

Acknowledgement

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Supplier name: OZTECH Technology Co., Ltd.

**Supplier address: 3506-3509 Fucheng Times Square, Xinan Street,
Baoan District, Shenzhen, Guangdong Province**

**Supplier Factory: No.8 Litong Road, Liuyang Ec-
onomic Development Zone, Changsha City, Hunan
Province Supplier phone: 86-755-2955-8186**

Supplier Website: www.fn-link.com

Antenna Test Report

antenna testing

Customer Customer	Yingzhen
Project name Project Name	MW-6C0
Customer ID Customer NO.	
Specifications specification	ECR6600A40D,802.11b/g/n.ax+ble5.0, UART/GPIO, 13.5*22.5mm,8MBflash,MW-6-N-311, onboard antenna, finished product, main IC supplied by Yingzhenke
PROVIDER MATERIAL NUMBER Supplier NO.	FGMW6N311X-K0
Specification Book Number Specification NO.	FGMW6N311X-K0
Author Written by	Zhang Zhiqi
Version REV.	Ver.1.0
Date	2025-12-15
Note	

Version change log				
Change date	Change content	Edition	Altering party	Approver
2025-12-15	First release	V1.0	ZZQ	QJP

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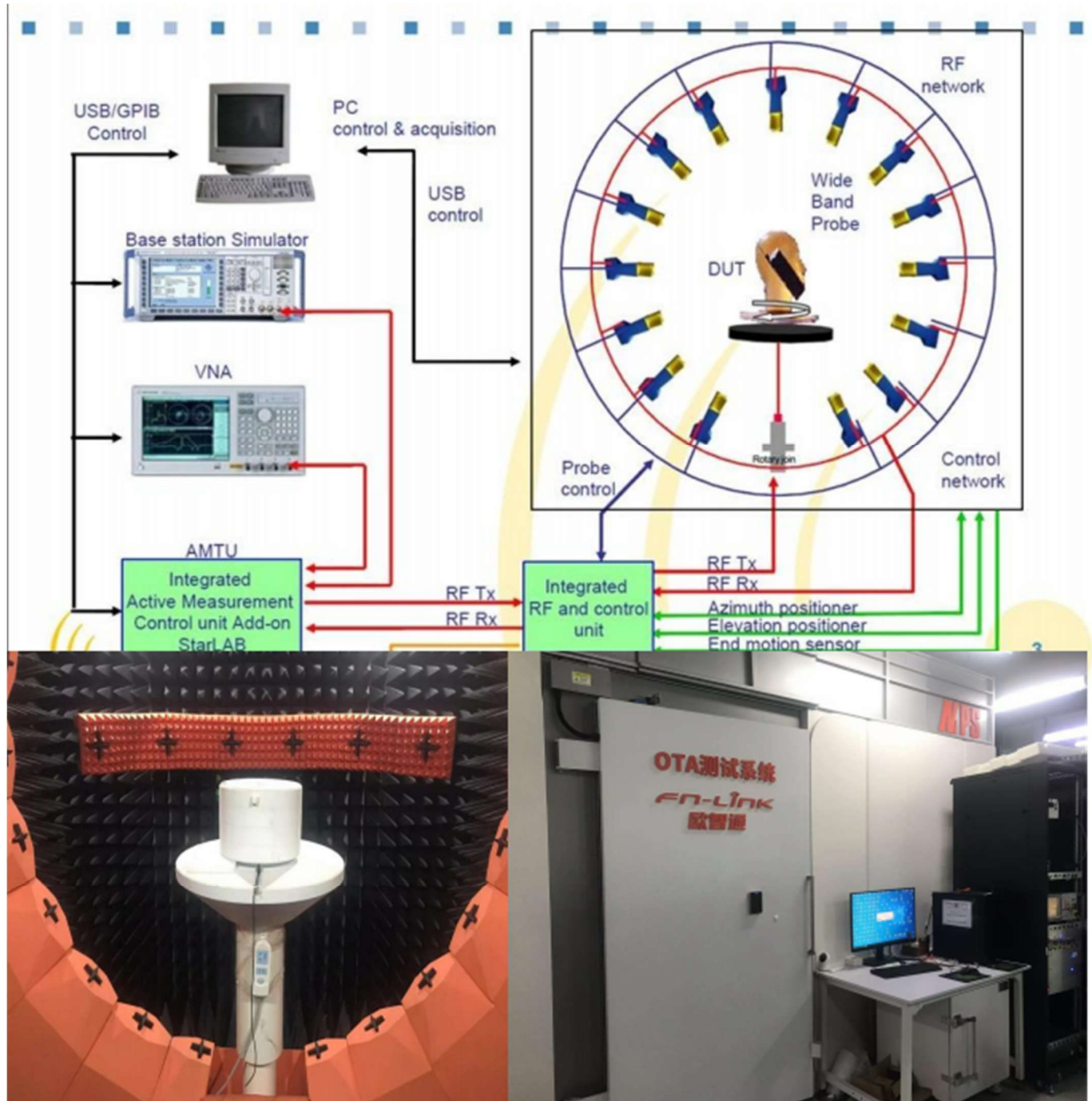
2. Test Equipment & Conditions

