

Manufacturer:HL Tronics (Kunshan) Co., Ltd.

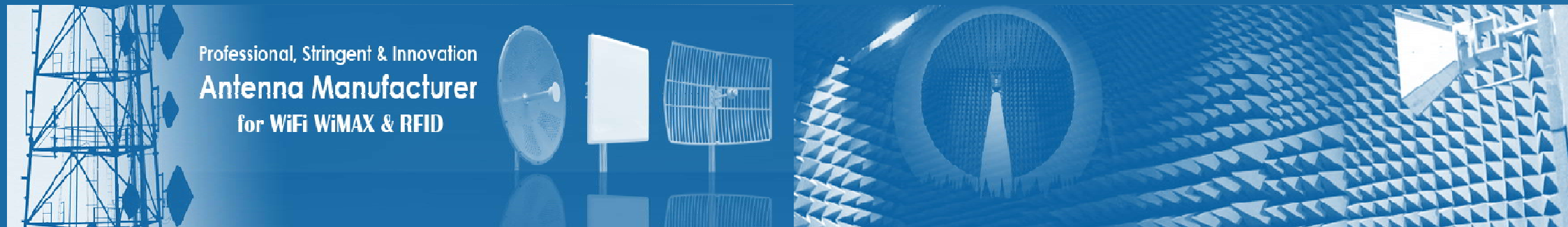
Building 2, No.328 ShengXi Road, Economic Development Zone,
KunShan, JiangSu, China.

