

LYNwave Technology

Antenna & Thermal solution provider

Antenna Field Test Report

Company:Edimax

Model Name:Ant.1: ALX24M-122AA3
Ant.2: ALX24M-122AA4

Application:USB Dongle

Mounting Type:

Date	Owner	Revision	Remark
2024/11/28	Ken	v0.1	1. New antenna sample(hand made sample) + T1 mockup case test
2024/12/02	Ken	v0.2	1. New antenna sample(factory sample) + T1 mockup case test

Equipment – antenna S-Parameters measurement

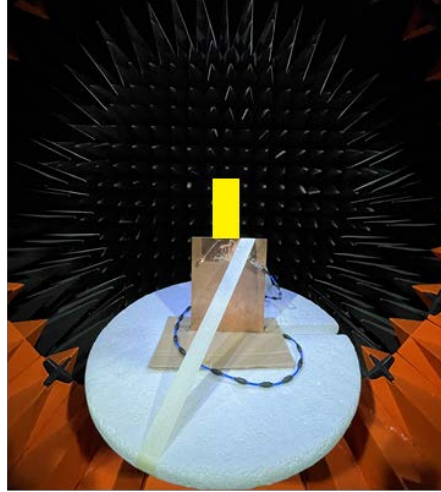
Test equipment: KEYSIGHT E5071C

Correction date:2024/08/27

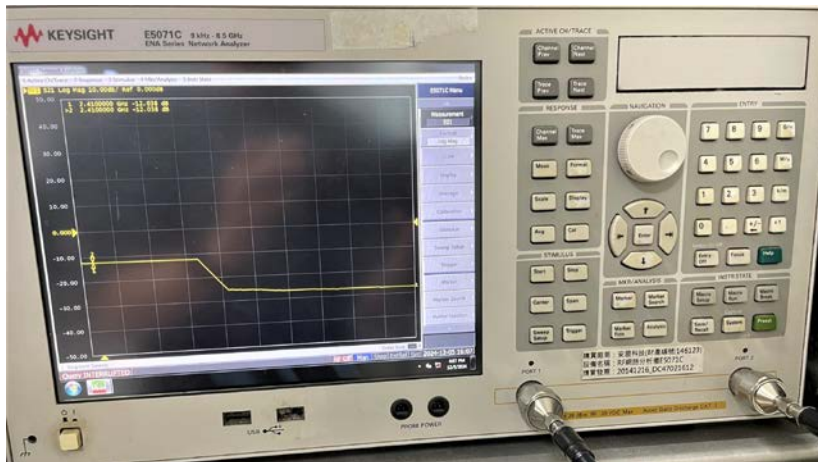


Equipment – antenna passive measurement

Measurement setup info.



Test equipment: KEYSIGHT E5071C
Correction date: 2024/08/27



Test Chamber:
MVG Satomo Starlab
Correction date:
2024/08/27
Test Procedure :
Wavestudio 22.5.6