2.1 · Network Analyzers : KEYSIGHT P5002A

2.2 · Communications Test Set: Keysight Technologies 5071C

2.3 · 3D Chamber Test System: 24-probe testing system

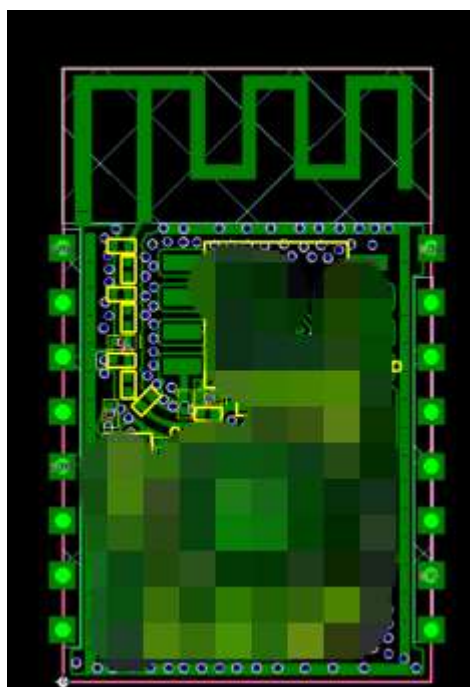
1. Test Principle Diagram of Microwave Darkroom



2. Explain .

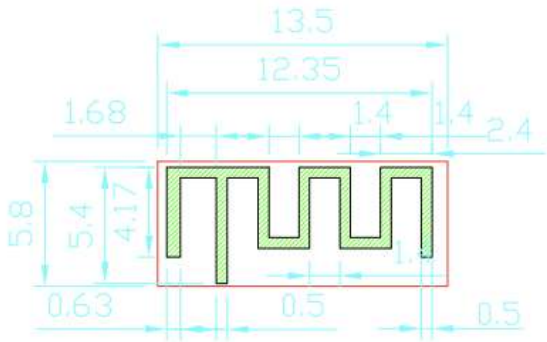
This report summarizes the electrical performance results of the project's antenna, including its S11 parameters, gain, and efficiency.

