



WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)



DONGGUAN AEON TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 振曜

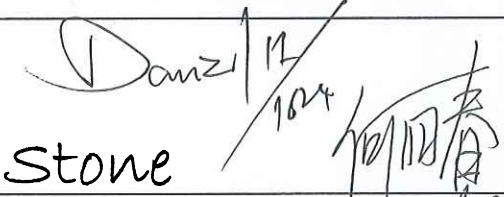
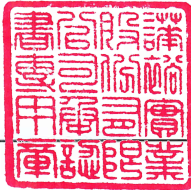
PART NAME: RF Antennna Assembly

PART NO.:

REVISION:

W. Y. P/NO.: C020-510083-A(SRF20242181)

REV.: X1

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	 Stone	
DATE :	 12/16/24	

WHA YU GROUP

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RF Antenna Cable Assembly

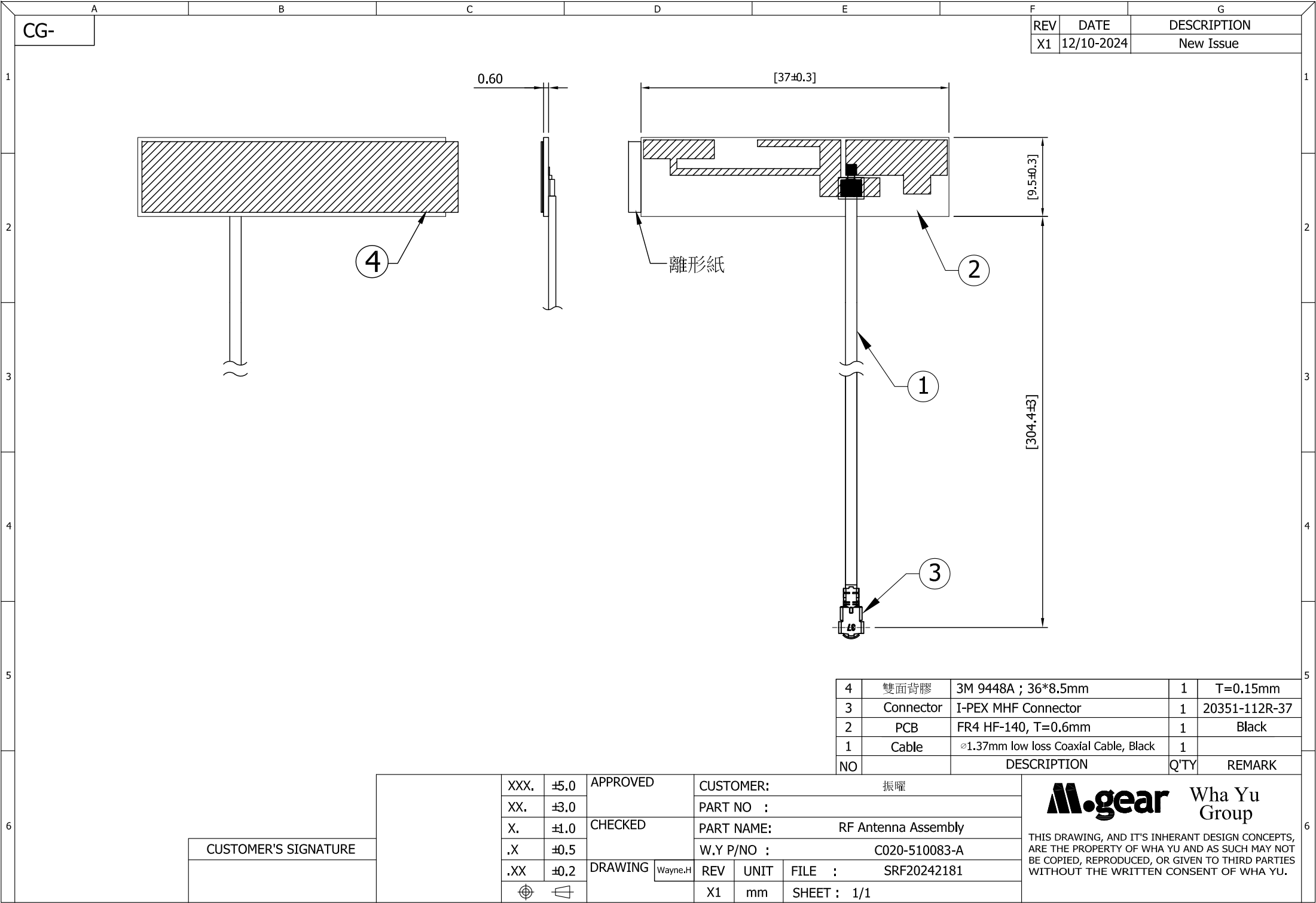
Specification Without housing (with Cable Loss)