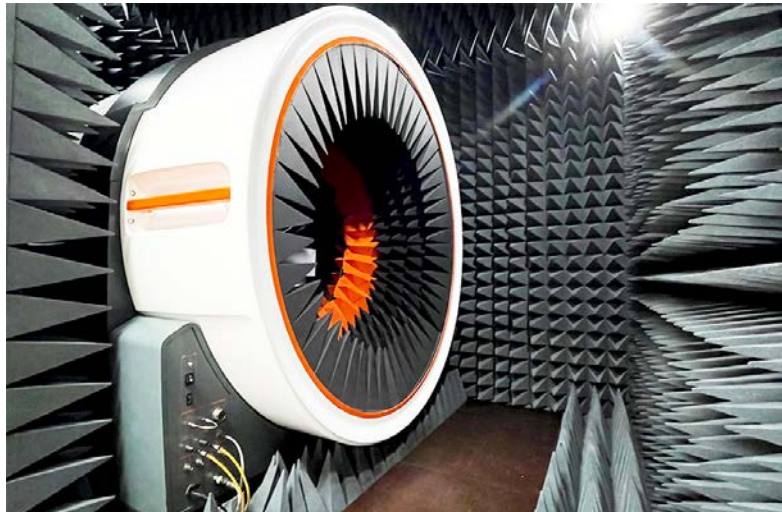


Table of Contents

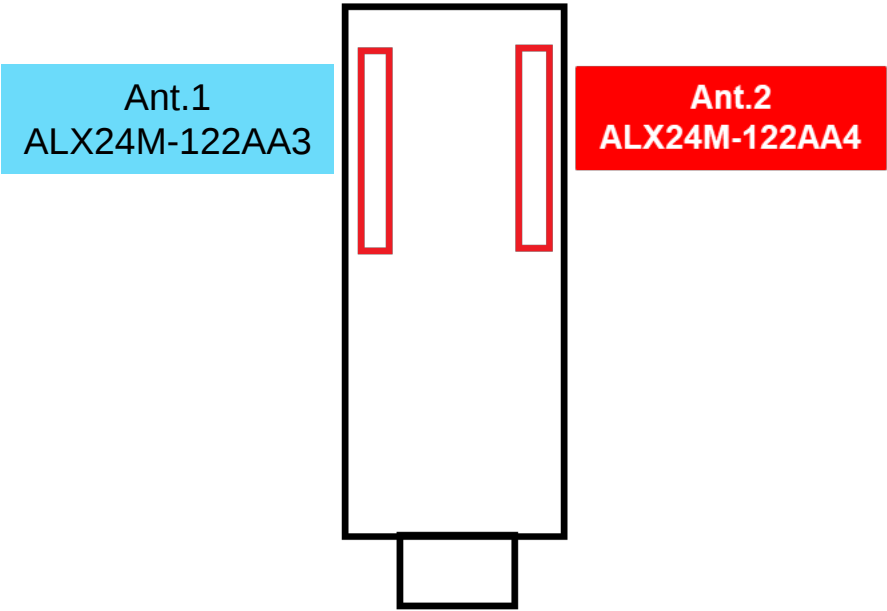
- A. Antenna RF Characteristics
 - 1. Customer Specification
 - 2. S-Parameters
 - 3. Coordinate Definition
 - 4. Gain Table
 - 5. Isolation Table
 - 6. Radiation Patterns
 - 7. Summary

Customer Specification

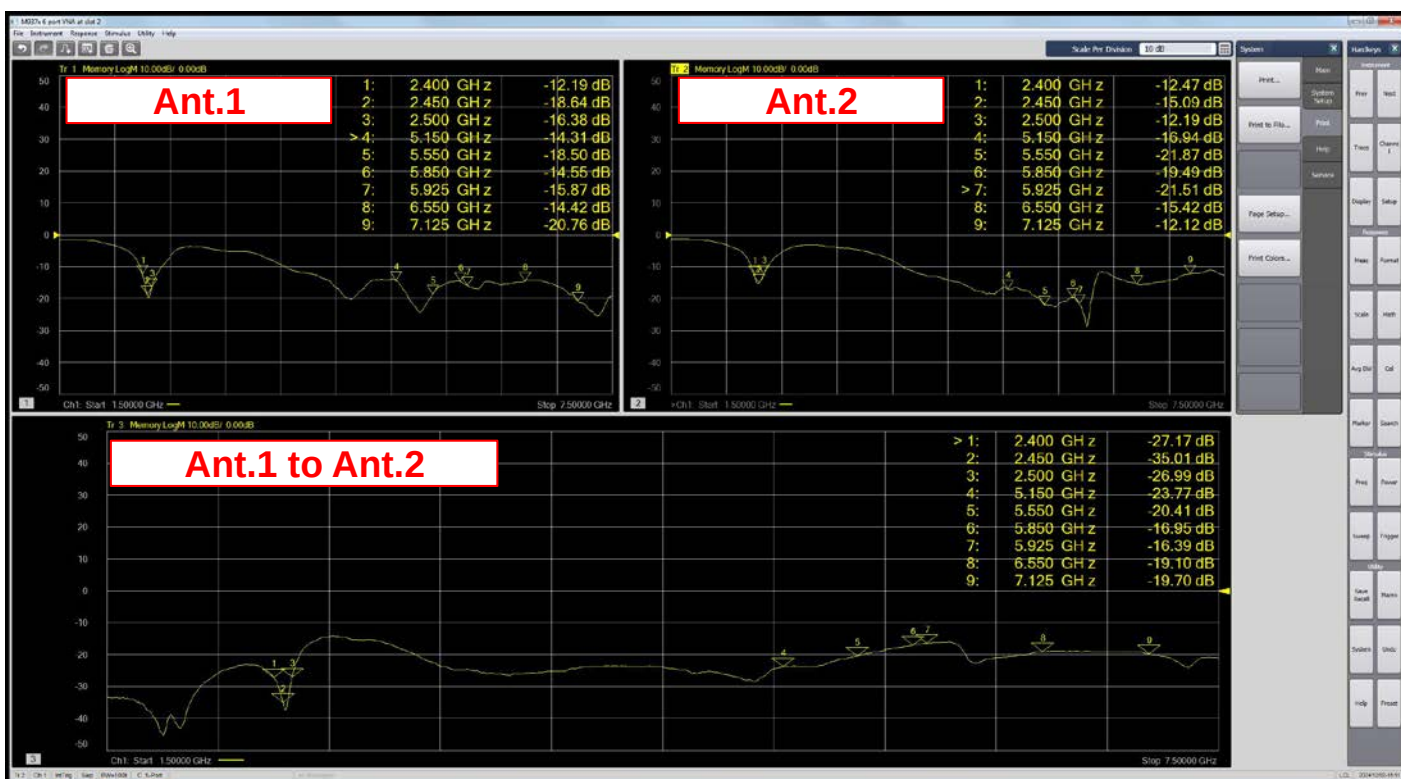
Ant. No.	Type	Function	Operating Freq.	Radiation Pattern	Connector Type
Ant.1	Metal	Wi-Fi	2400-2500MHz 5150-5850MHz 5925-7125MHz	Omni-directional	IPEX compatible
Ant.2	Metal	Wi-Fi	2400-2500MHz 5150-5850MHz 5925-7125MHz	Omni-directional	IPEX compatible