3. Physical Image of PCB-Embedded Antenna

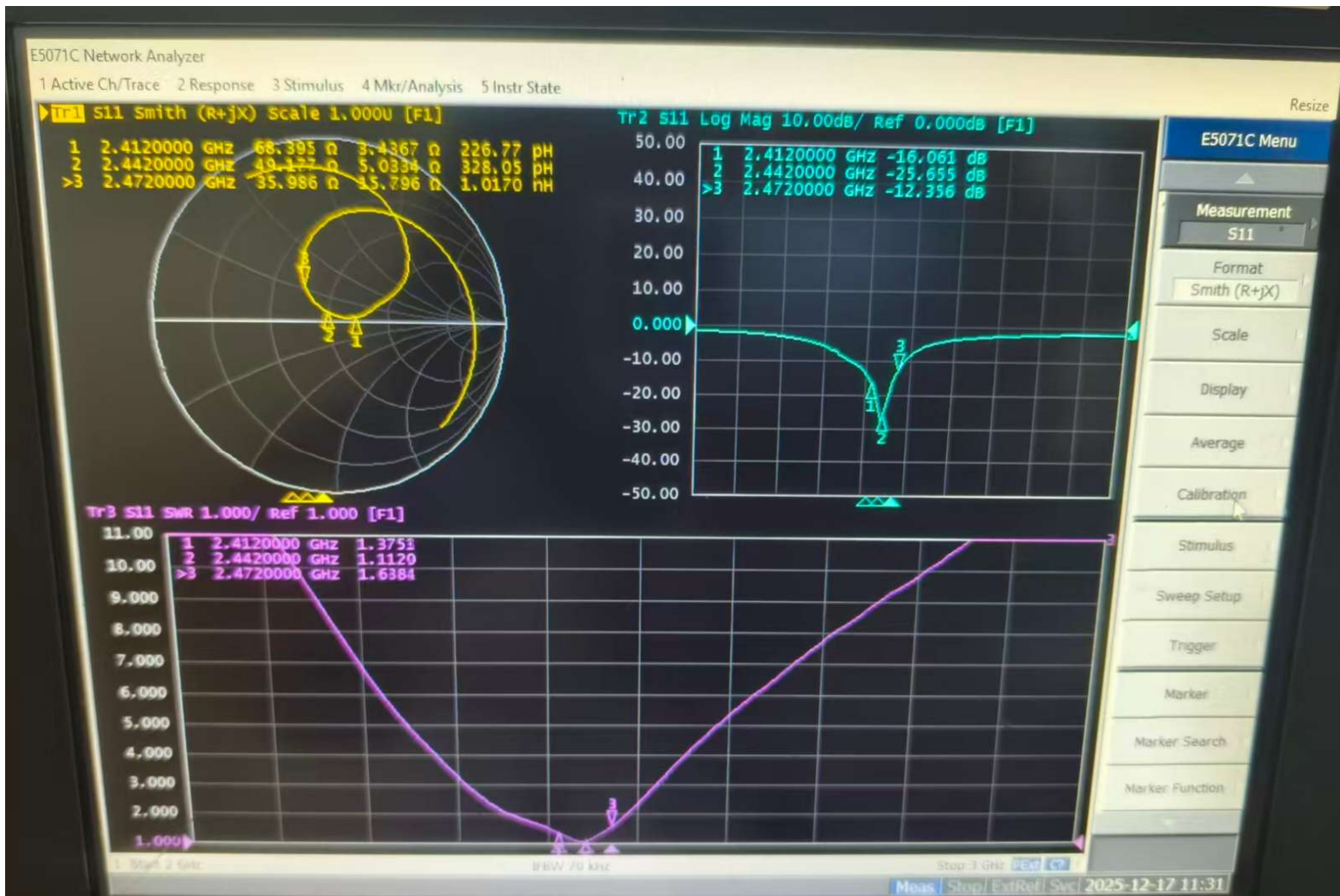


Antenna model	MW-6C0 onboard antenna
Frequency range	2400~2500MHz
Tape width	See waveform
Gain	Max 2.73
Standing-wave ratio	Max 1.6384
Characteristic impedance	50 Ω
Working temperature	-40~105℃