TEL:+86-512-36877209

Customer:腾亚

Designer: Lzh

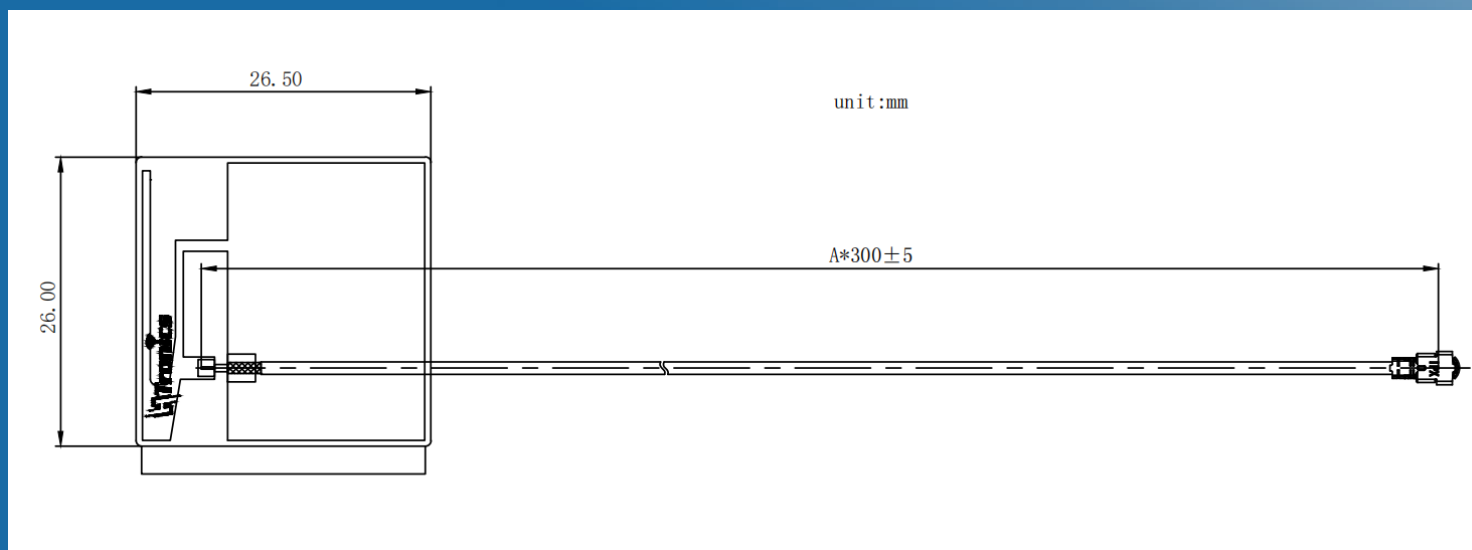
Date:2026/01/25



Professional, Stringent & Innovation
Antenna Manufacturer
for WiFi WiMAX & RFID

OUTLINE

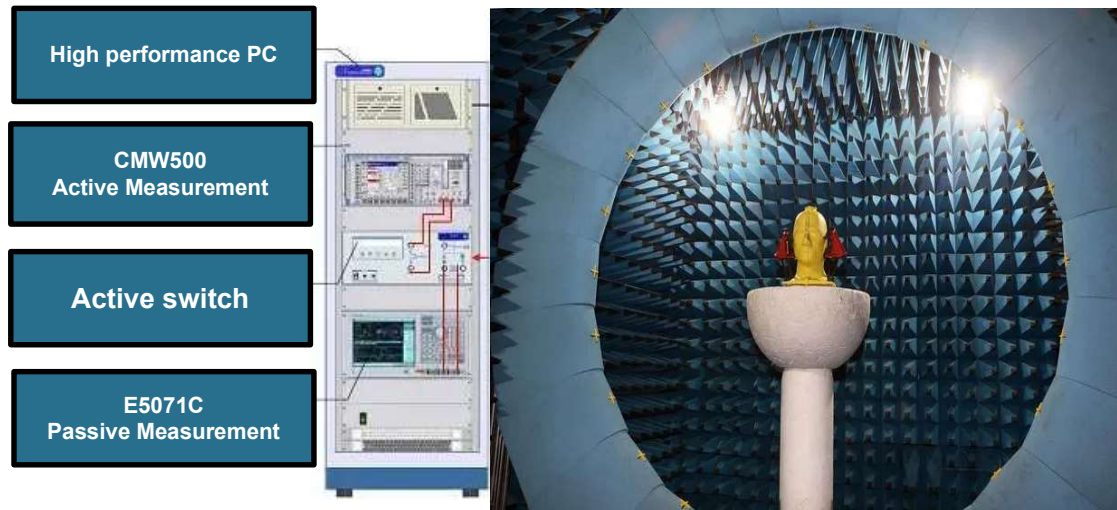
1. Benchmark
2. S-Parameters (VSWR&isolation)
3. Antenna Efficiency& Peak Gain
4. Radiation patterns
5. Summary



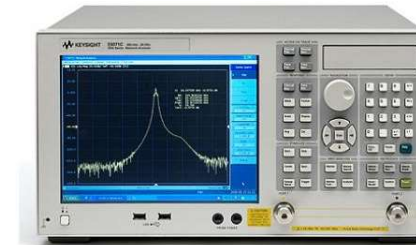
Test Environment and Equipments

HL-Tronics 3D Chamber Structure

- EMT-24 Series System Components
- Chambers
- EMT Quest Software
- Positioning Systems
- Chamber Room Size: L*W*H=5*5*5 M

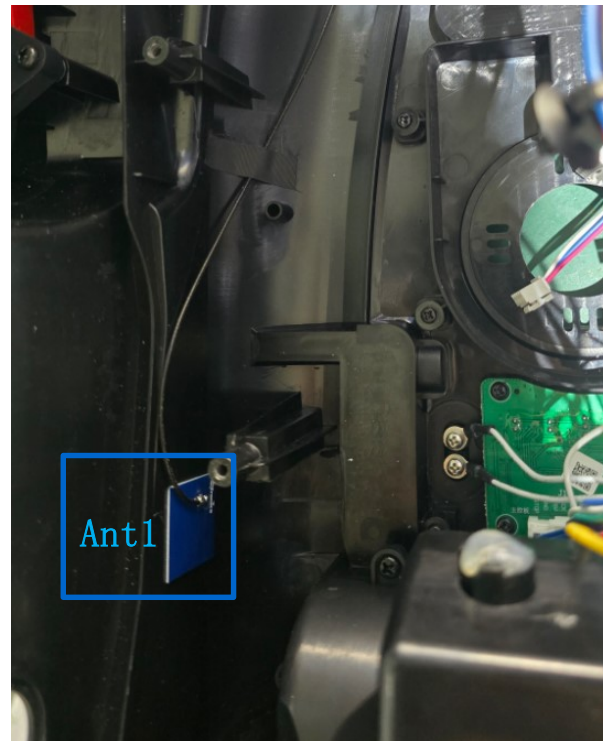


VSWR were performed using a keysight S-parameter Network Analyzer.



