

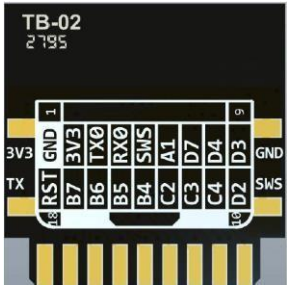
Product Specification

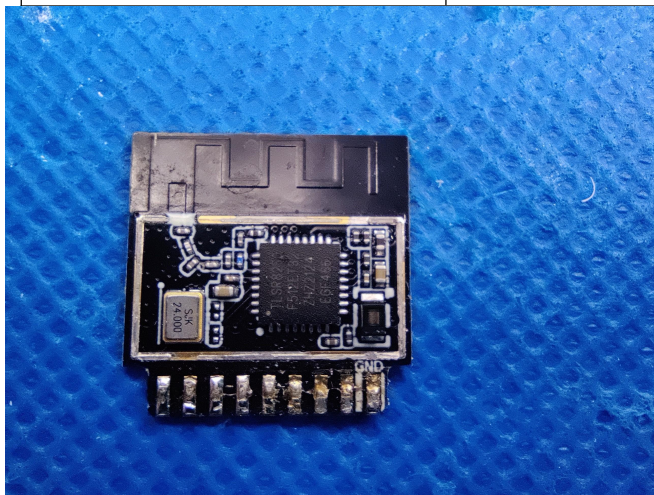
Manufacturer: Shenzhen Ai-Thinker Technology Co., Ltd

Product Name: PCB Antenna

Model Name: TB-02 Ant. v1.0

Antenna Specifications:

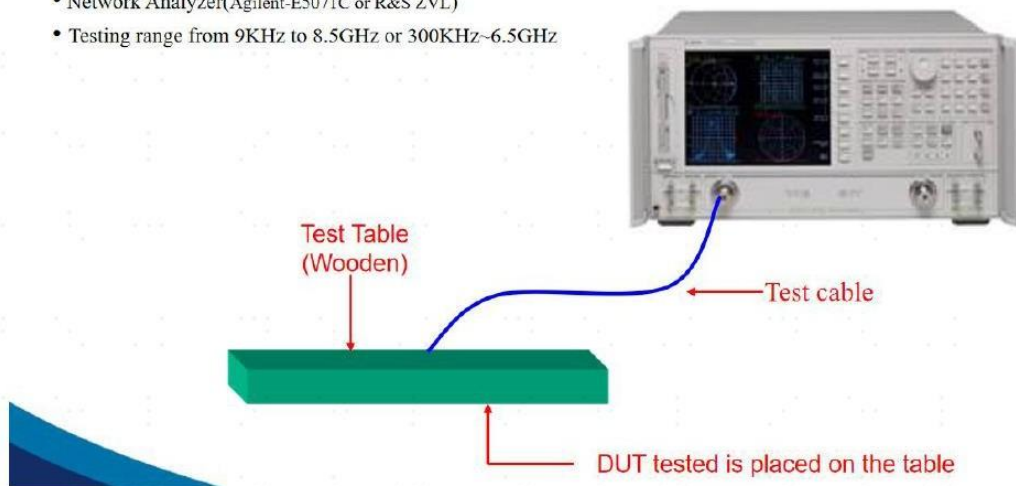
Electrical Specification		
Item	Specification	Notes
Freq.Range(MHz)	2400-2500MHz	
Impedance (Ω)	50	
VSWR	≤ 2.0	
Polarization	Dextral circular polarization	
Gain(dBi)	1.74	
Test condition	passive test	
Physical Specification		
Operating temp($^{\circ}\text{C}$)	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
material	PCB Antenna	
Size(mm)	16mm*6mm	



Test Equipment & Conditions

S-Parameter test

- Network Analyzer(Agilent-E5071C or R&S ZVL)
- Testing range from 9KHz to 8.5GHz or 300KHz~6.5GHz