1. Electrical Properties :

- 1.1 Frequency Range.....2.4 ~ 2.5 , 5.15~5.85 GHz
- 1.2 Impedance50Ω Nominal
- 1.3 VSWR 4.7 :1Max.
- 1.4 Return Loss..... 3.76 dB Min.
- 1.5 Radiation Omni-directional
- 1.6 Peak Gain..... 2.4 ~ 2.5GHz < 1.06dBi
5.15 ~ 5.85 GHz < 5.56dBi
- 1.7 Cable Loss..... 1.2
- 1.8 Polarization..... Linear
- 1.9 Cable..... 1.37mm Normal Coaxial Cable
- 1.10 Connector..... MHF
- 1.11 Core.....N/A

2. Physical Properties :

- 2.1 Operating Temp. -10°C ~ +60°C
- 2.2 Storage Temp. -10°C ~ +70°C



C020-510083-A

Antenna Test Report

Version: V 1.01

Released Date: 2025/02/26

Prepared By: Leo

Reviewed By: Stone



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- Revised History
- Specification
- Antenna Placement & Solution
- Test Setup for S-parameter Measurement
- Return Loss Results
- Test Setup for Radiation Pattern Measurement
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- Results Summary (return loss, peak gain, efficiency)

Revision History

Released Date	Version	Record
2025/02/26	1.01	Antenna Testing Report

Specification

Requirements of Antenna Design

RF Function	Number of ANT	Frequency Band	Remark
DB	ANT	2400~2500/5150~5850 MHz	

Requirements of Measurement

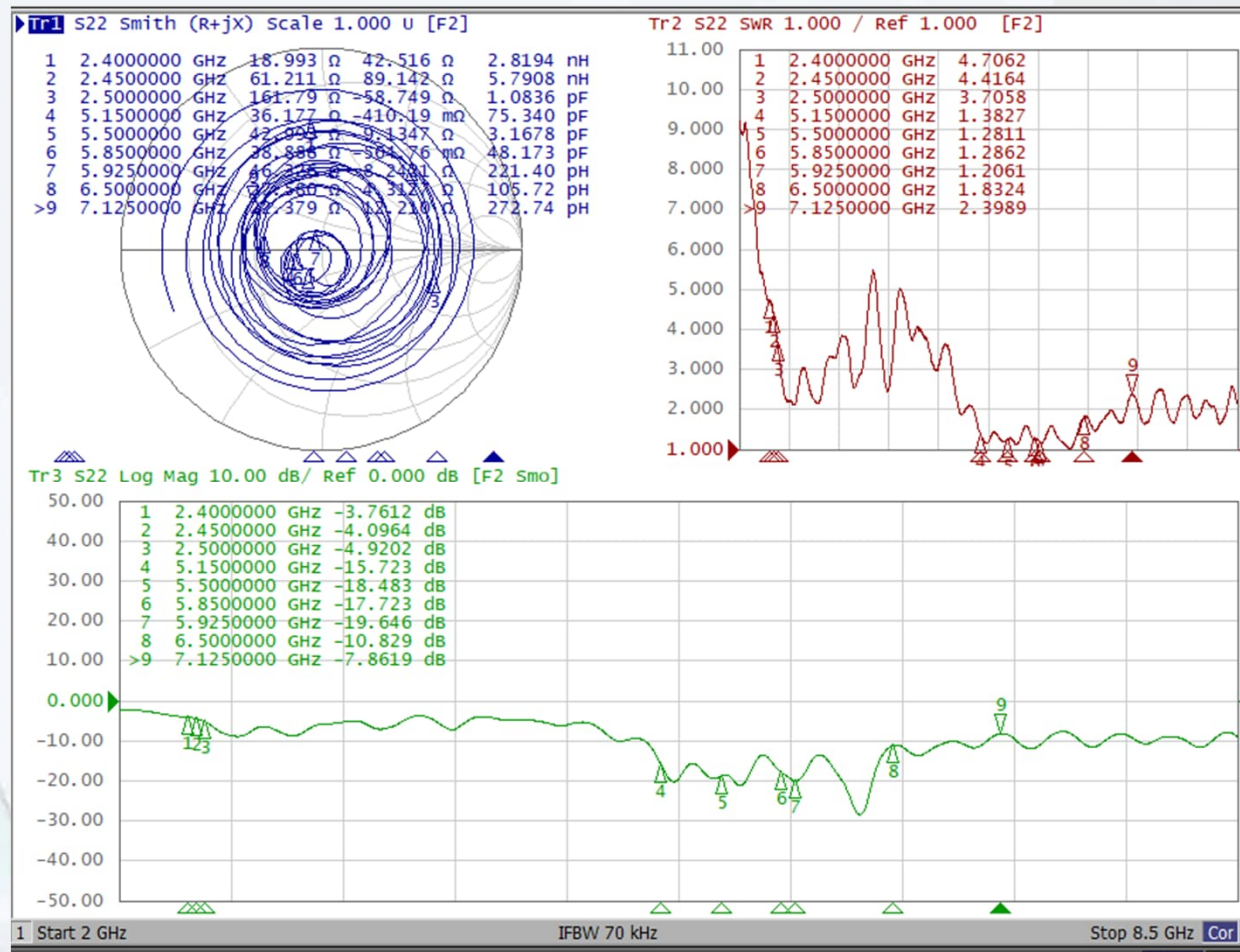
Test Item	Specification	Remark
Return Loss	N/A	
Peak Gain	N/A	
Efficiency	N/A	
Radiation pattern	Scale: +10 ~ -40dBi, Angle step size: 5 degree	