4 , Dimensional Drawing



5, S11 Parameters



Freq/GHz	2412	2442	2472
VSWR	1. 3753	1. 1129	1. 6384

6, Gain/Efficiency/3D Chart

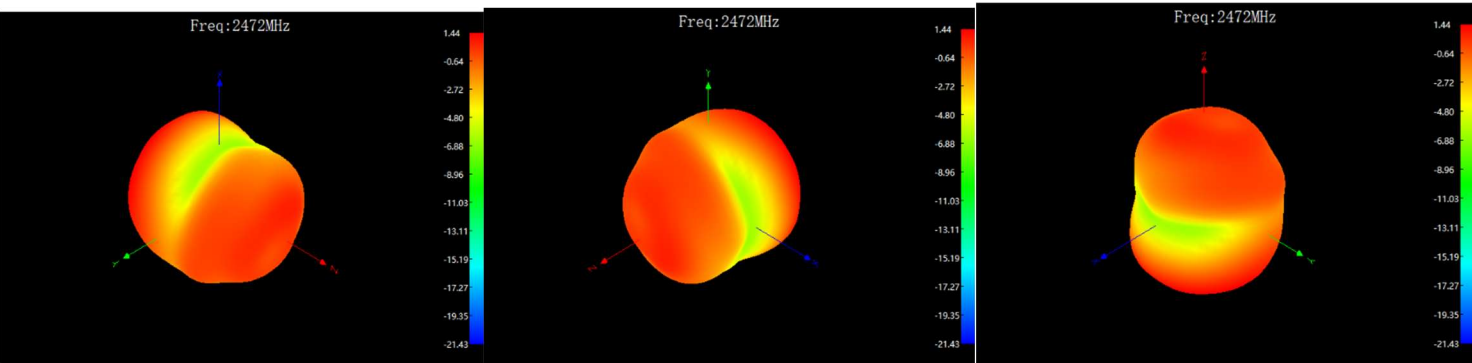
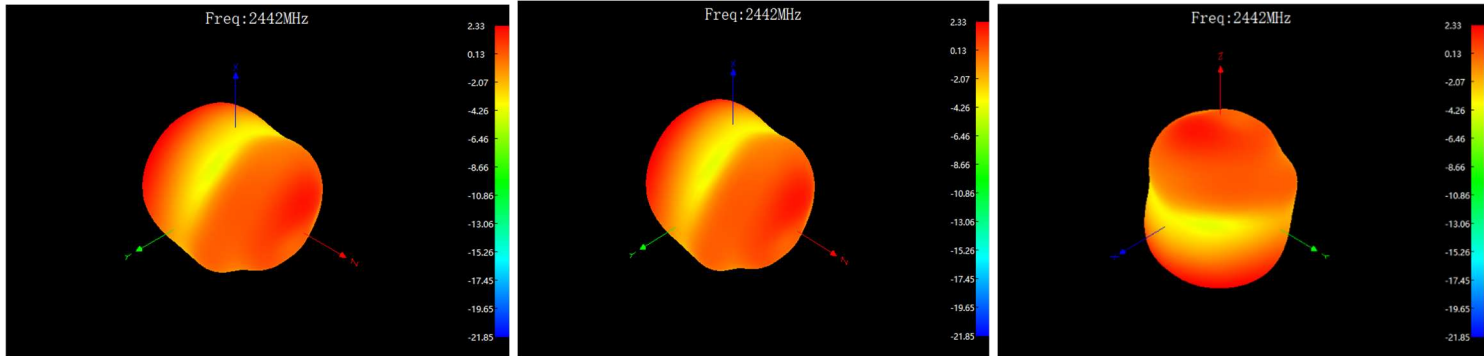
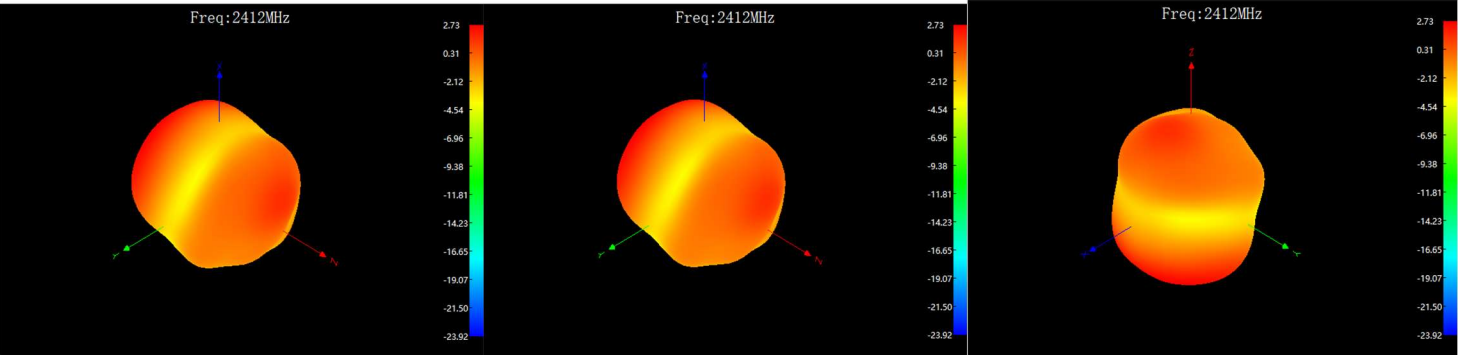
6.1 Gain