3D Chamber Structure

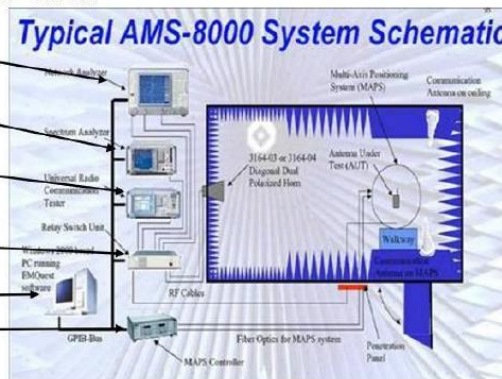
- ETS-Lindgren AMS-8000 Series System Components
- Chambers
- EMQuest EMQ-100 Software
- Positioning Systems
- Chamber Room Size: L*W*H=7.3*3.7*3.7 M

VSWR were performed using an Agilent S-parameter Network Analyzer.



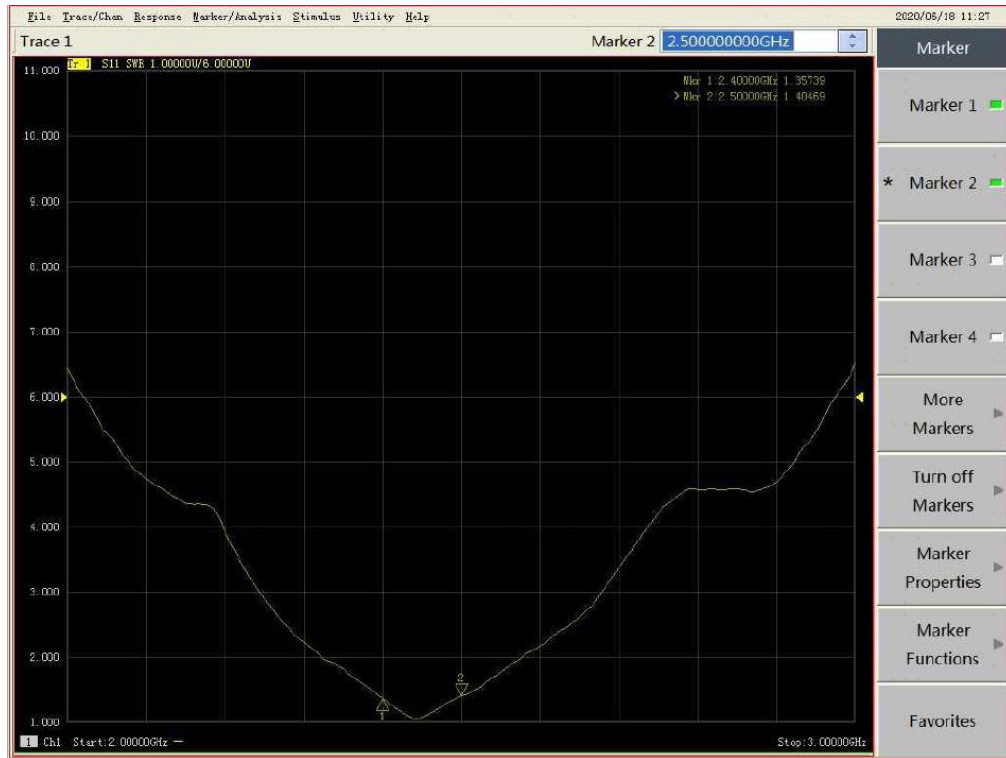
NA E5071C

- **Network Analyzer**
Agilent E5071C
- **Spectrum Analyzer**
R&S FSP13
- **Universal Radio Communication Tester**
R&S CMU200
- **Switch**
Agilent 3499B
- **PC and Software**
- **Rotate Controller**
ETS-Lindgren 2090