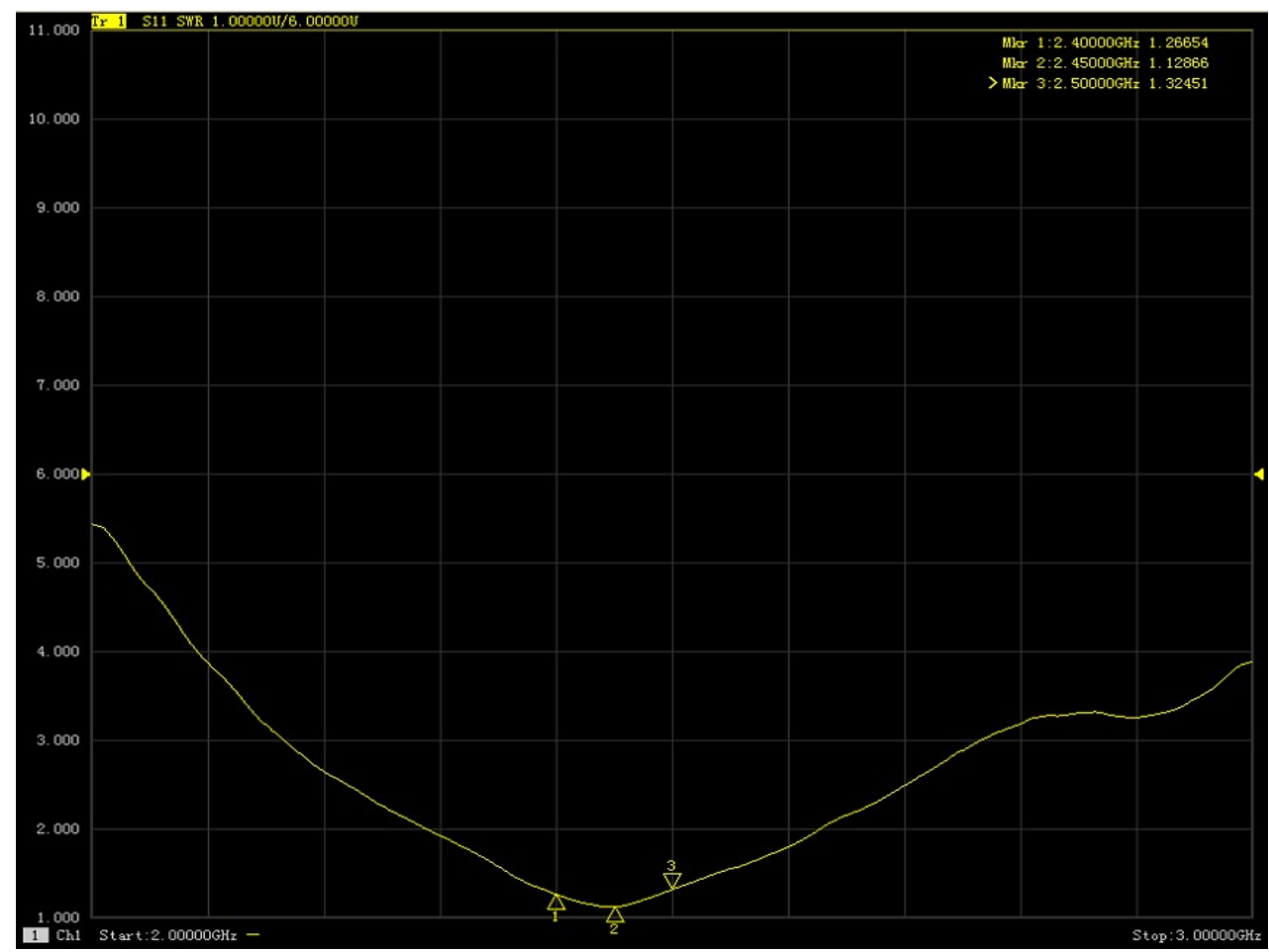
E5071C

1. Benchmark



Antenna Frequency (MHz)
