

LYNwave Technology

Antenna & Thermal solution provider

Antenna Field Test Report

Company: Miliwave
Project Name: 5G Patch internal antenna
Model Name: OLX23P-097100-X
Feature: WiFi 5G band *2
Application: High Gain Patch

Date	Owner	Revision
2023/09/04	Zino	1. S2-2,Field test
2023/09/26	Zino	1. S3-1,Filed test

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Antenna Placement

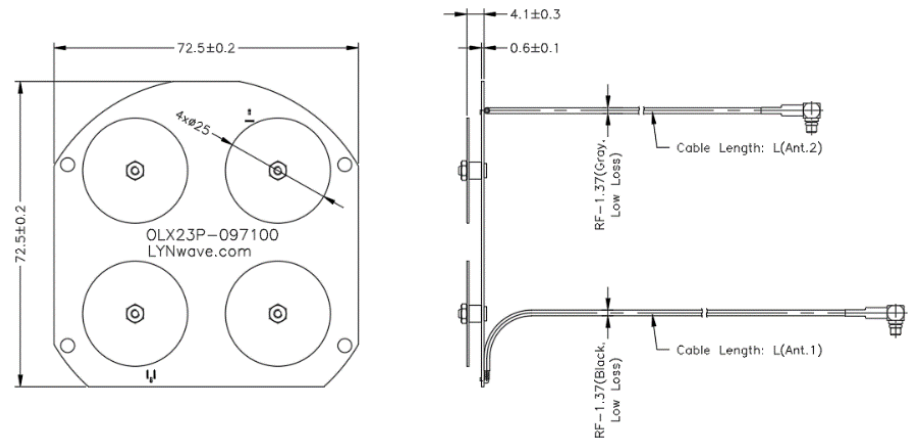
Gain Table

■ P/N: OLX23P-097100-A

Category	Specification						
Antenna	Cable Length (L)	Frequency (MHz)	5150	5350	5550	5750	5850
Ant. 1	460mm	Peak Gain (dBi)	9.4	9.6	10.0	9.7	9.3
Ant. 2	425mm	Peak Gain (dBi)	9.5	9.7	9.9	9.5	9.2

■ P/N: OLX23P-097100-B

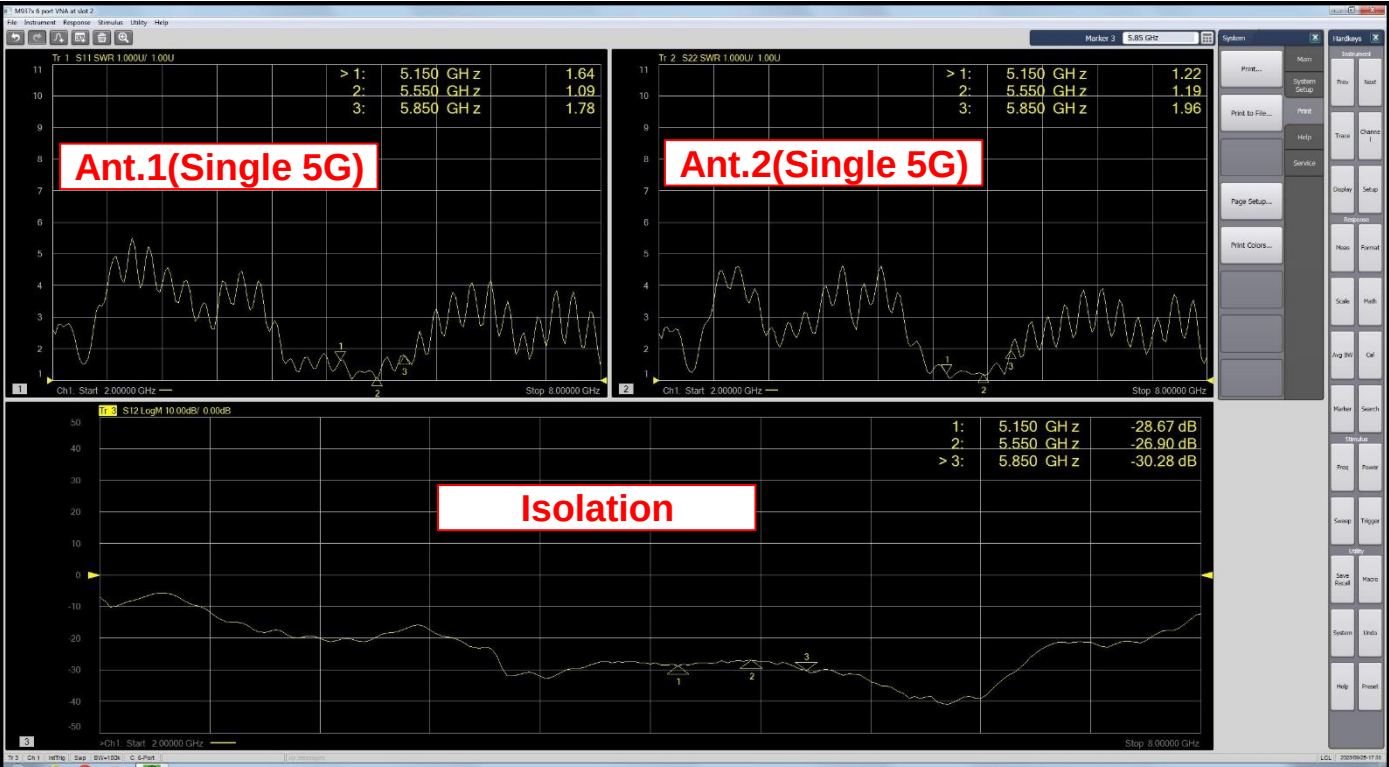
Category	Specification						
Antenna	Cable Length (L)	Frequency (MHz)	5150	5350	5550	5750	5850
Ant. 1	250mm	Peak Gain (dBi)	10.0	10.2	10.5	10.6	10.1
Ant. 2	250mm	Peak Gain (dBi)	10.1	10.7	10.8	10.5	10.2