Test Report

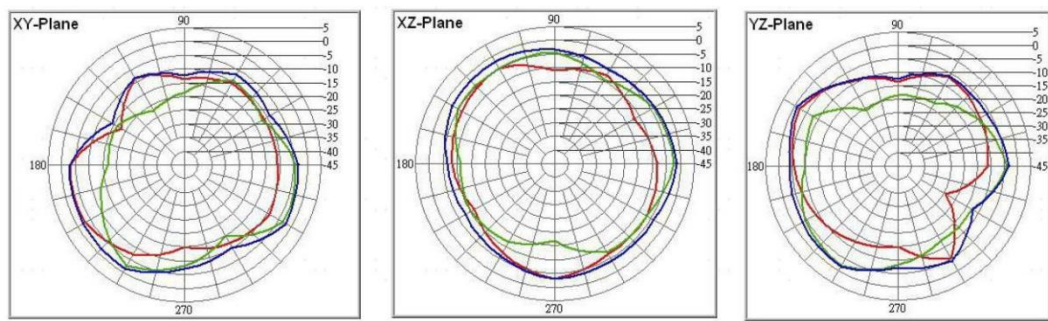
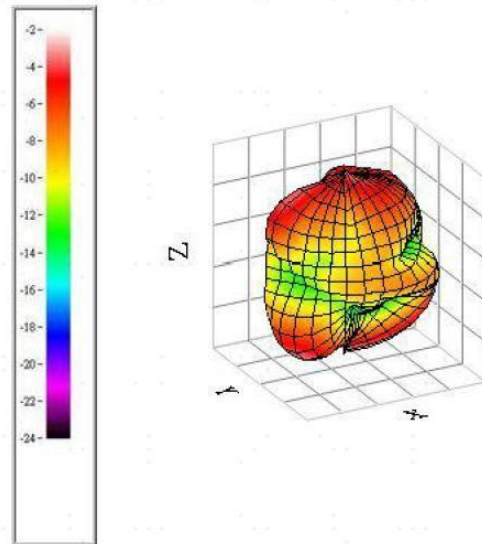
VSWR



Radiation Pattern

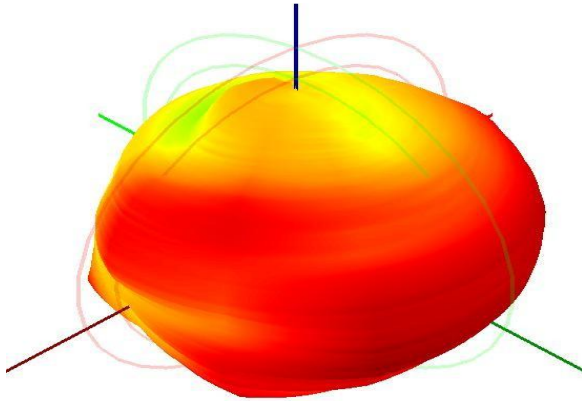
2D Radiation Pattern

Radiation pattern of 2450 MHz

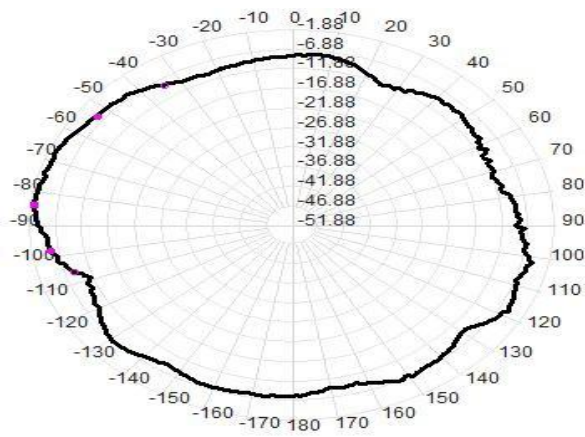


Frequency(MHz)	Efficiency(%)	Gain(dBi)
2400	23.1	-1.88
2412	30.12	-1.48
2437	31.36	1..16
2442	33.86	1.74
2450	33.60	1.52
2462	34.12	1.06
2484	35.59	1.41
2500	46.6	1.43

