-11.17dBi, CrD=14.83



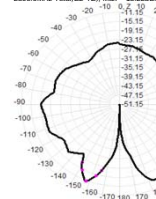
2500.0MHz H+V, Eff: 1.4%



Back View



2500.0MHz Total(E2-YZ), Max=-15.22dBi



Total(H+V), Max=-11.15dBi, CrD=15.38

