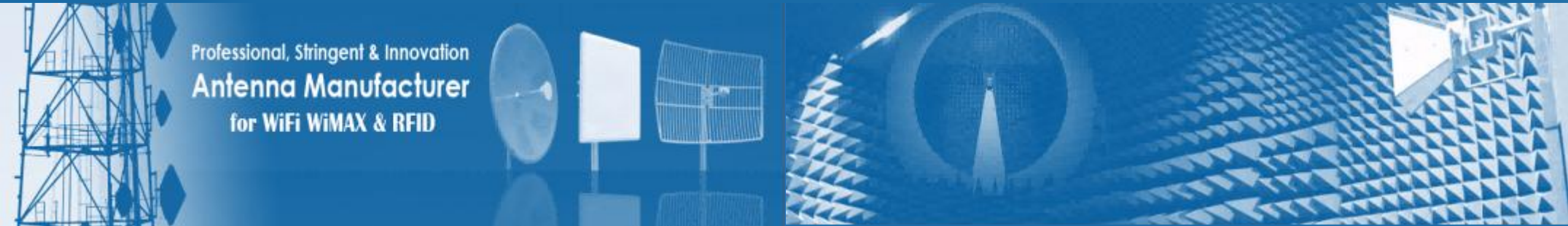


Customer: 汉桑
Designer: ZW
Date: 2025/12/1

A horizontal banner at the bottom of the slide with a blue background. It features a wireframe antenna tower on the left, three different antenna types (parabolic, flat plate, and horn) in the center, and a close-up of a circular antenna on the right. The text 'Professional, Stringent & Innovation' is in a small font, followed by 'Antenna Manufacturer' in a larger, bold font, and 'for WiFi WiMAX & RFID' in a smaller font below it.

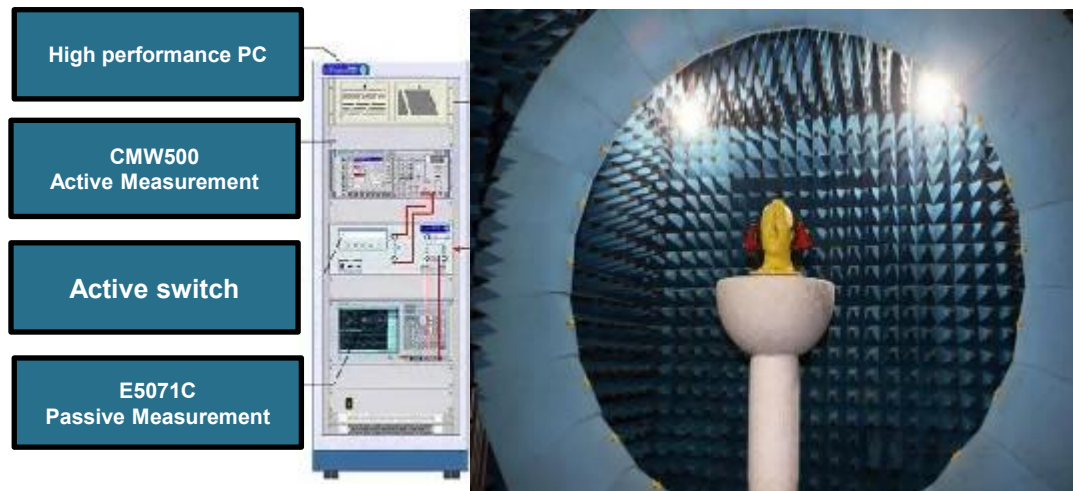
Professional, Stringent & Innovation
Antenna Manufacturer
for WiFi WiMAX & RFID