Ant1:2400~2500MHz

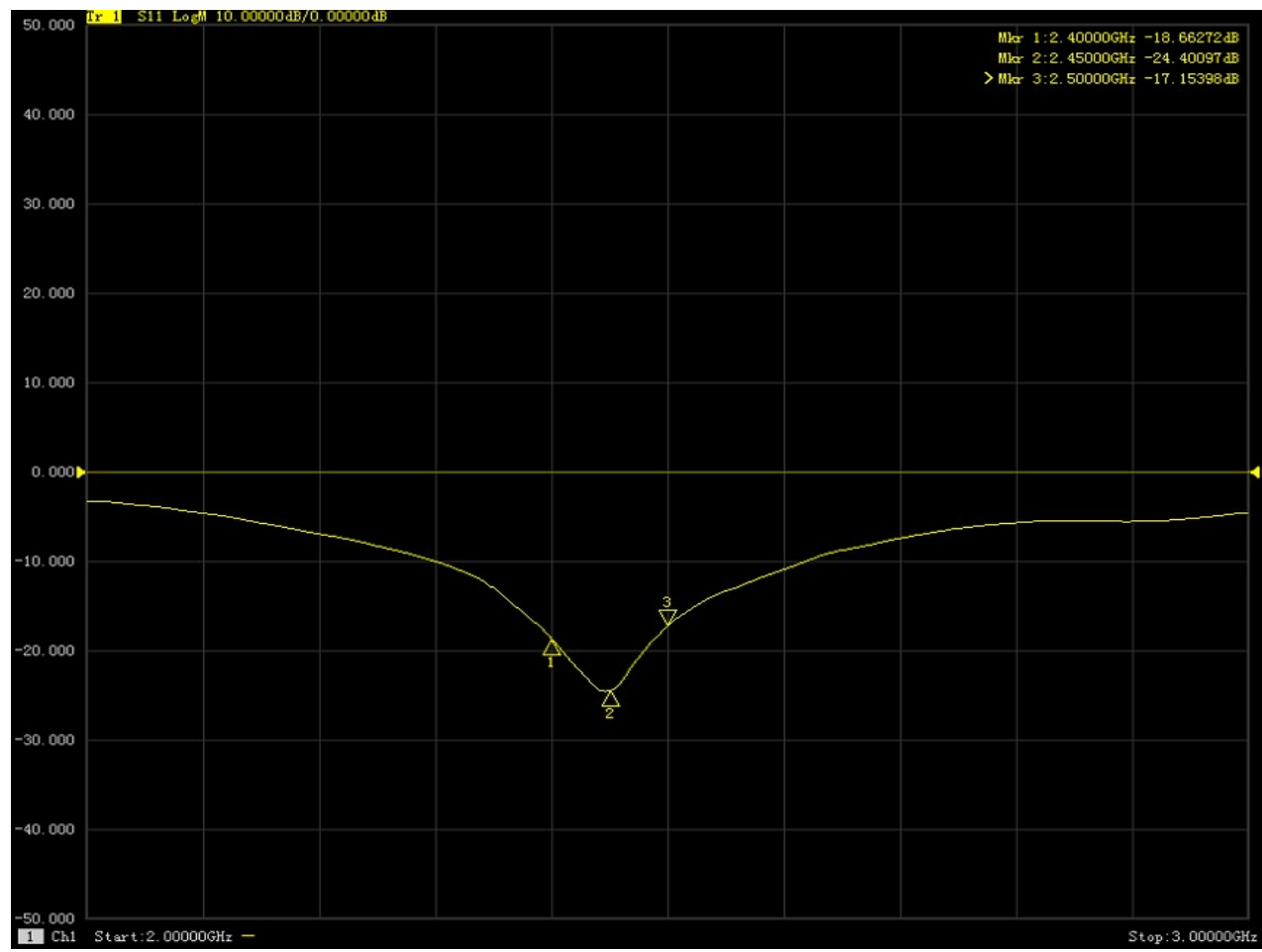
2. S-Parameters(VSWR)