Antenna Placement & Solution



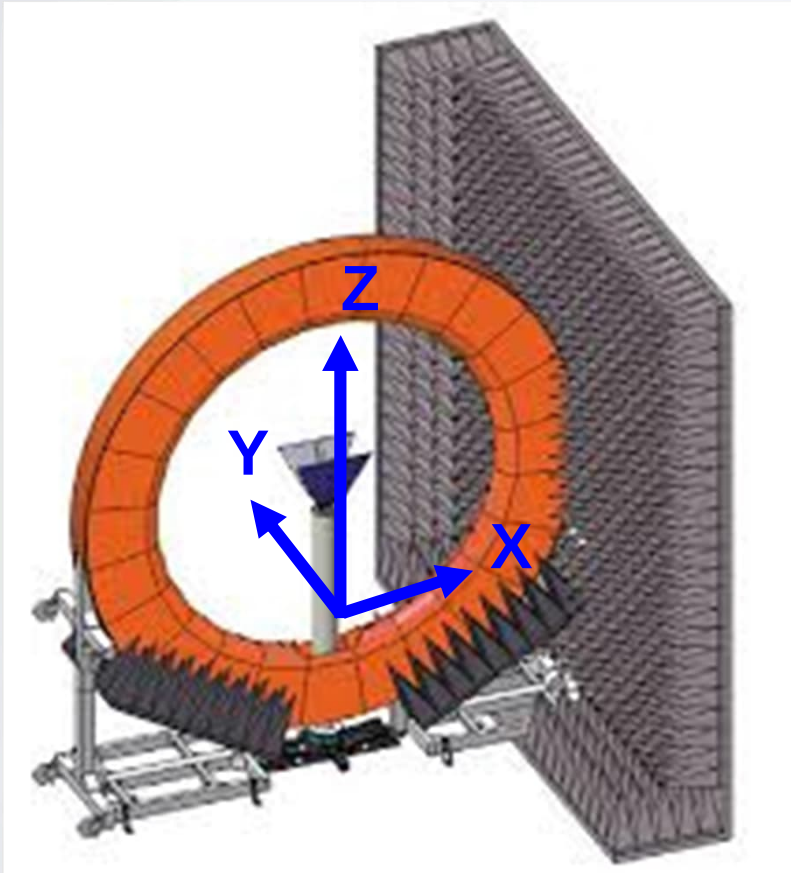
Return Loss Results

Antenna (Criterion:>10 dB)