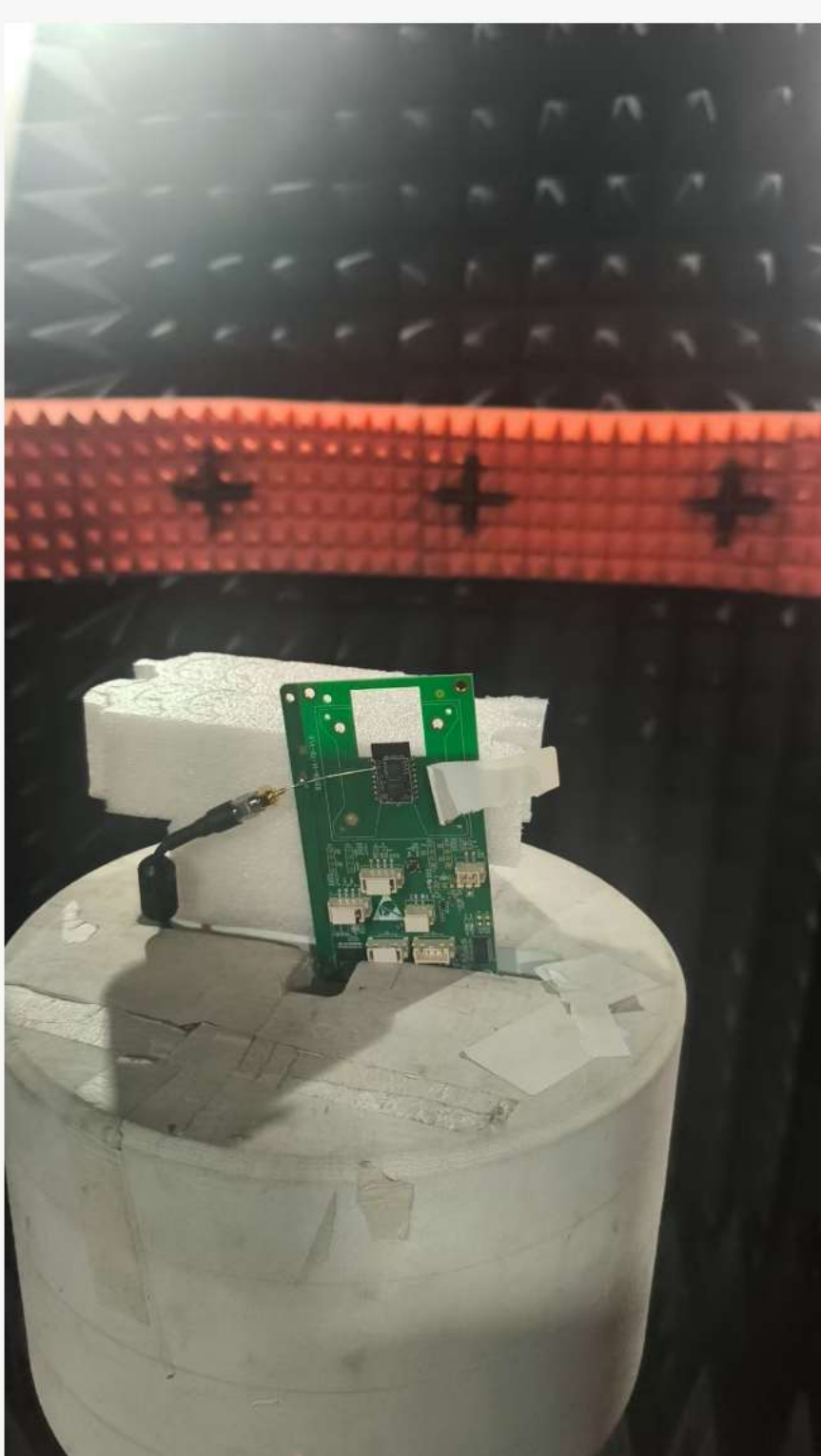
Frequency/MHz	MaxGain/dBi	AvgGain/dBi
2412	2.73	-1.45
2417	2.7	-1.38
2422	2.65	-1.33
2427	2.5	-1.43
2432	2.47	-1.43
2437	2.44	-1.36
2442	2.33	-1.37
2447	2.1	-1.54
2452	2.03	-1.61
2457	1.91	-1.68
2462	1.69	-1.87
2467	1.5	-2.05
2472	1.44	-2.12