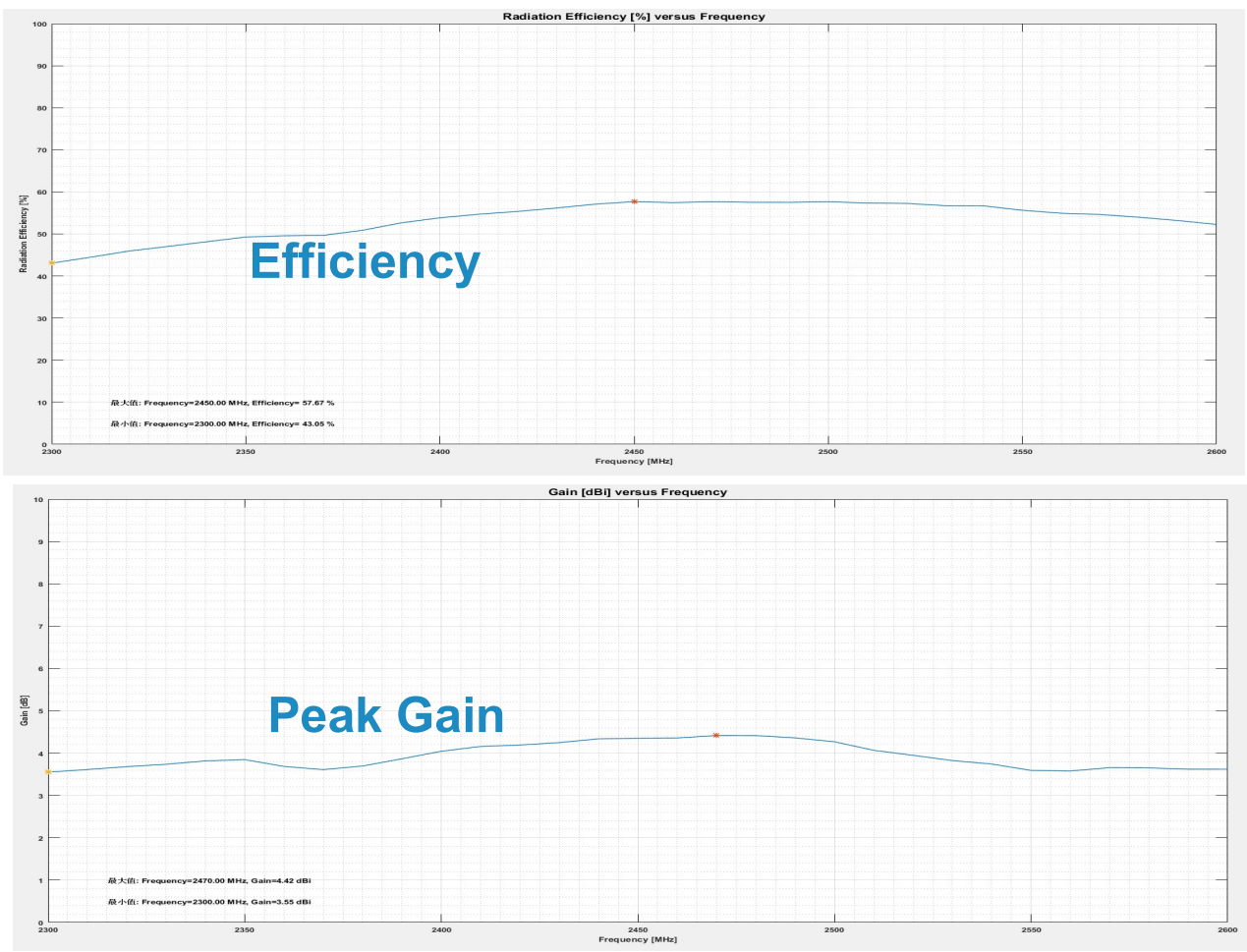
2. S-Parameters(Smith)



2. S-Parameters(Return Loss)



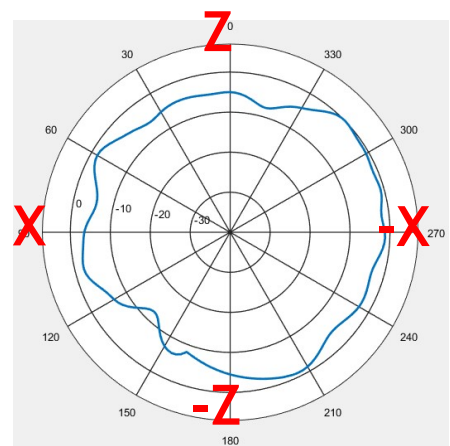
3. Antenna Efficiency& Peak Gain Ant1



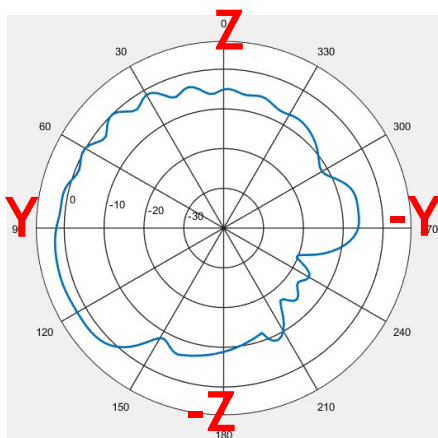
The Most Appropriate Antenna For Your Design !