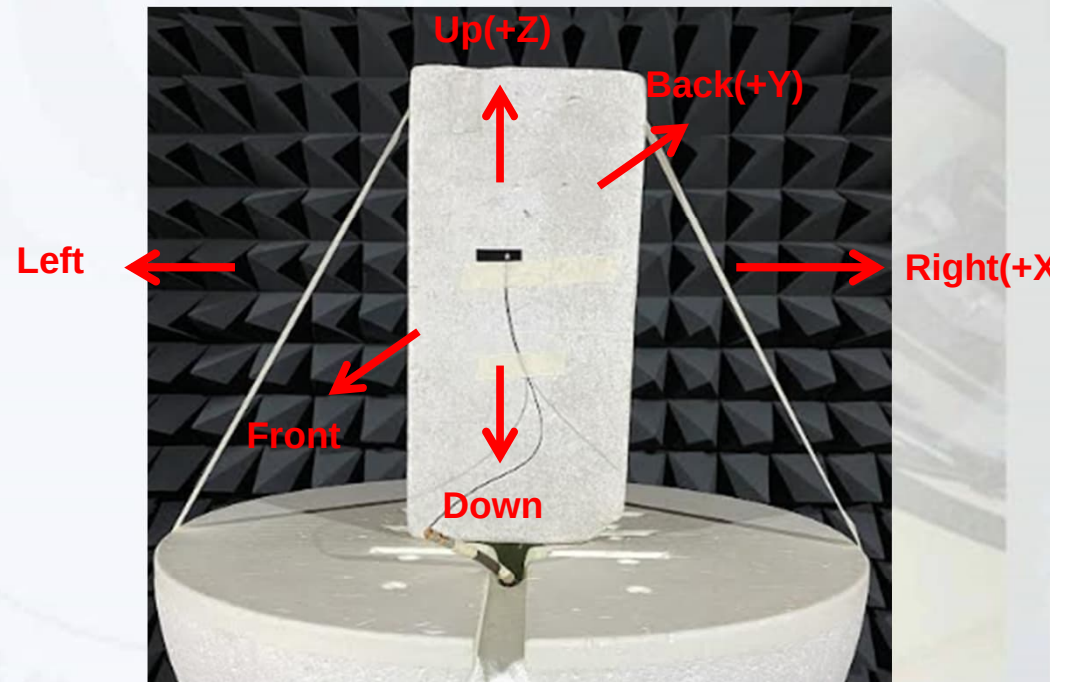
Test Setup for Radiation Pattern Measurement