Antenna Placement

No.	Function	Material	Frequency(MHz)
Ant.1	Wi-Fi	Metal	2400 – 2500 5150 – 5850 5925 – 7125
Ant.2	Wi-Fi	Metal	2400 – 2500 5150 – 5850 5925 – 7125



S-Parameters – Ant.1&Ant.2 (Wi-Fi Tri-band)



Coordinate Definition

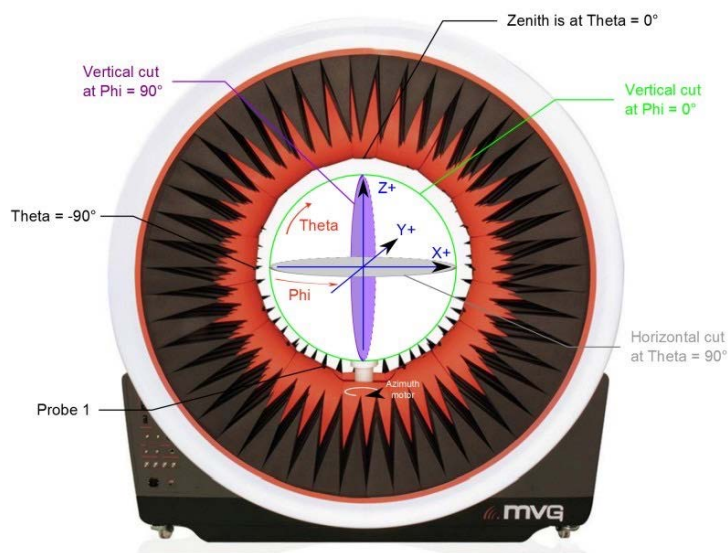
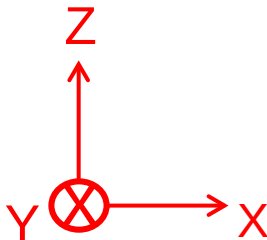
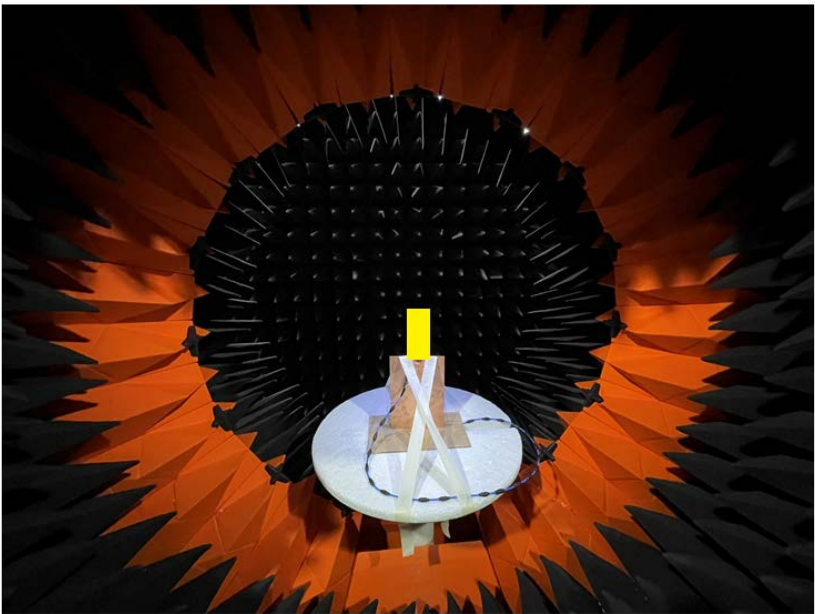