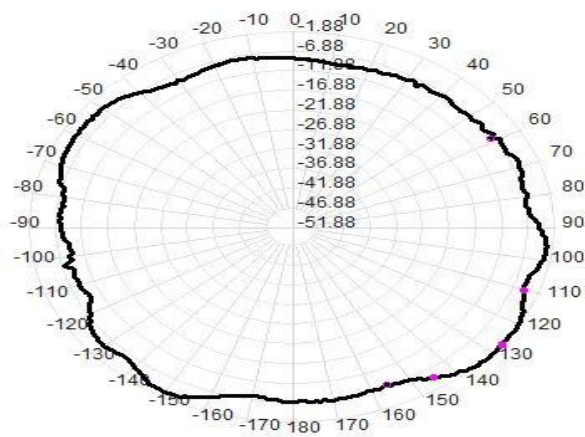
2400.0MHz H+V, Eff: 23.1%



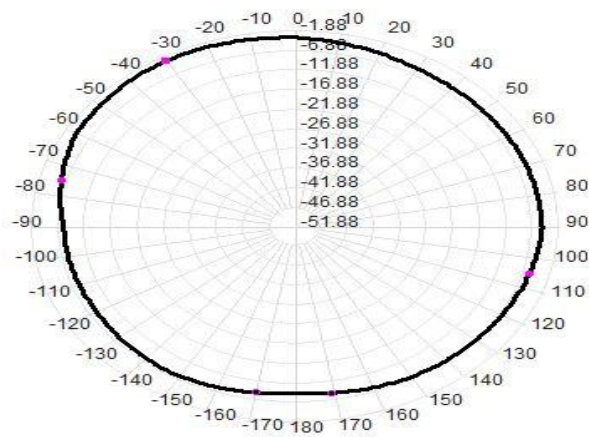
2400.0MHz Total(E1), Max= -2.56dBi



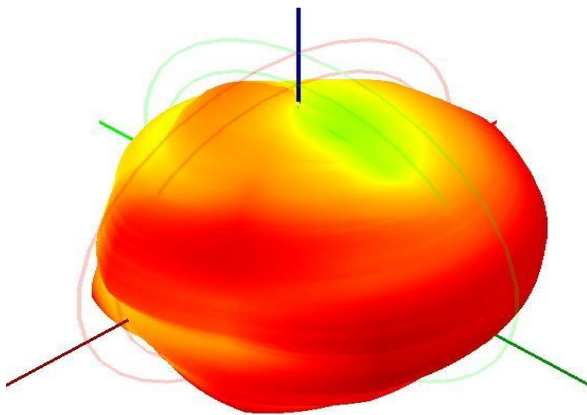
2400.0MHz Total(E2), Max= -1.88dBi



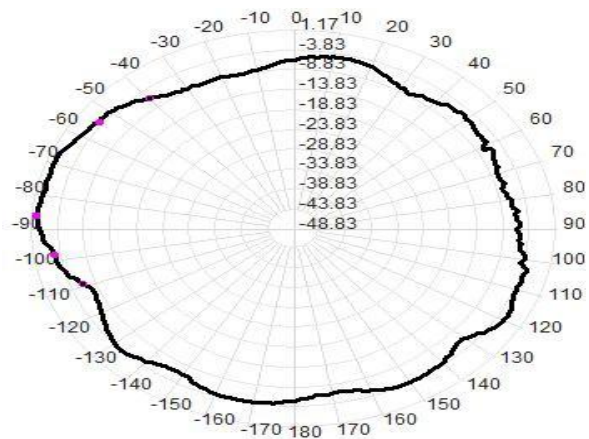
2400.0MHz Total(H), Max= -3.04dBi



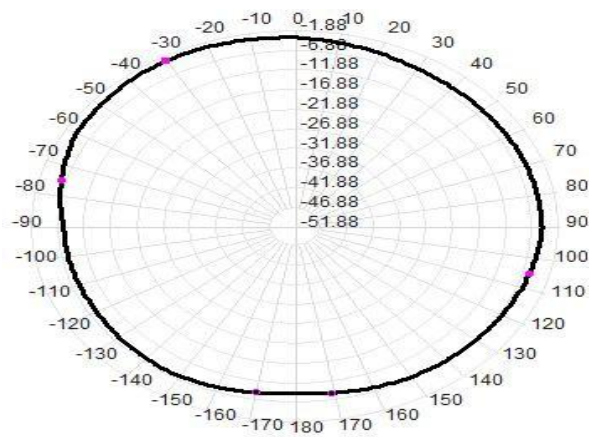
2470.0MHz H+V, Eff: 44.5%