Chamber Information

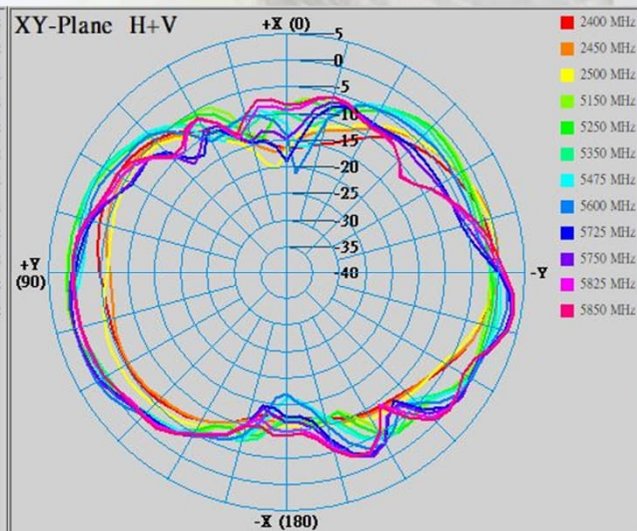
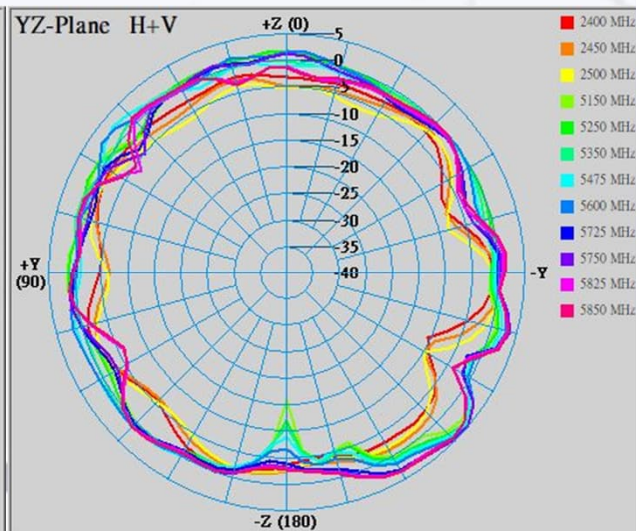
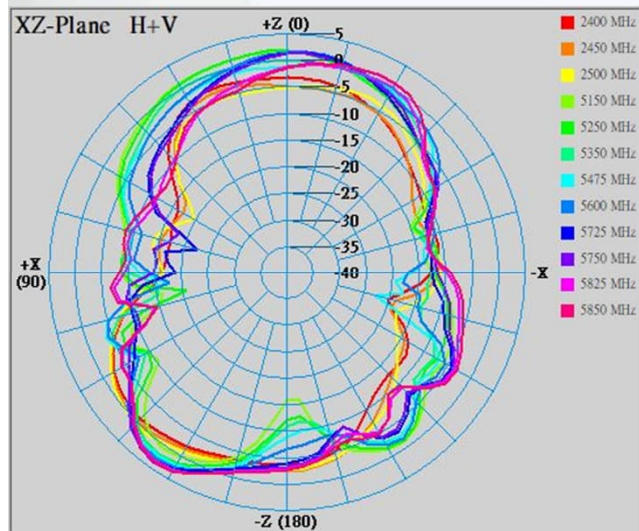
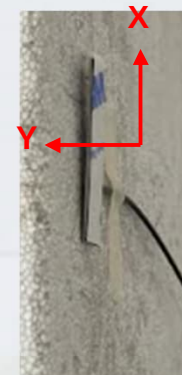
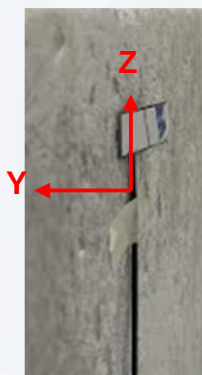
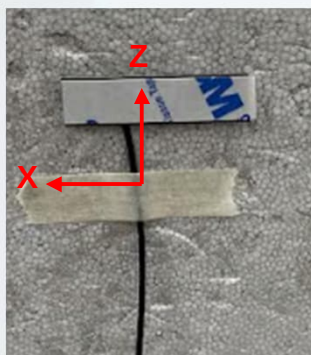


- **SATIMO SG-24L Multi-Probe Antenna Measurement System**

- Angle between probes: 15°
- Frequency range: 400 MHz – 8.5 GHz
- Chamber Room Size: 5m L x 5m W x 5m H