The antenna characteristics

- **VSWR** < 2
- **Isolation**
 - 5G Band > 20 dB
- **HPBW**
 - 5G Azimuth: 39~47°
 - 5G Elevation : 37~48°
- **Front to back Ratio**
 - 5G Peak: 16.1dB , average: 14.8dB

S-parameters



Equipment :
Satimo

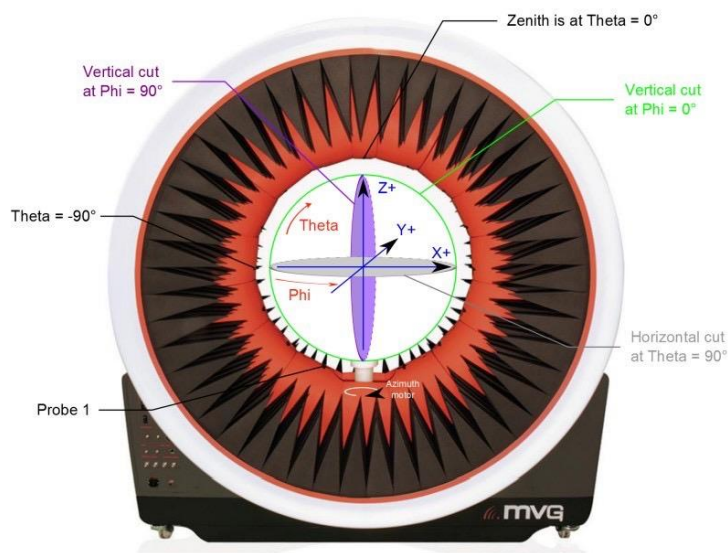
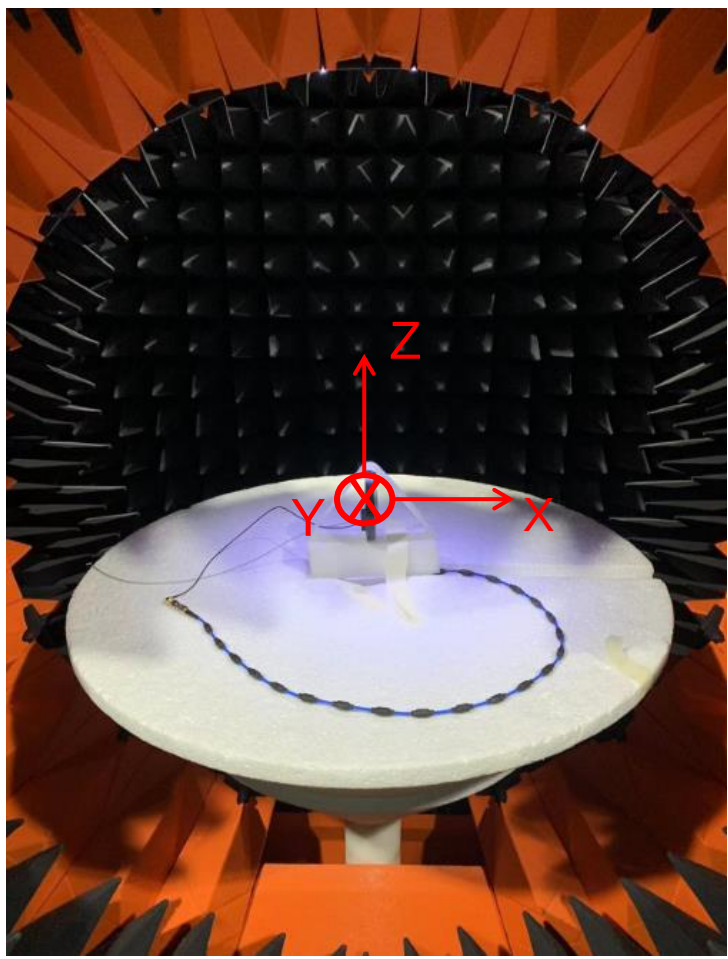