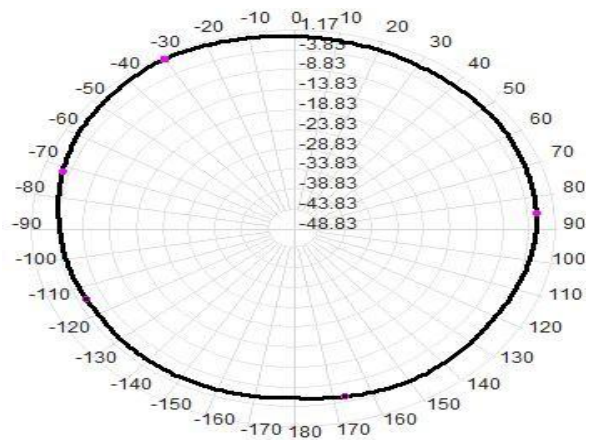
2470.0MHz Total(E1), Max= 0.13dBi



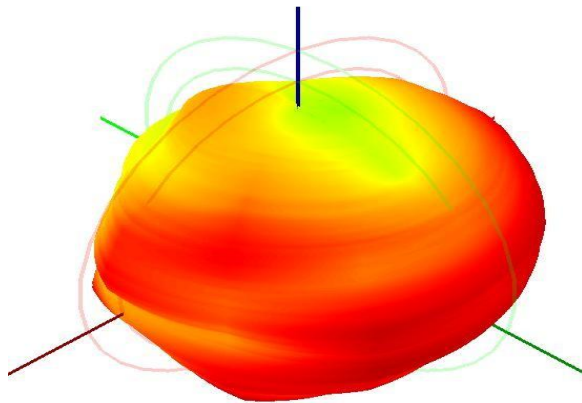
2470.0MHz Total(E2), Max= 1.17dBi



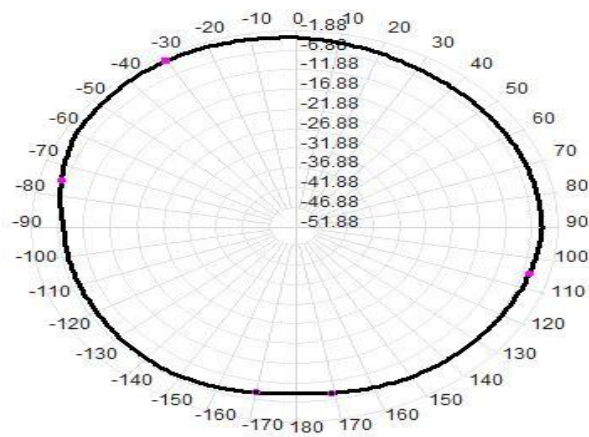
2470.0MHz Total(H), Max= 0.42dBi



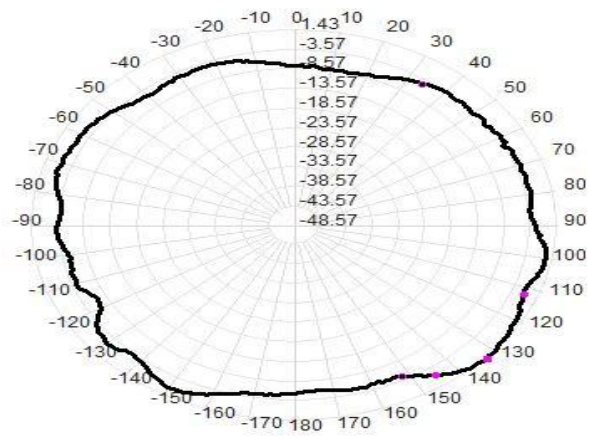
2500.0MHz H+V, Eff: 46.6%



2500.0MHz Total(E1), Max= -0.23dBi



2500.0MHz Total(E2), Max= 1.43dBi



2500.0MHz Total(H), Max= 0.08dBi

