

Test Report-MS746d MS ANT

Customer:	Darfon
Project:	MS746d-ANT
Antenna:	Printing
Antenna Type:	PIFA
Test date:	2025/10/15
Release date:	2025/10/15

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Checked by: Kin Dai
Approved by: Mike Yang

Report Outline

1. Measurement Setup

1.1 Equipment List

2. Experimental Results

2.1 S Parameters

2.2 Radiation efficiency

2.3 Conclusion

Measurement Setup

Reflection Coefficient Measurement

1. Equipment : Network Analyzer(Agilent E5071A)
 - a. Last Calibration date: 2025/3/4
 - b. Next Calibration date: 2026/3/4
2. Test Software: Maxwell Viewer
3. Test items : S-parameters (Impedance, return loss, VSWR)

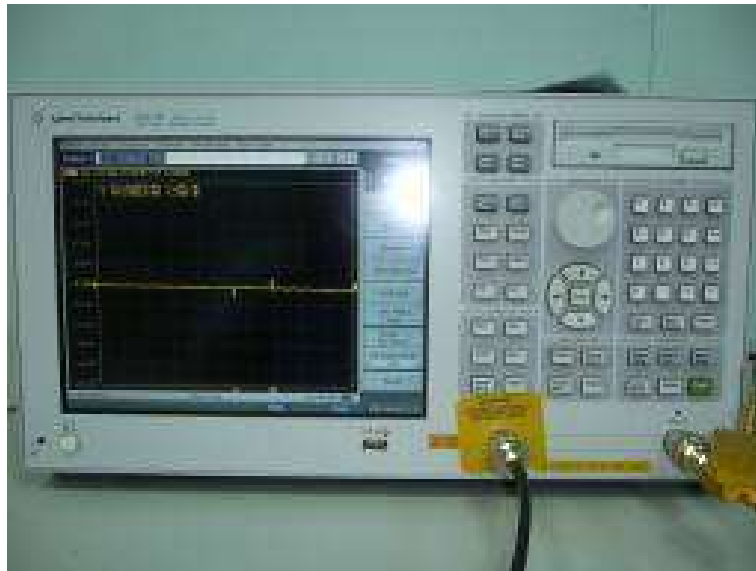


Figure. Network Analyzer(Agilent E5071A)