OUTLINE

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

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

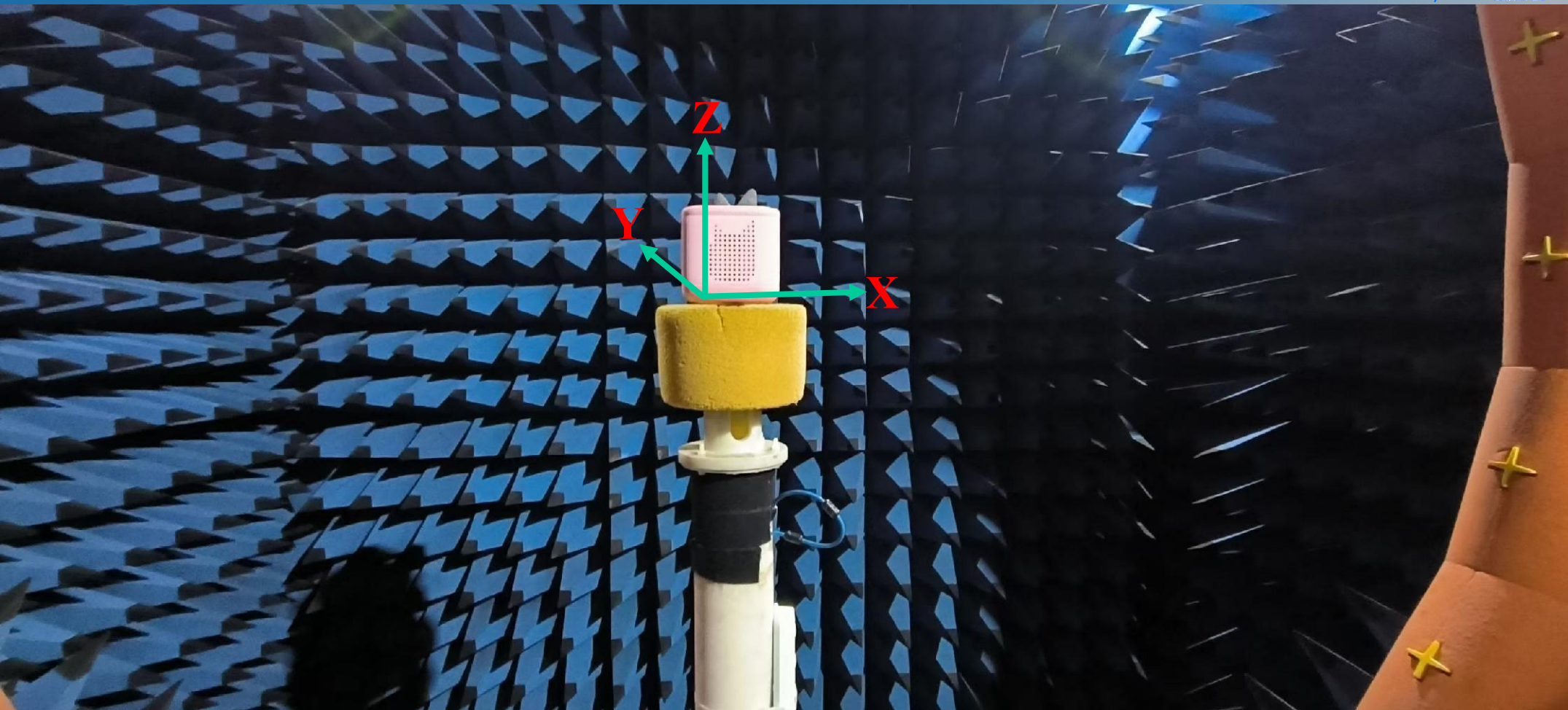


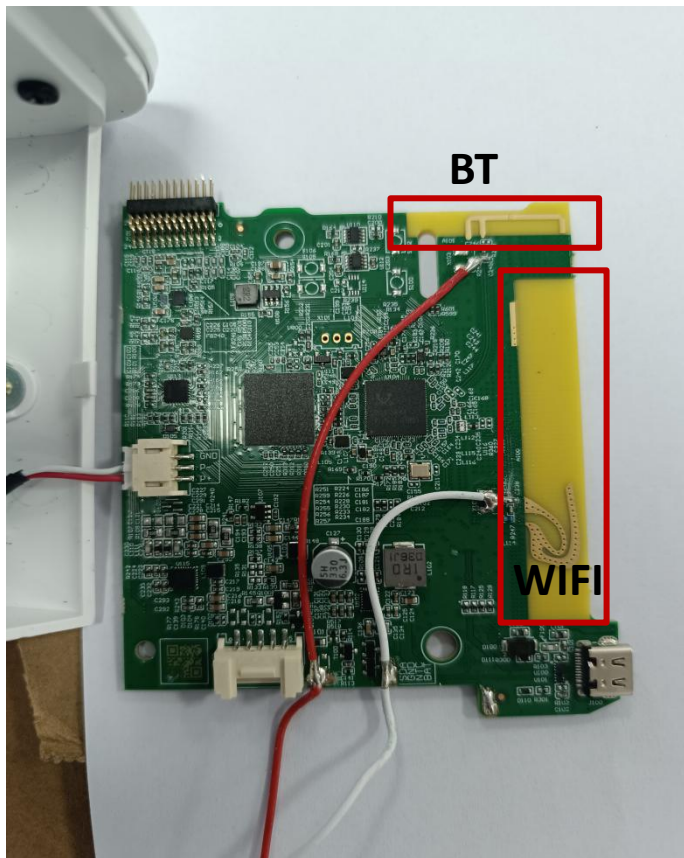
VSWR were performed using a keysight S-parameter Network Analyzer.