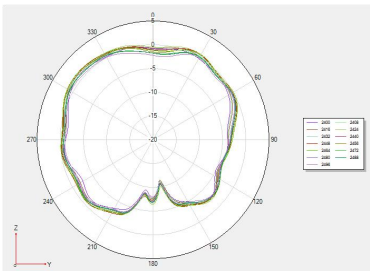
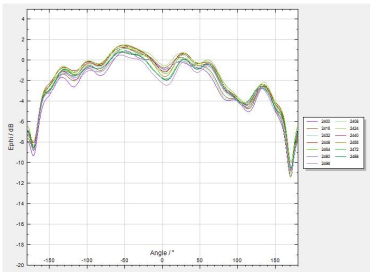
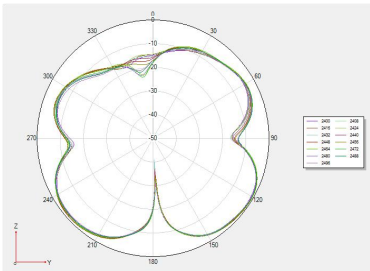
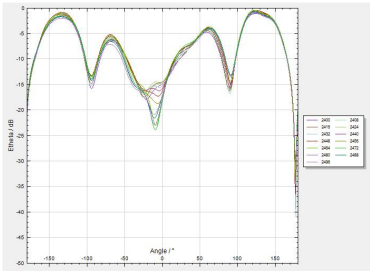
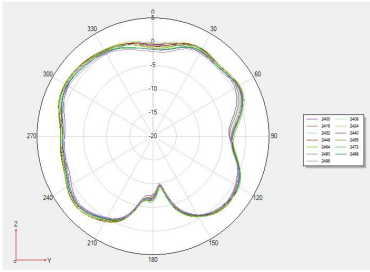
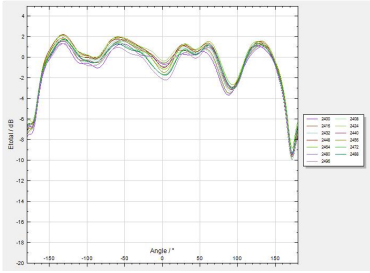
6.2 Productiveness

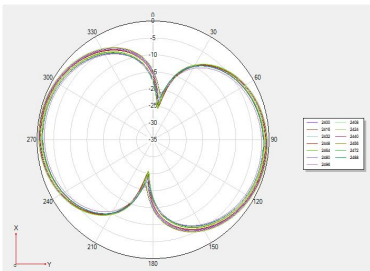
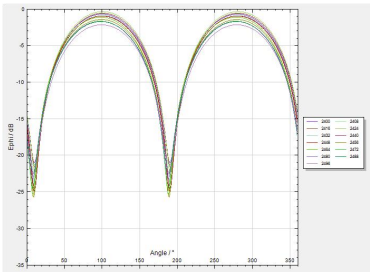
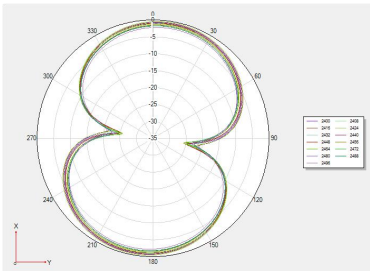
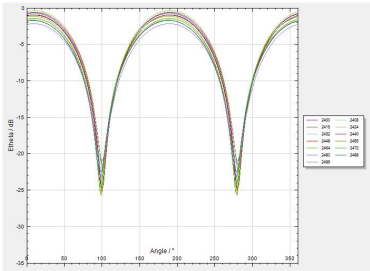
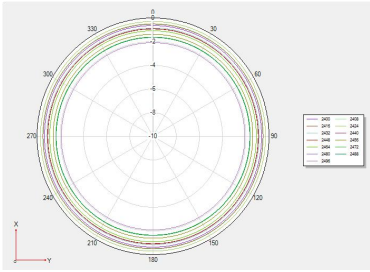
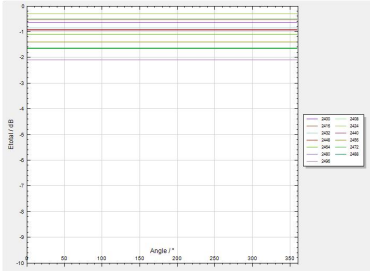
Frequency/Mhz	Efficiency / dB	Efficiency / %
2412	-1.45	71.61
2417	-1.38	72.78
2422	-1.33	73.62
2427	-1.43	71.94
2432	-1.43	71.94
2437	-1.36	73.11
2442	-1.37	72.95
2447	-1.54	70.15
2452	-1.61	69.02
2457	-1.68	67.92
2462	-1.87	65.01
2467	-2.05	62.37
2472	-2.12	61.38