HL Tronics(kunshan)co.,Ltd Measurement Report TEL:0512-36877197

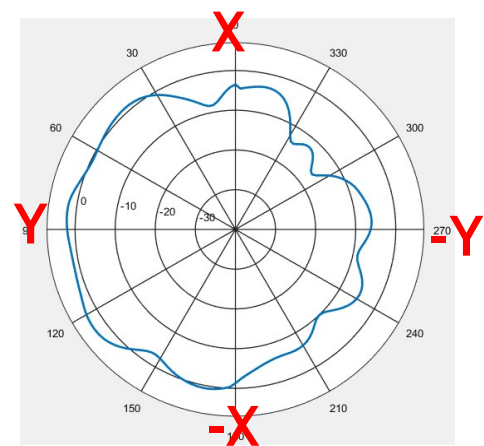
4. Radiation patterns Ant1 2400MHZ



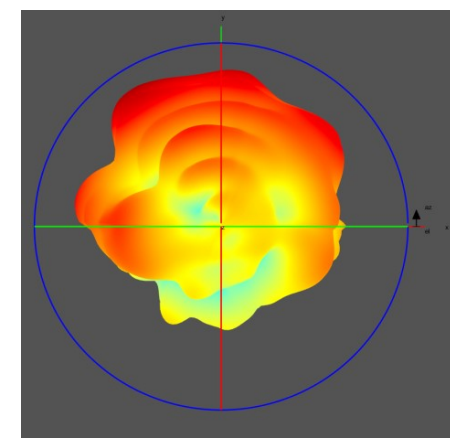
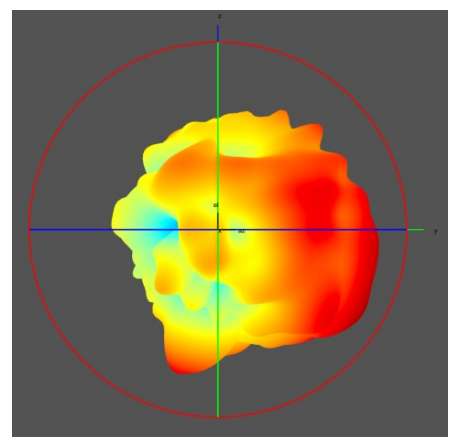
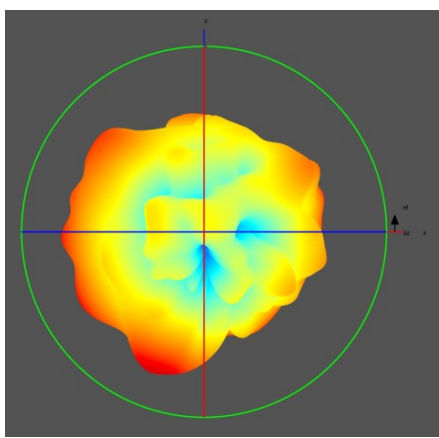
$\Phi=0^\circ$