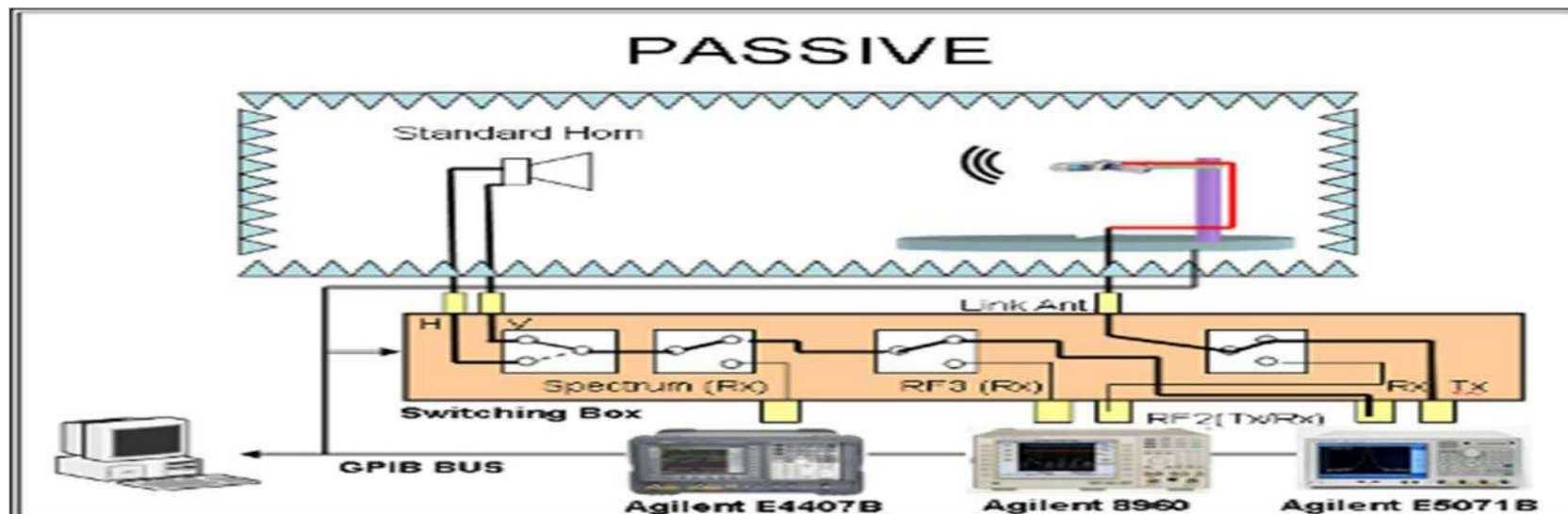
Radiation Pattern Measurement

1. Equipment :

- a. Anechoic Chamber/ Standard Horn
 - i. Last Calibration date: 2025/3/4
 - ii. Next Calibration date: 2026/3/4
- b. Network Analyzer (Agilent E5071C)
 - i. Last Calibration date: 2025/3/4
 - ii. Next Calibration date: 2026/3/4

1. Test Software: Maxwell Viewer

2. Test items : Gain, efficiency, 2D gain pattern, 3D gain pattern



Measurement Procedure

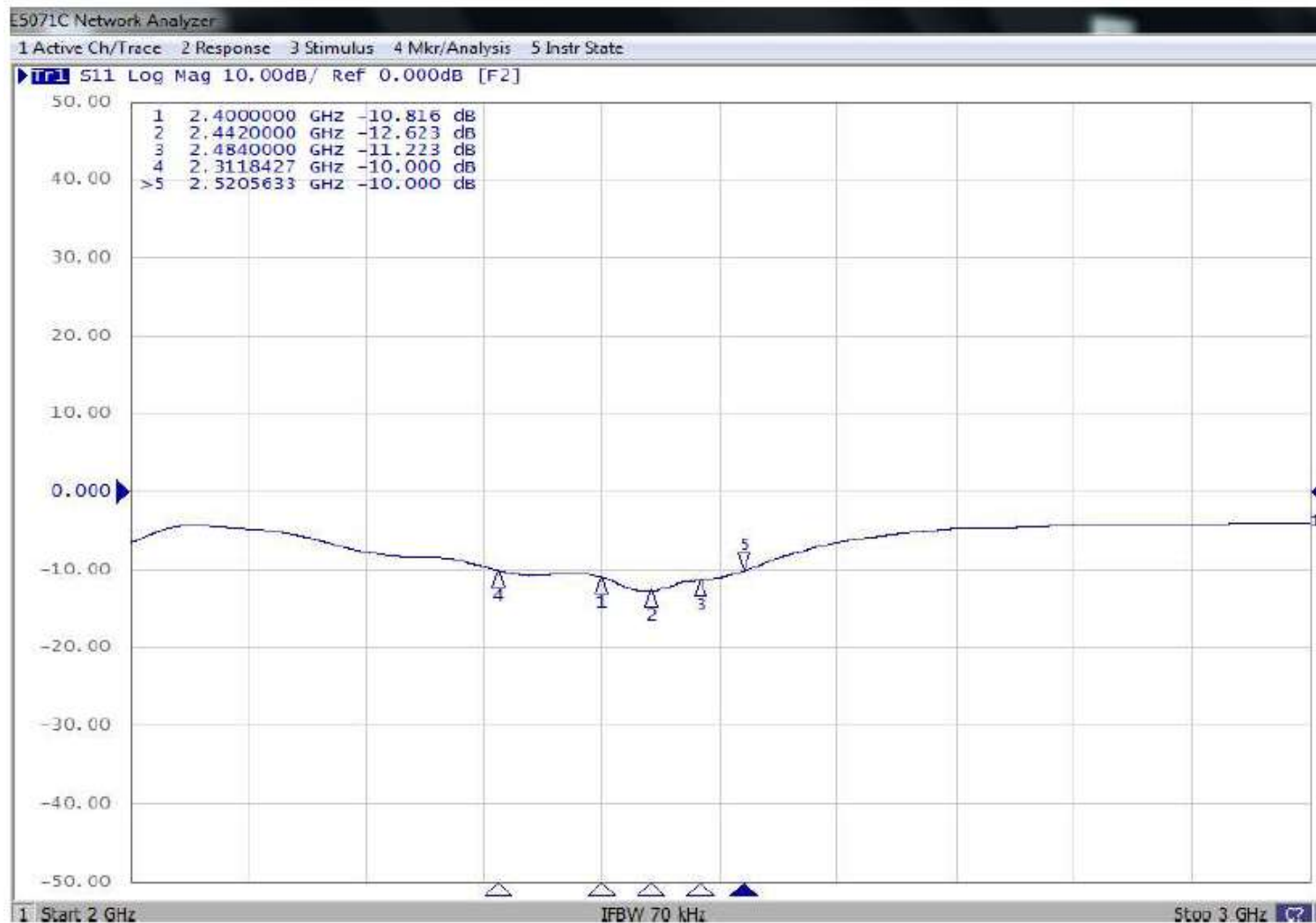
- 1. Place the DUT at the center of the turntable.**
- 2. Connecting the test cable to the DUT , and use the software for measurement.**
- 3. During the measured process, Equipment will conduct radiation testing with the DUT through 23 probes by a vertical 360- degree; then the turntable will rotate a horizontal 180-degree.**
- 4. After a complete measurement of spherical 3D is completed.**