E5071C

1. Benchmark

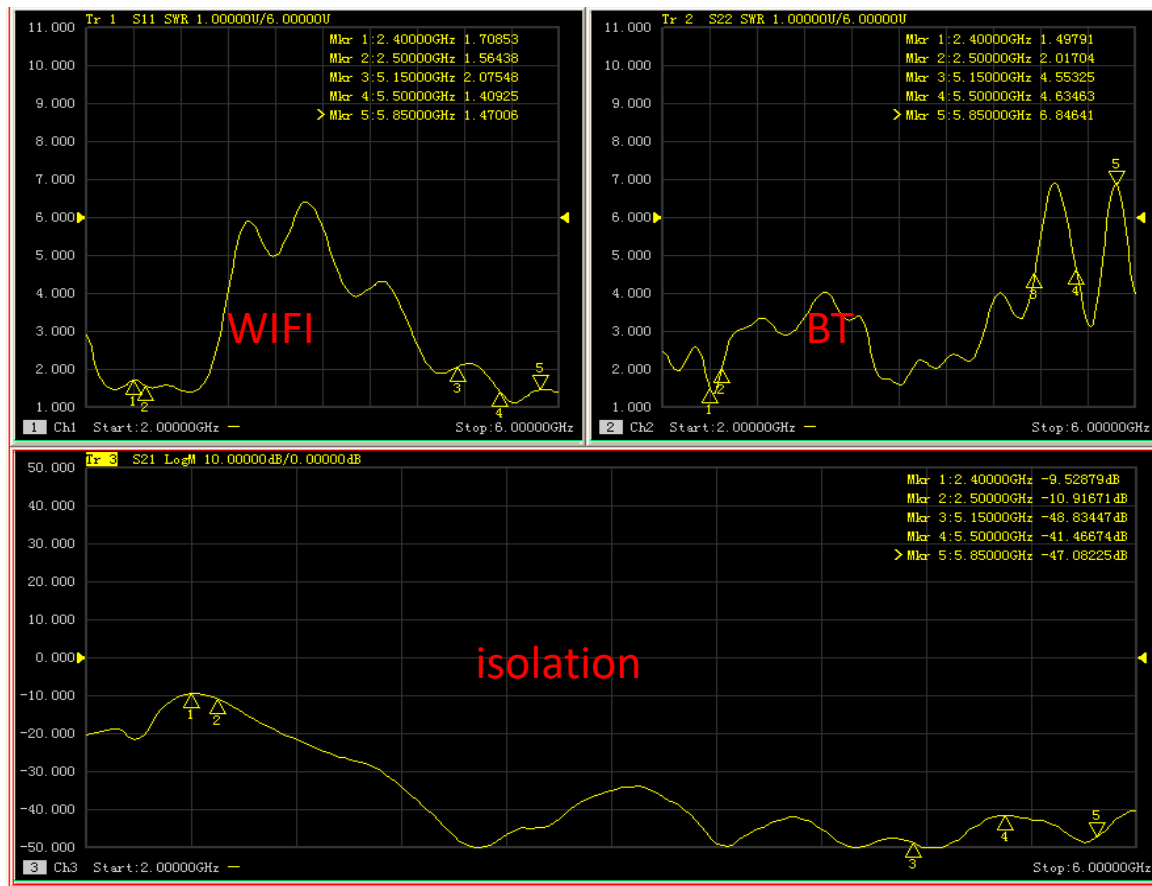




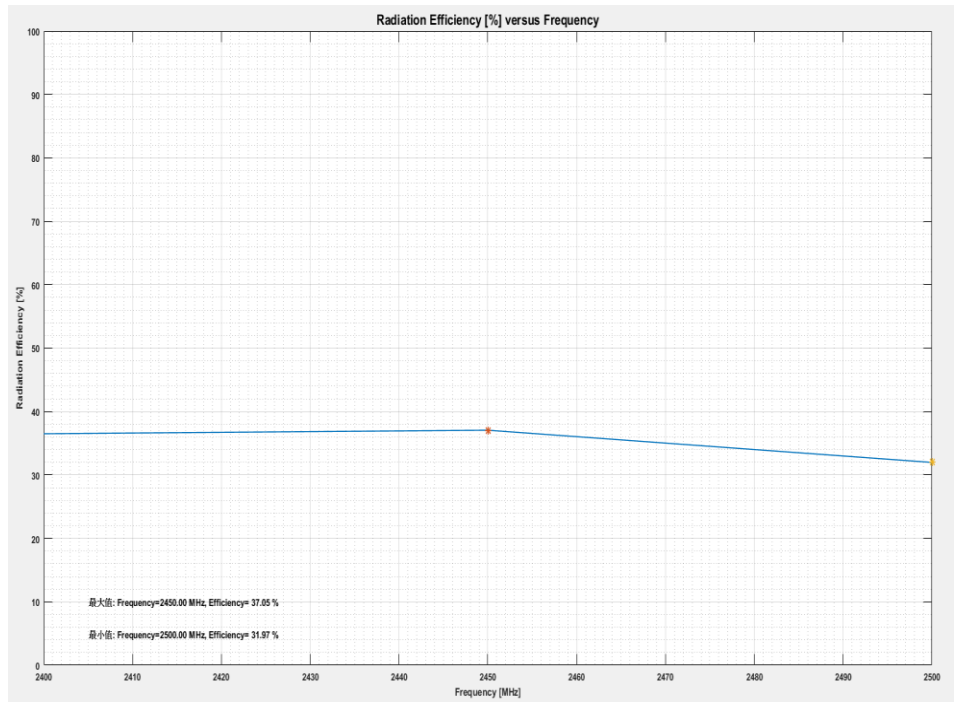
WIFI:2400-2500/5150-5850MHz