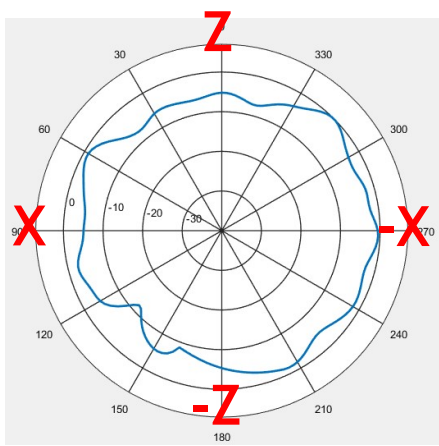
$\Phi=90^\circ$



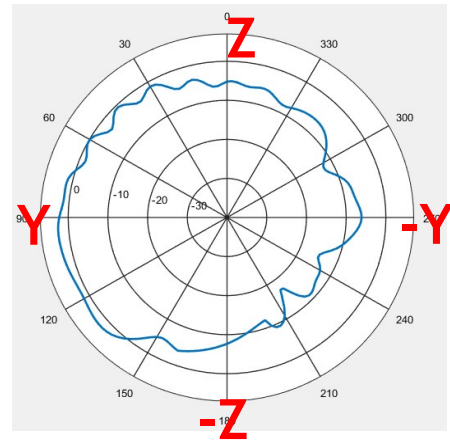
$\Theta=90^\circ$



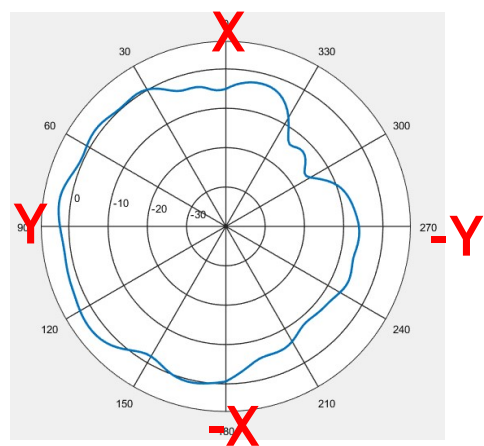
4. Radiation patterns Ant1 2450MHZ



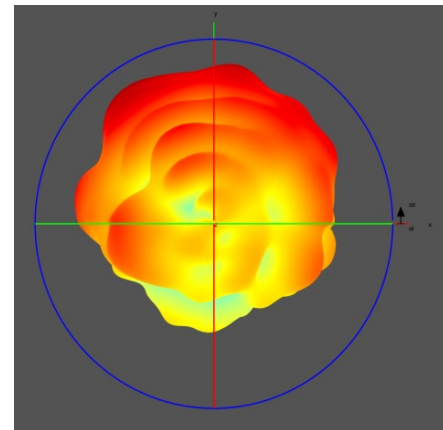
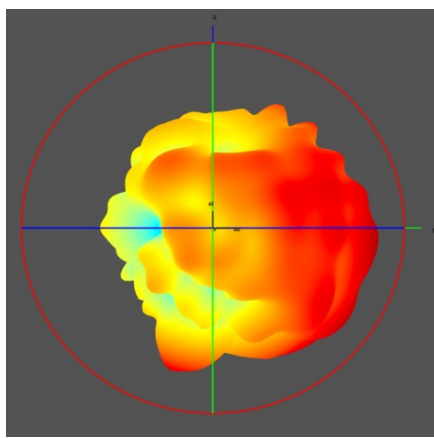
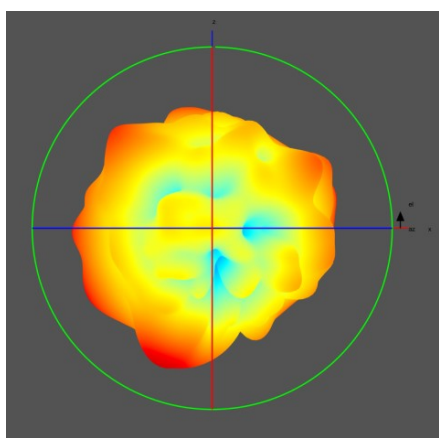
Phi=0°