Experimental results

Experimental results

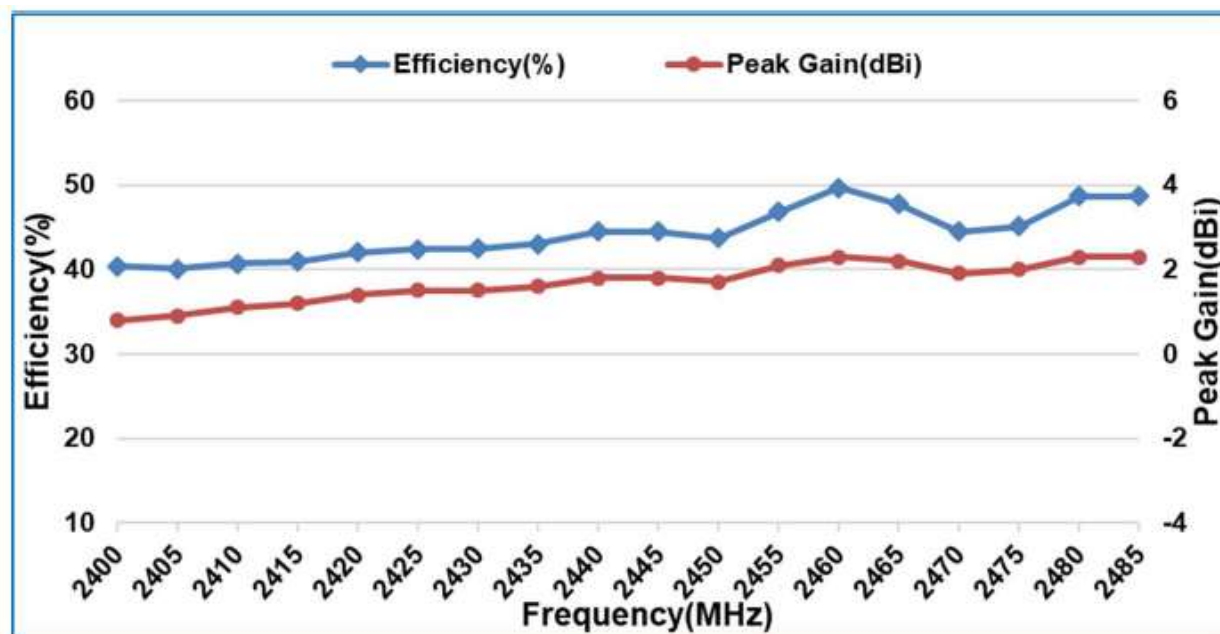
S-Parameters

Return Loss



Experimental results

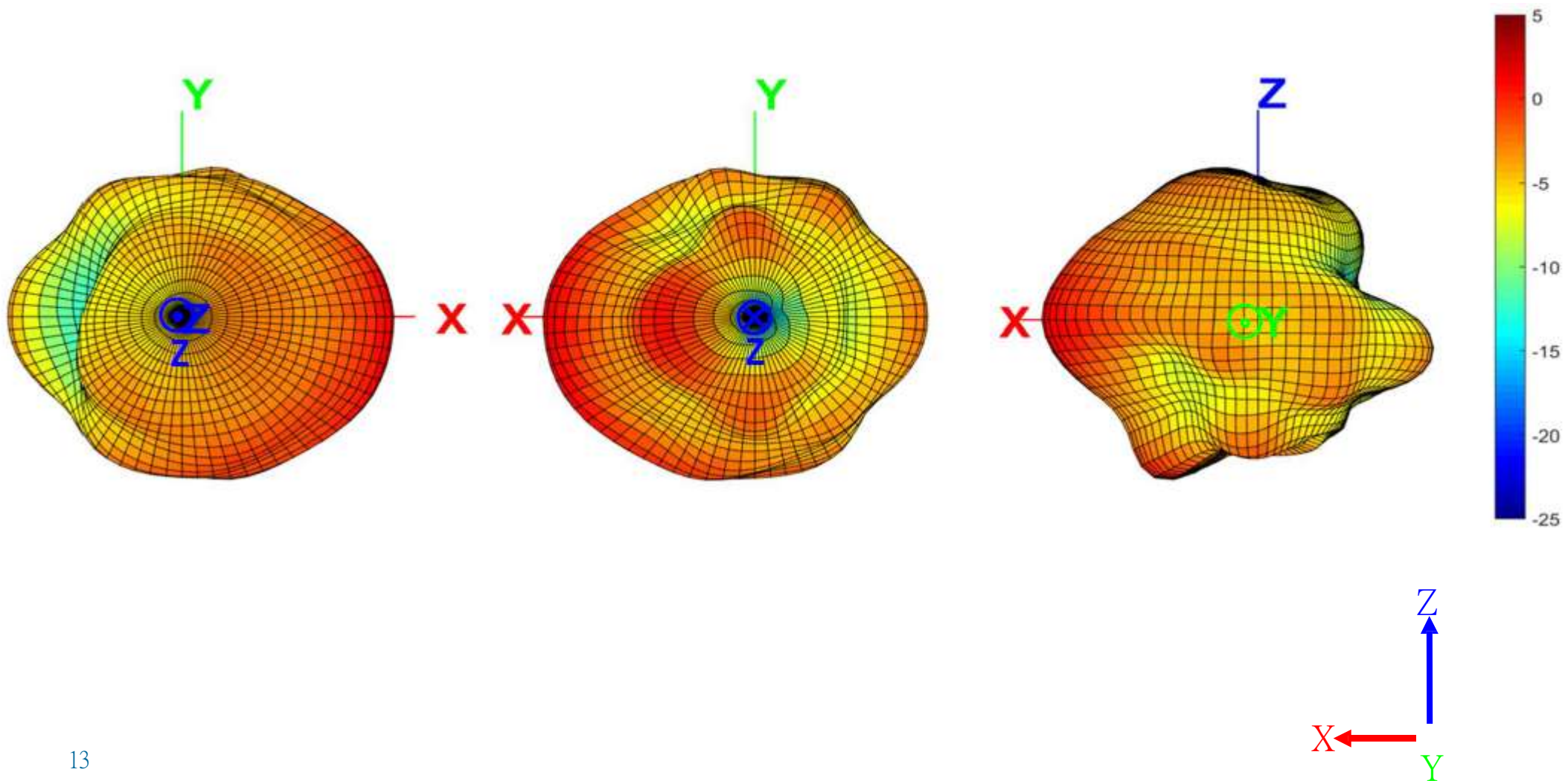
Radiation efficiency and peak gain



Frequency (MHz)	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485
Efficiency (dB)	-3.9	-4.0	-3.9	-3.9	-3.8	-3.7	-3.7	-3.7	-3.5	-3.5	-3.6	-3.3	-3.0	-3.2	-3.5	-3.5	-3.1	-3.1
Efficiency (%)	40.4	40.1	40.7	40.9	42.0	42.4	42.5	43.0	44.5	44.5	43.7	46.8	49.7	47.7	44.5	45.1	48.7	48.7
Peak Gain (dBi)	0.8	0.9	1.1	1.2	1.4	1.5	1.5	1.6	1.8	1.8	1.7	2.1	2.3	2.2	1.9	2.0	2.3	2.3

Experimental results

3D Gain Pattern (Radiation Pattern @ 2445 MHz) (unit: dBi)



Conclusion

Peak Gain and Efficiency

Frequency	Peak Gain	Efficiency
2.4GHz	2.3dBi	49.7%