BT:2400-2500MHz

cable length:
RG1.37lowloss 150mm

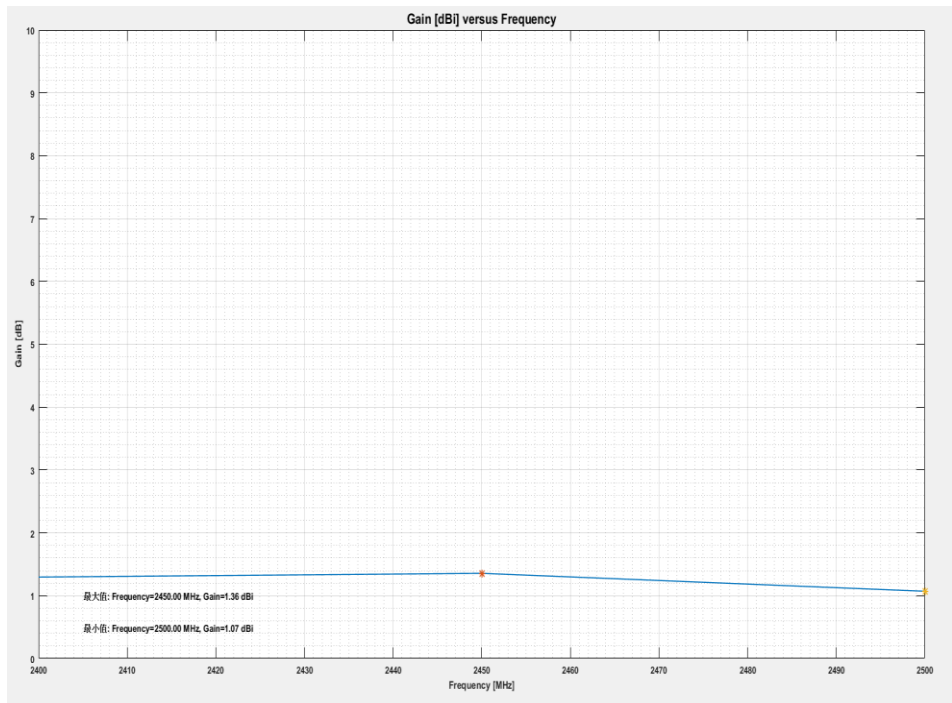
2. S-Parameters(VSWR&isolation)