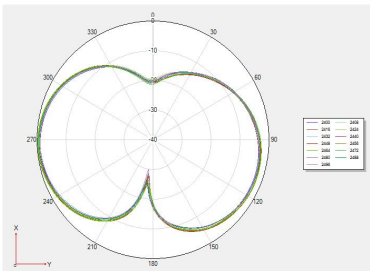
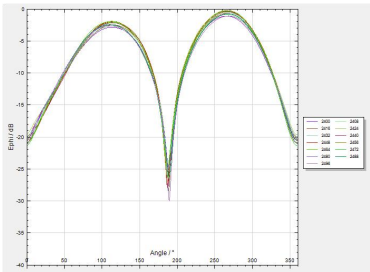
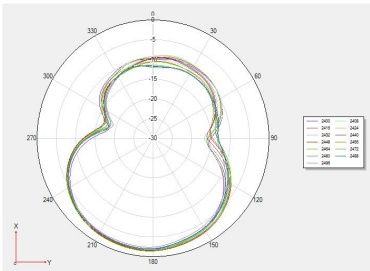
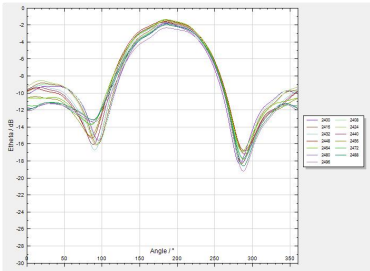
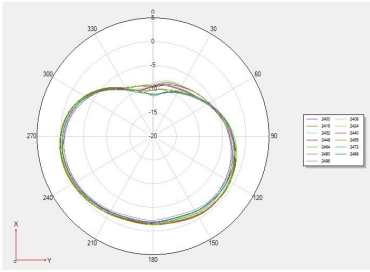
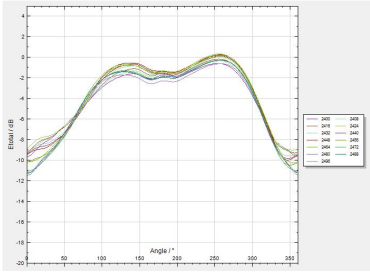
6.2 3D Graph



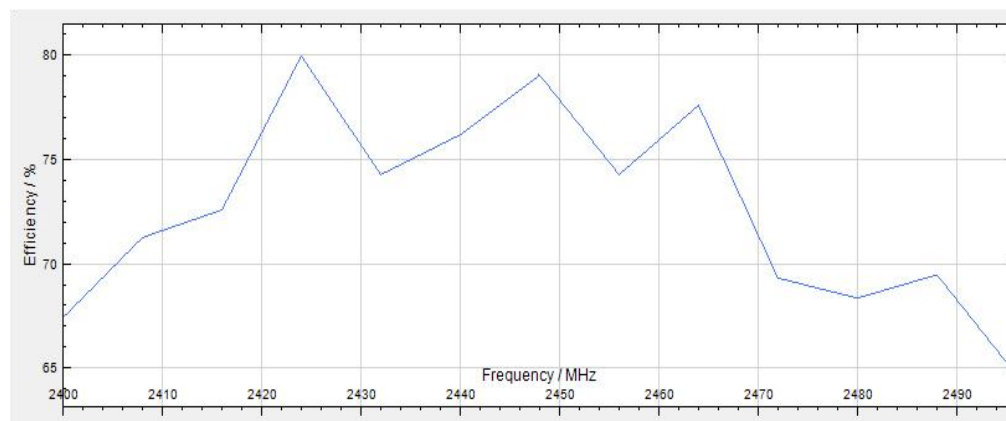
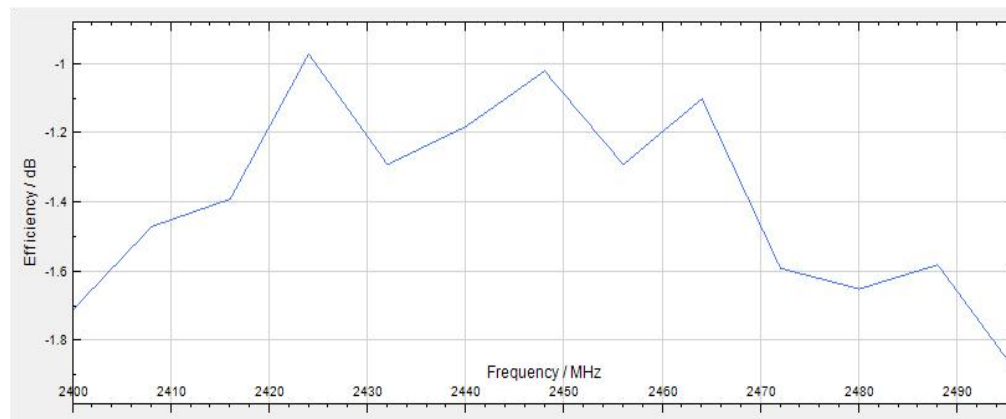