Figure 3.12: StarLab spherical coordinate system

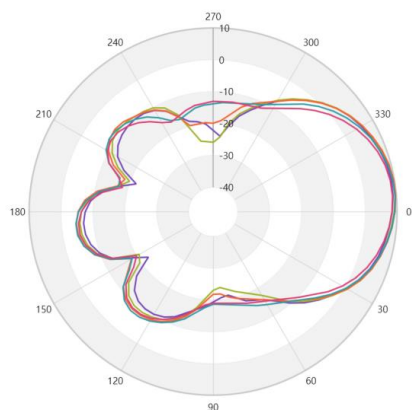


Ant.1_5GHz 2D Radiation Pattern

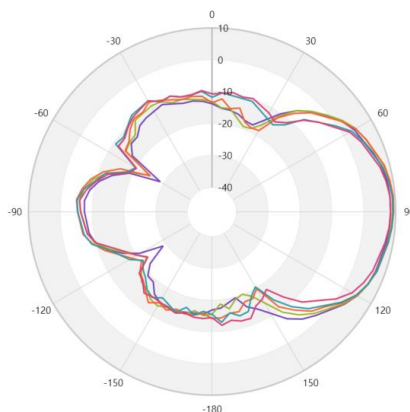
Frequency(MHz) : 5150~5850

Radiation Pattern :

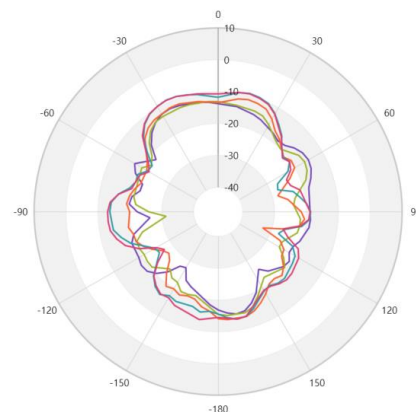
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0

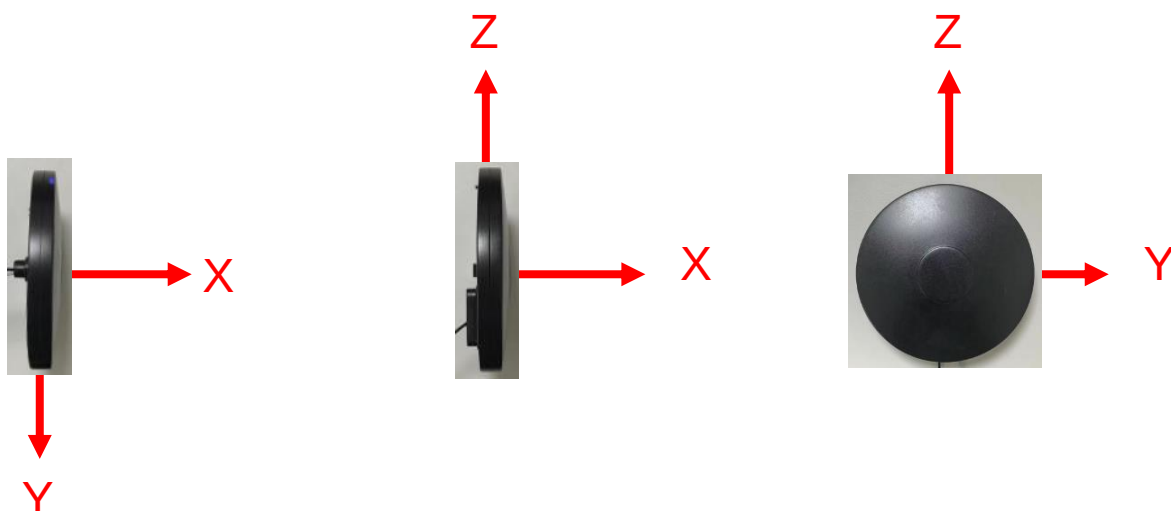


Elevation Plane
phi = 90



— 5150.00 MHz
— 5350.00 MHz
— 5550.00 MHz
— 5750.00 MHz
— 5850.00 MHz

Setup :