3. Antenna Efficiency& Peak Gain (BT)

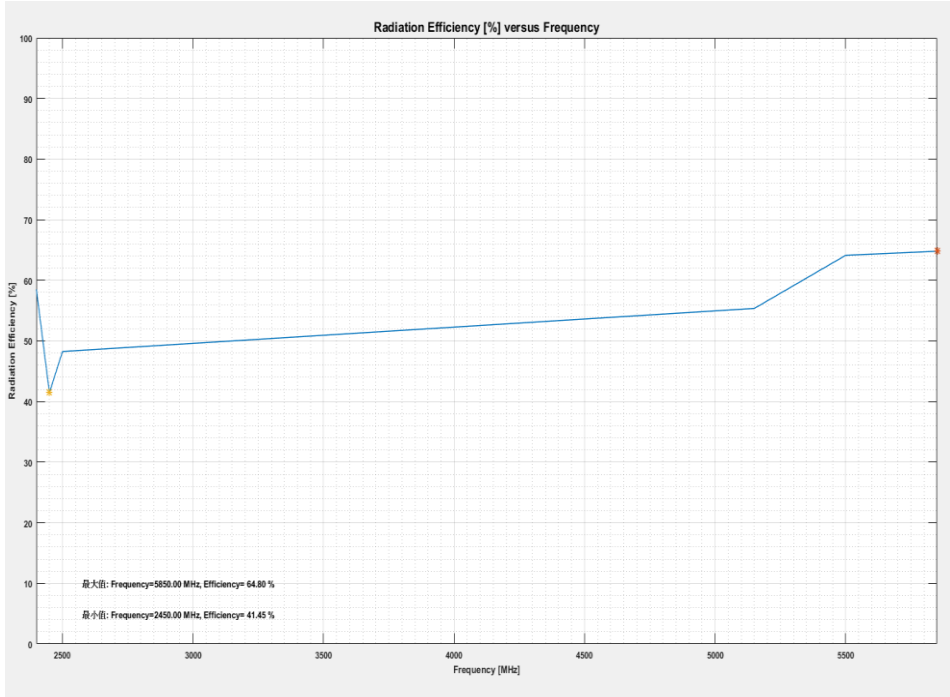


efficiency

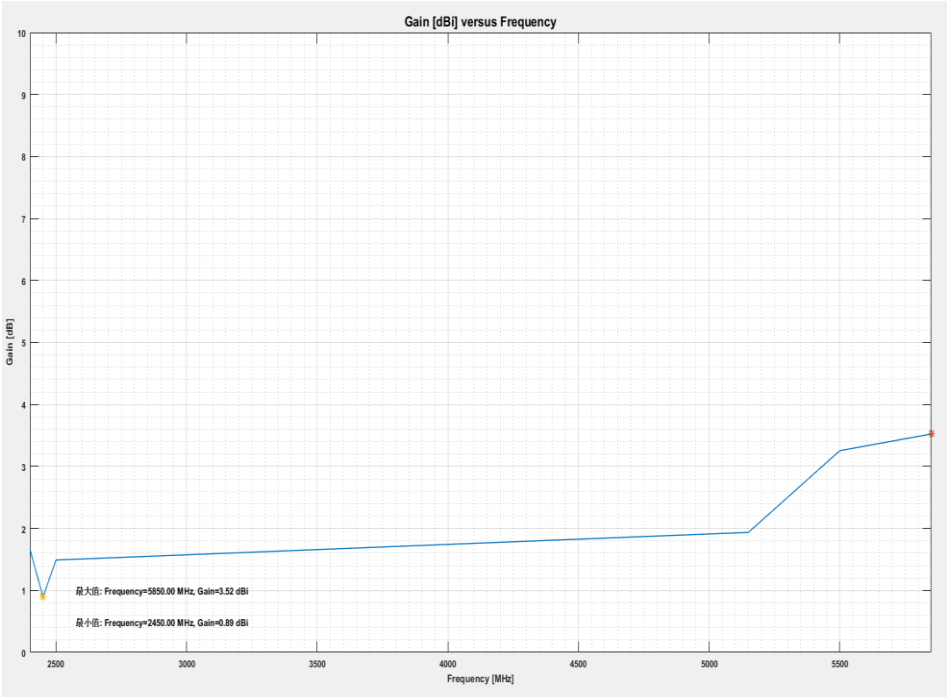


peakgain

3. Antenna Efficiency& Peak Gain (WIFI)