Figure 3.12: StarLab spherical coordinate system



Gain Table

2.4GHz	Frequency(MHz)	2400	2450	2500
Ant.1	Peak Gain(dBi)	3.2	3.8	3.4
	Efficiency(%)	66	71	69
Ant.2	Peak Gain(dBi)	3.5	3.8	3.3
	Efficiency(%)	66	73	71

5GHz	Frequency(MHz)	5150	5550	5850
Ant.1	Peak Gain(dBi)	2.8	3.2	2.9
	Efficiency(%)	75	76	73
Ant.2	Peak Gain(dBi)	3.1	2.9	3.3
	Efficiency(%)	75	77	74

6GHz	Frequency(MHz)	5925	6525	7125
Ant.1	Peak Gain(dBi)	3.1	4.7	4.6
	Efficiency(%)	76	78	74
Ant.2	Peak Gain(dBi)	4.3	3.5	3.4
	Efficiency(%)	73	76	76

Isolation Table

Item	Worst mutual isolation (dB) 2.4GHz Band		Worst mutual isolation (dB) 5GHz Band		Worst mutual isolation (dB) 6GHz Band	
	Ant.1	Ant.2	Ant.1	Ant.2	Ant.1	Ant.2
Antenna						
Ant.1		-26.9		-16.9		-16.3
Ant.2						

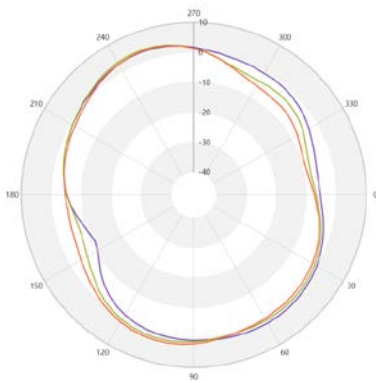
2D Radiation Pattern

Ant.1 (Wi-Fi Tri-band)

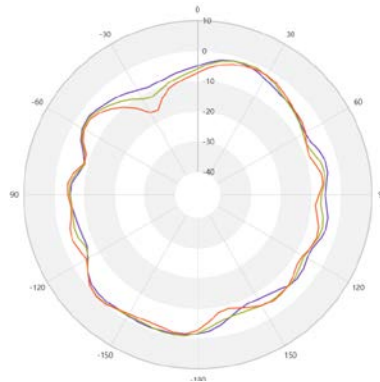
Frequency(MHz) : 2400-2500

Radiation Pattern :

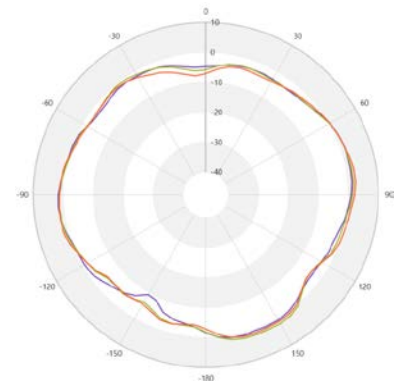
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 2400.00 MHz
— 2450.00 MHz
— 2500.00 MHz

Setup :

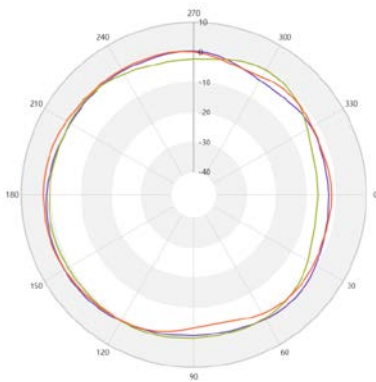
2D Radiation Pattern

Ant.1 (Wi-Fi Tri-band)