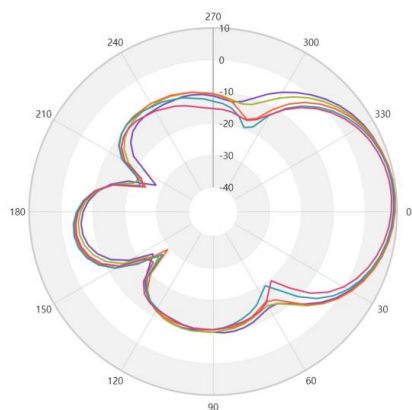


Ant.2_5GHz 2D Radiation Pattern

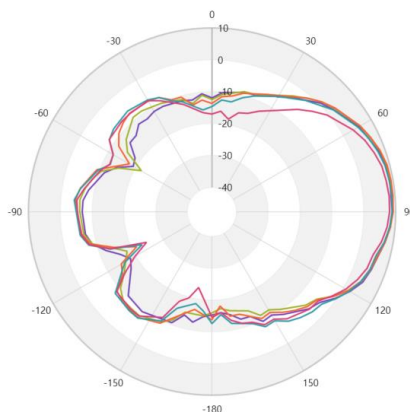
Frequency(MHz) : 5150~5850

Radiation Pattern :

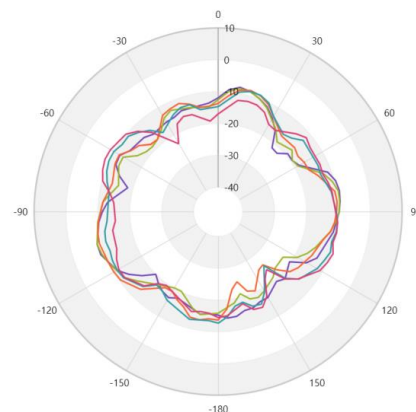
Azimuth Plane
Theta = 90



Elevation Plane
phi = 0

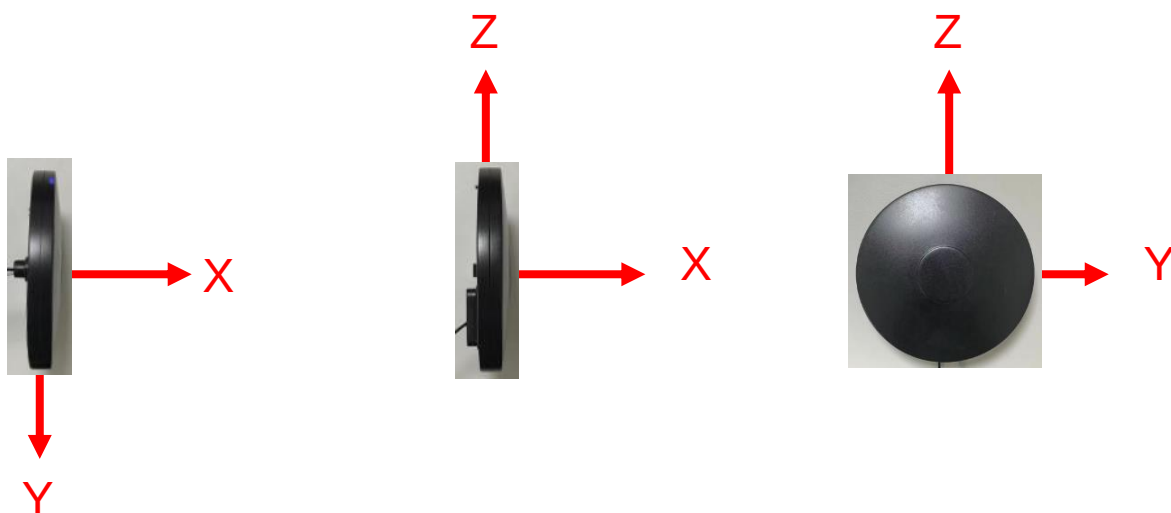


Elevation Plane
phi = 90



— 5150.00 MHz
— 5350.00 MHz
— 5550.00 MHz
— 5750.00 MHz
— 5850.00 MHz

Setup :



Summary

- 0905
 - The new design using low loss PCB meets the goal of peak gain ($> 8.8\text{dBi}$) with 450mm cable length.

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