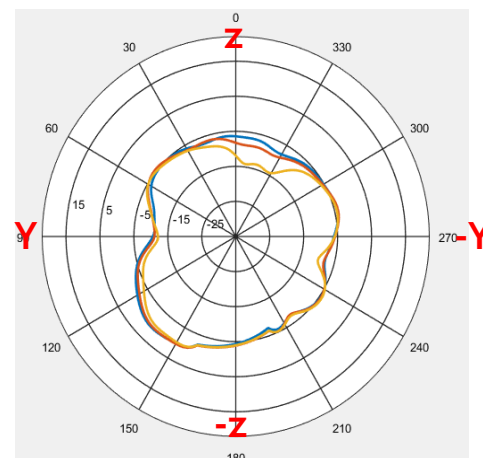
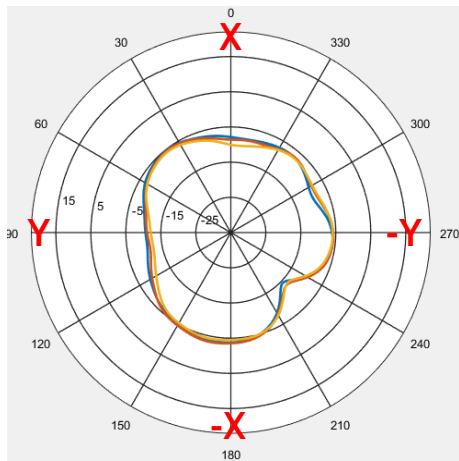
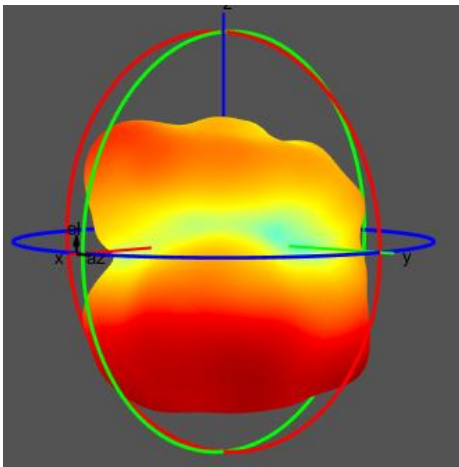
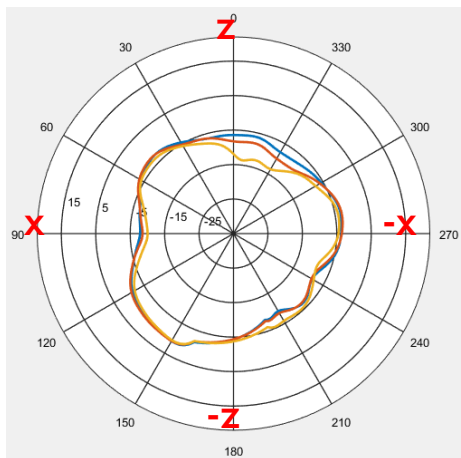
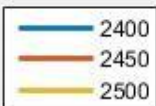