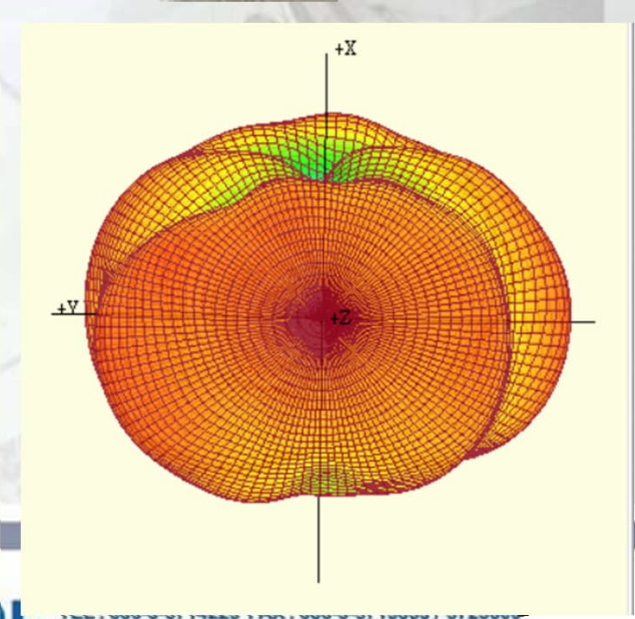
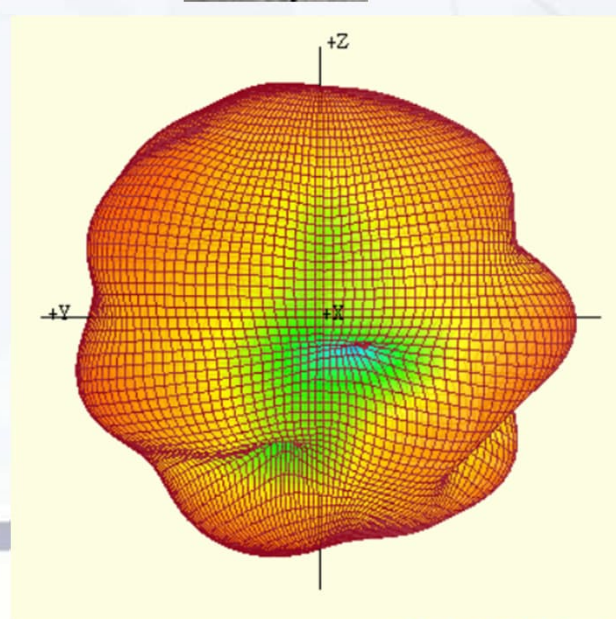
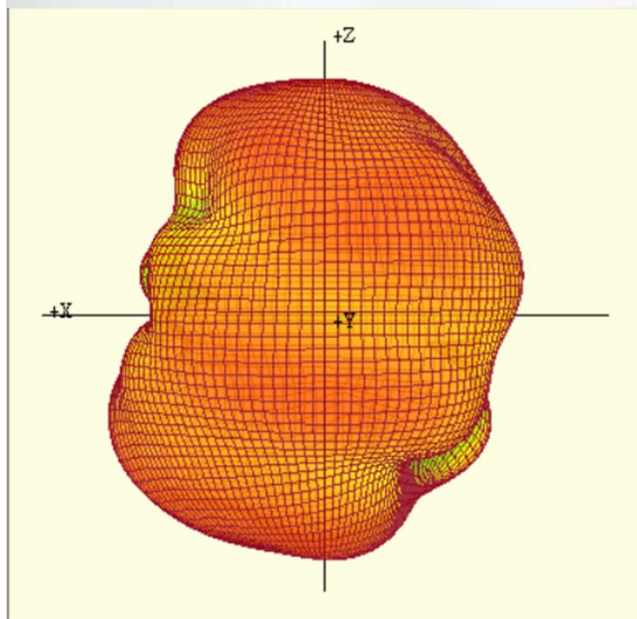
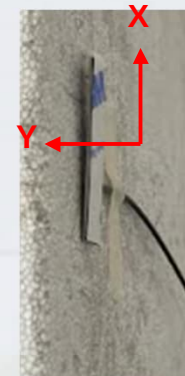
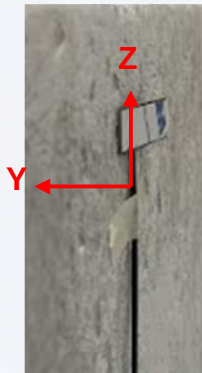
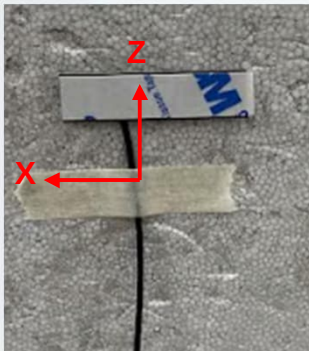