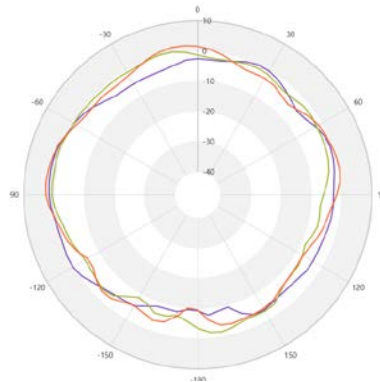
Frequency(MHz) : 5150-5850

Radiation Pattern :

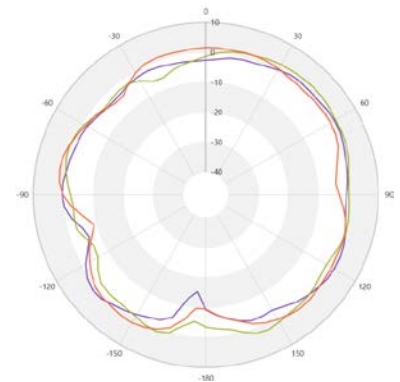
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 5150.00 MHz
— 5550.00 MHz
— 5850.00 MHz

Setup :

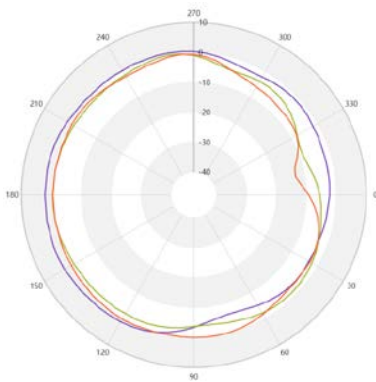
2D Radiation Pattern

Ant.1 (Wi-Fi Tri-band)

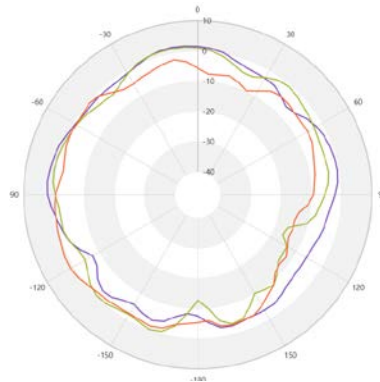
Frequency(MHz) : 5925-7125

Radiation Pattern :

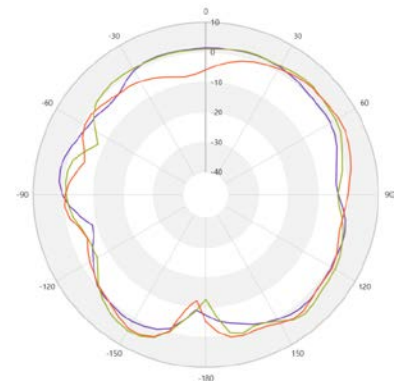
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 5925.00 MHz
— 6525.00 MHz
— 7125.00 MHz

Setup :

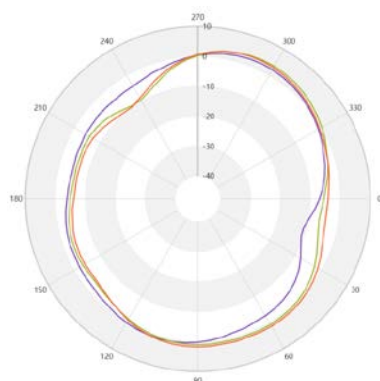
2D Radiation Pattern

Ant.2 (Wi-Fi Tri-band)

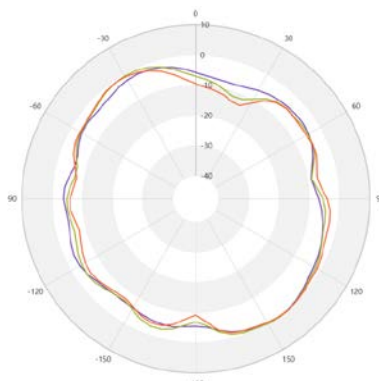
Frequency(MHz) : 2400-2500

Radiation Pattern :