efficiency

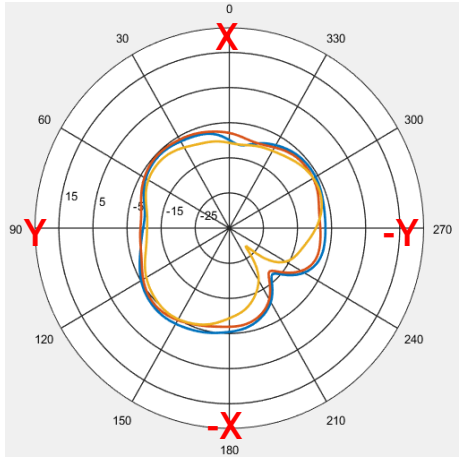
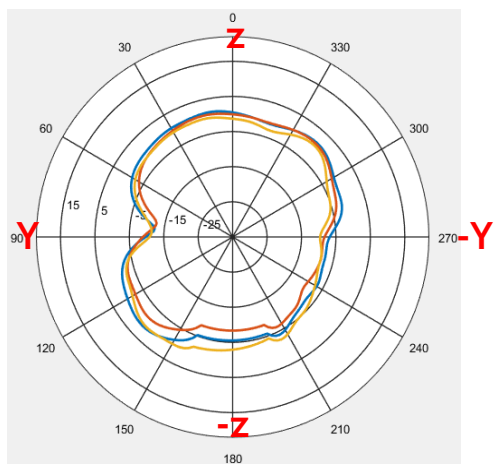
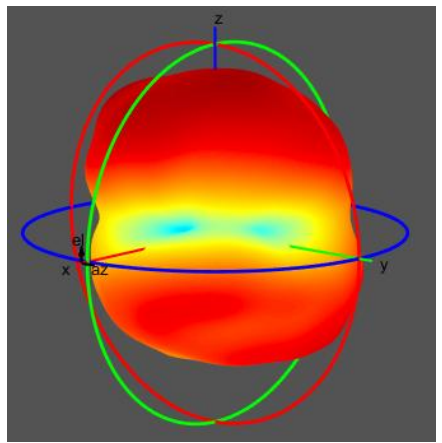
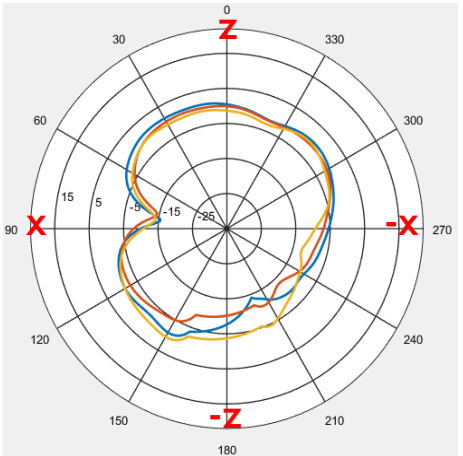
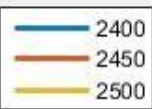