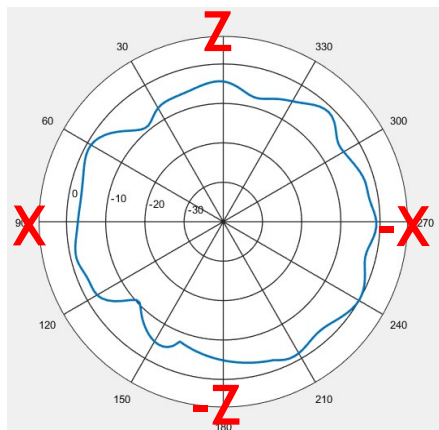
Phi=90°



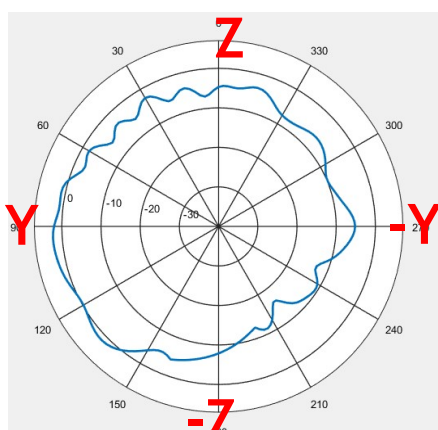
Theta=90°



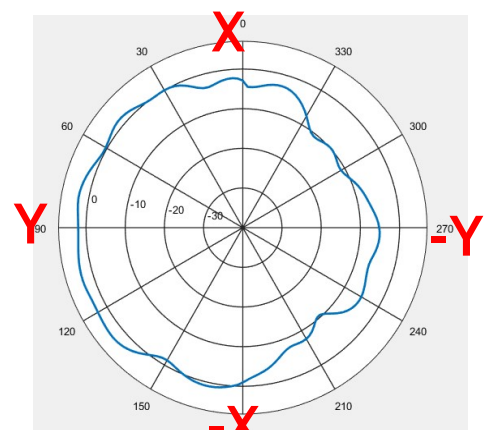
4. Radiation patterns Ant1 2500MHZ



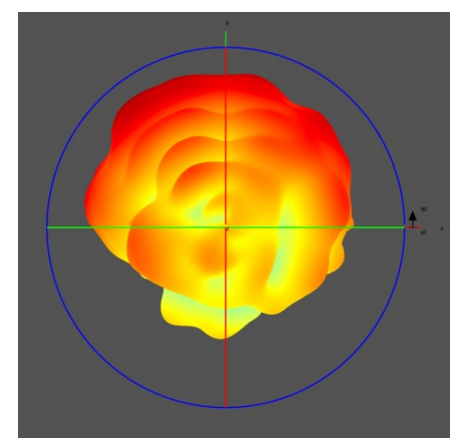
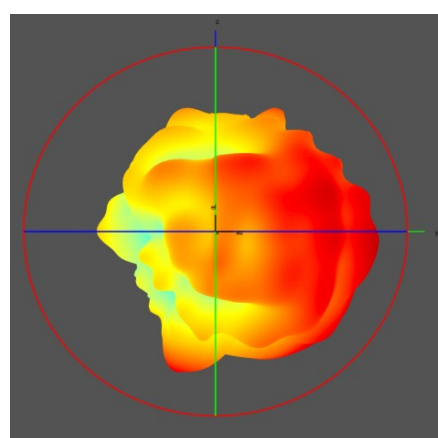
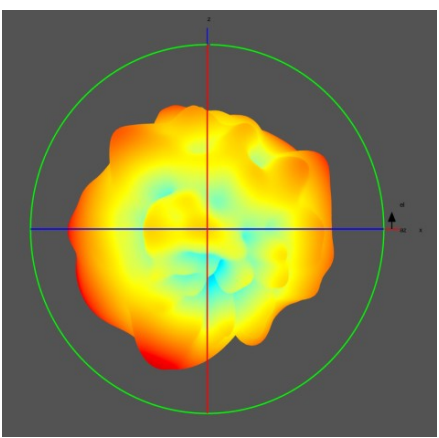
Phi=0°



Phi=90°



Theta=90°



5. Summary

1. The measurements are as follows:

Item	Frequency (MHz)	Directivity(dBi)	Gain(dBi)	Average Gain(dBi)	Efficiency(dB)	Efficiency(%)	BW@Phi=0	BW@phi=90	BW@theta=90
Ant1	2400	6.7336	4.0445	-3.2003	-2.6891	53.8378	68.5746	67.1208	68.1331
	2410	6.7799	4.1585	-3.1312	-2.6214	54.6845	71.5334	67.9968	69.7677
	2420	6.7614	4.1924	-3.0774	-2.5689	55.3485	89.4102	68.6437	71.5778
	2430	6.7548	4.2495	-3.018	-2.5053	56.165	91.8274	68.6792	107.9869
	2440	6.7735	4.3384	-2.953	-2.4351	57.0808	93.3293	69.3633	109.1567
	2450	6.7426	4.3522	-2.9109	-2.3903	57.672	27.2798	69.8409	110.5247
	2460	6.7653	4.3574	-2.9294	-2.4079	57.4391	25.3888	70.2996	100.8386
	2470	6.8093	4.4178	-2.9089	-2.3915	57.6563	23.0224	71.0488	100.9227
	2480	6.8172	4.4153	-2.9214	-2.4018	57.5197	99.2562	71.3809	101.3112
	2490	6.7631	4.3604	-2.9248	-2.4027	57.5081	97.2568	71.3064	102.694
	2500	6.6607	4.2684	-2.9192	-2.3923	57.6461	94.479	71.5049	104.3793

Thanks!