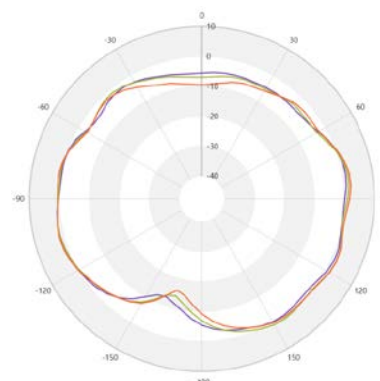
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 2400.00 MHz
— 2450.00 MHz
— 2500.00 MHz

Setup :

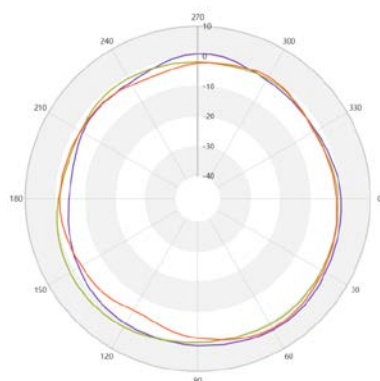
2D Radiation Pattern

Ant.2 (Wi-Fi Tri-band)

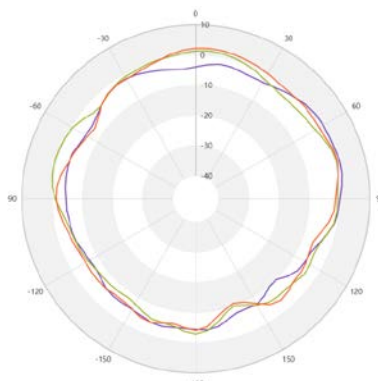
Frequency(MHz) : 5150-5850

Radiation Pattern :

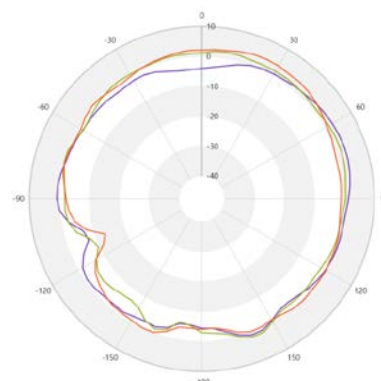
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 5150.00 MHz
— 5550.00 MHz
— 5850.00 MHz

Setup :

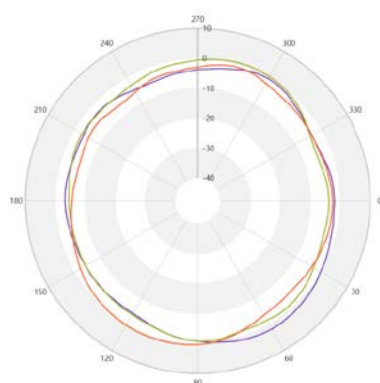
2D Radiation Pattern

Ant.2 (Wi-Fi Tri-band)

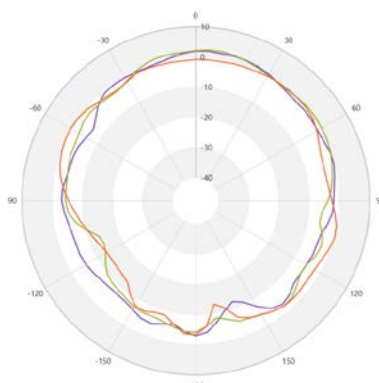
Frequency(MHz) : 5925-7125

Radiation Pattern :

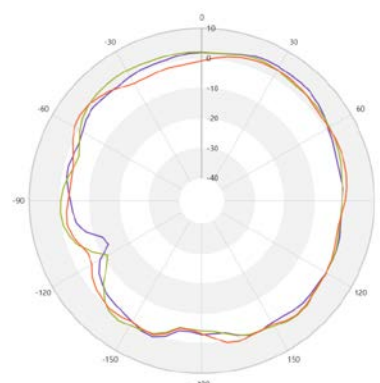
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0



Elevation Plane
phi = 90



— 5925.00 MHz
— 6525.00 MHz
— 7125.00 MHz

Setup :

www.lynwave.com



<https://www.facebook.com/LYNwaveTechnology/>



<https://www.linkedin.com/company/lynwave-technology-ltd./>



<https://lynwave.en.alibaba.com/>