peakgain

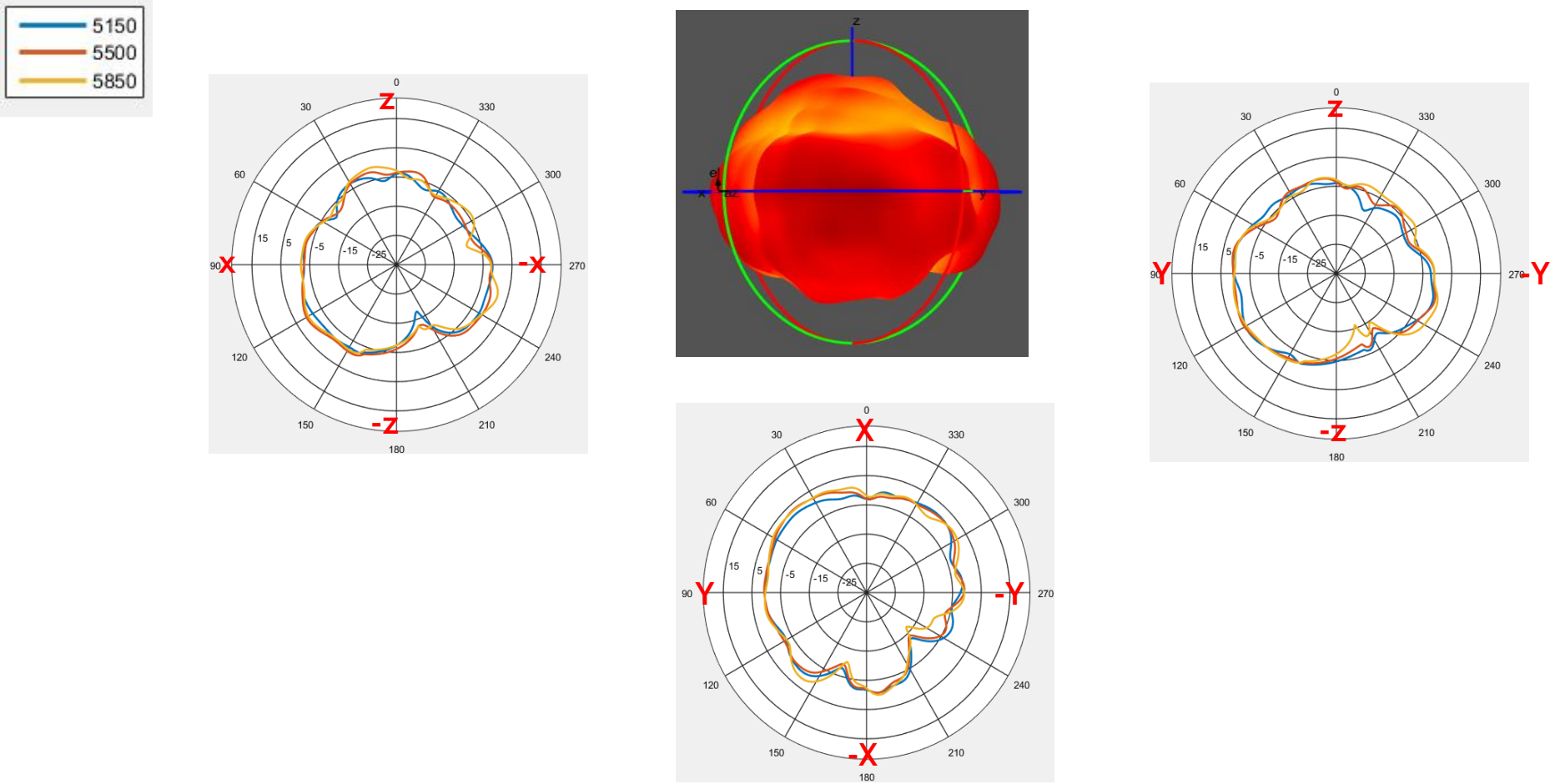
4. Radiation patterns (BT)



4. Radiation patterns (WIFI-2G)



4. Radiation patterns (WIFI-5G)



5. Summary

The test data is as follows

The above tests all include RG1.37lowloss cable (150mm) loss, and the actual antenna efficiency and gain increase by 0.5-0.7dB on this basis

Add the test cable line lose 0.6dBi.the final ANT gain list :

Item	Frequency (MHz)	2400	2450	2500	5150	5300	5500	5850
WIFI	Gain(dBi)	2.26	1.49	2.09	2.53	3.1	3.85	4.12
	Efficiency(%)	58.50	41.44	48.25	55.32	55.3	64.12	64.79
BT	Gain(dBi)	1.89	1.95	1.67				
	Efficiency(%)	36.49	37.05	31.97				

Thanks!