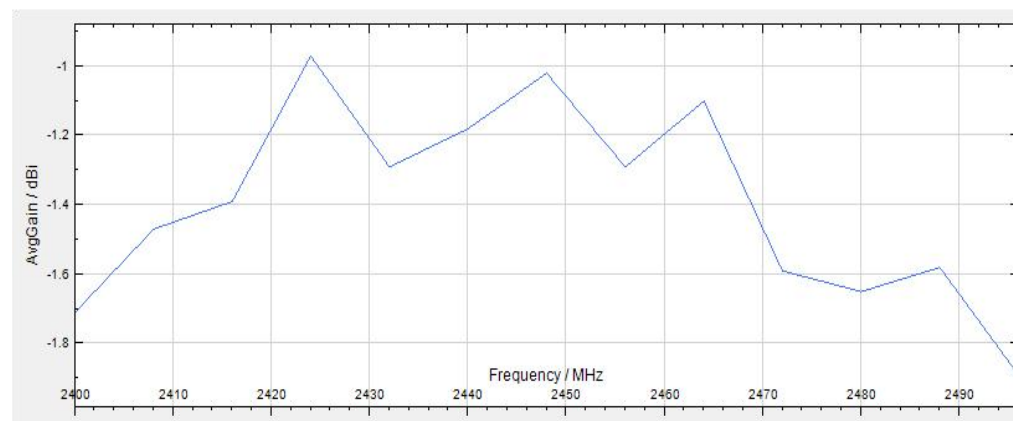
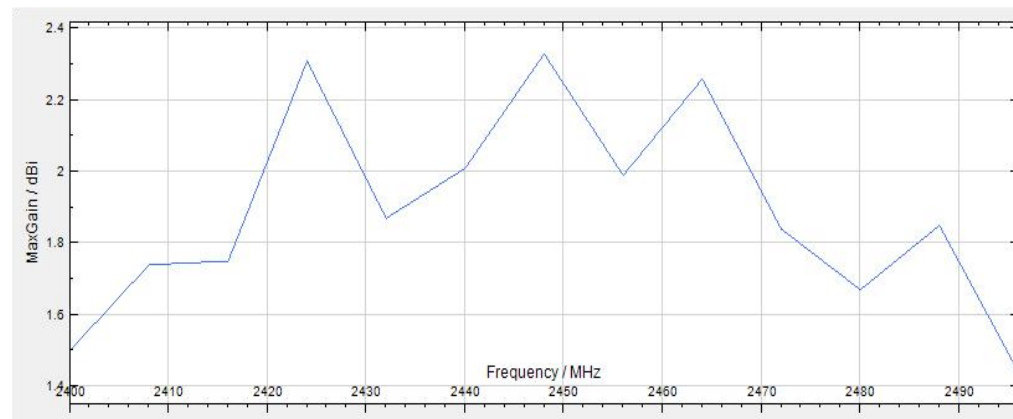




Frequency	Efficiency	Efficiency / %
2400	-1.71	67.45
2408	-1.47	71.29
2416	-1.39	72.61
2424	-0.97	79.98
2432	-1.29	74.3
2440	-1.18	76.21
2448	-1.02	79.07
2456	-1.29	74.3
2464	-1.1	77.62
2472	-1.59	69.34
2480	-1.65	68.39
2488	-1.58	69.5
2496	-1.89	64.71



Frequency/	MaxGain/dl	AvgGain/dBi
2400	1.5	-1.71
2408	1.74	-1.47
2416	1.75	-1.39
2424	2.31	-0.97
2432	1.87	-1.29
2440	2.01	-1.18
2448	2.33	-1.02
2456	1.99	-1.29
2464	2.26	-1.1
2472	1.84	-1.59
2480	1.67	-1.65
2488	1.85	-1.58
2496	1.44	-1.89



Frequency / MHz	MaxEphi / dBi	AvgEphi / dBi
2400	0.95	-5.24
2408	1.19	-4.94
2416	1.22	-4.83
2424	1.58	-4.37
2432	1.22	-4.68
2440	1.36	-4.56
2448	1.51	-4.39
2456	1.3	-4.64
2464	1.51	-4.44
2472	0.94	-4.93
2480	0.83	-5.01
2488	0.83	-4.94
2496	0.56	-5.24