2D Radiation Pattern Results



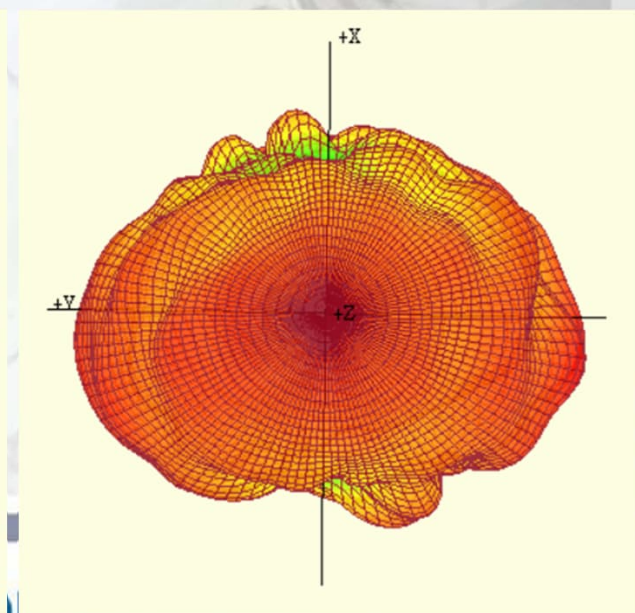
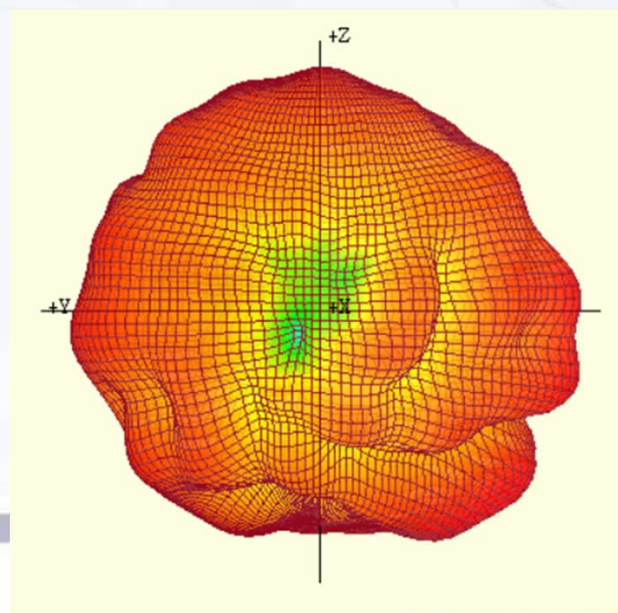
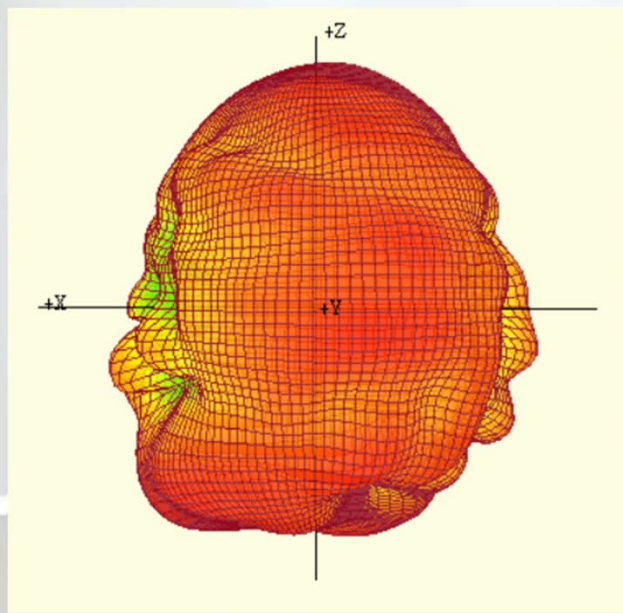
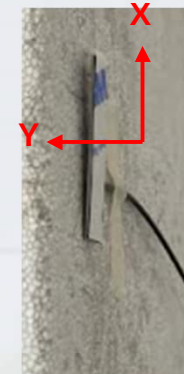
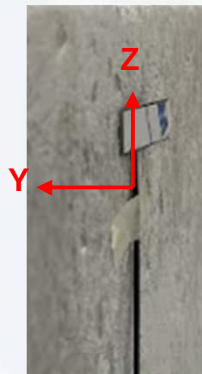
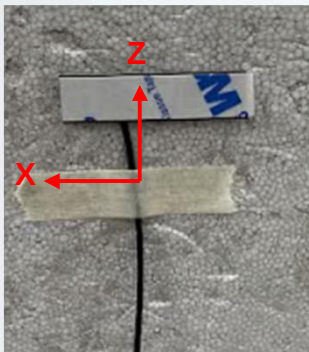
3D Radiation Pattern Results

2450MHz



3D Radiation Pattern Results

5725MHz



Results Summary

Return Loss (Criterion: 10dB)

Frequency (MHz)	Antenna
2400	3
2450	4
2500	4
5150	15
5500	18
5850	17

Results Summary

Peak gain & Efficiency

Frequency (MHz)	Efficiency (%)	3D Peak Gain (dBi)
2400	34	-0.76
2450	35	0.77
2500	35	1.06
5150	68	3.49
5250	69	4.46
5350	67	4.69
5475	65	4.17
5600	70	5.08
5725	62	5.44
5750	66	5.56
5825	62	4.86
5850	66	4.96