Antenna Specification

2025.03.10

WNC Wistron NeWeb Corp.

☐ Normal ☐ Internal Use ■ Confidential ☐ Restricted Confidential

Agenda

- ◆General Information
- ◆Test Setup
  - ➢Diagram
  - ➢Equipment
  - ➢Procedure
- ◆Antenna Performance
  - ➢Antenna Peak Gain
  - ➢Antenna Radiation Pattern

Contents

General Information

- **Antenna Information:**

  - Brand: WNC

    20 Park Ave. II, Hsinchu Science Park, Hsinchu 308, Taiwan

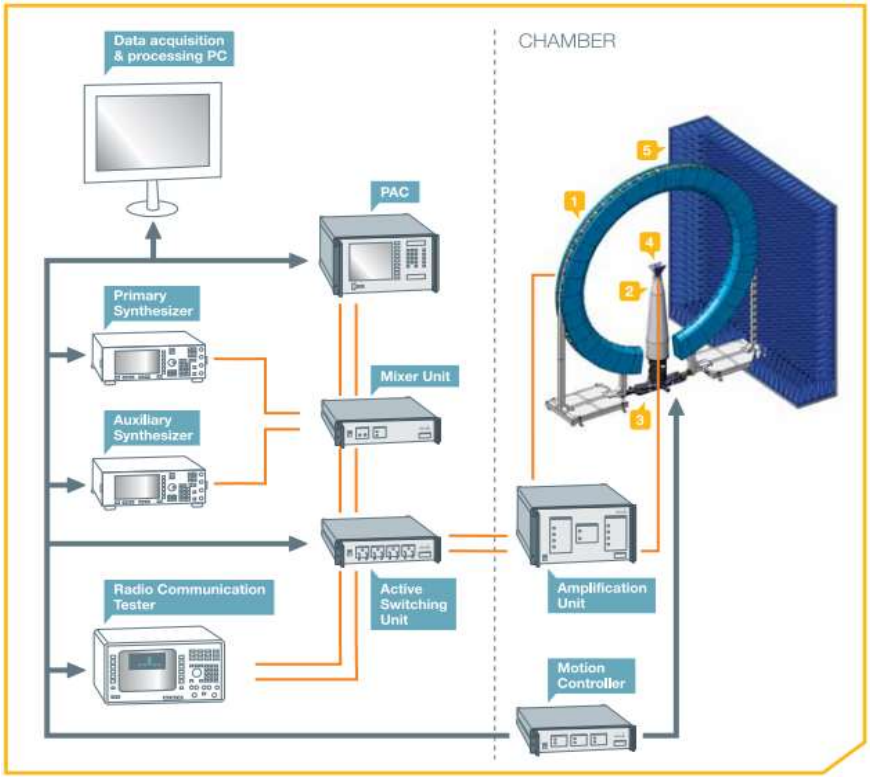
- **Antenna Type:**
  - **Cellular Main : PIFA(WHVY1)**
  - **Cellular Aux : PIFA(WHVY1)**

- **Test Date and Member**

  Date: 2025/ 02/27

  Member: Rita

Test Setup and Diagram



SG 64 uses analog RF signal generators to emit EM waves from the probe array to the antenna under test (AUT) or vice versa.

It uses the NPAC as an RF receiver for antenna measurements. The NPAC also drives the electronic scanning of the probe array.

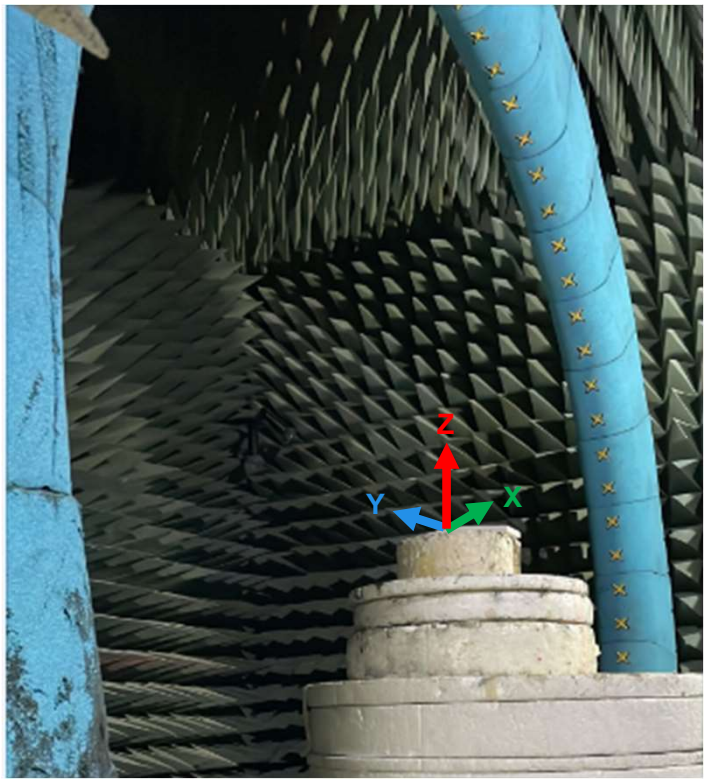
The NPAC includes the fastest and most accurate sources and receivers on the market.

Equipment

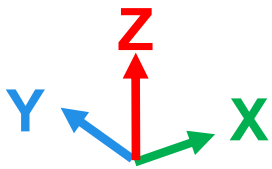
MVG SG64 Measurement System						
Item	Device	Type/Model	Serial#	Manufacturer	Cal. Date	Cal. Due Date
1	SG64 Chamber	Standard	SG64	MVG	2024/6/12	2025/6/12
2	Turn Table	Customization	-	Machinery Dept.	N/A	N/A
3	New Probe Array Controller	N/A	1102341-4535	MVG	N/A	N/A
4	Power Supply Unit	N/A	1103211-13204	MVG	N/A	N/A
5	Active Switching Unit	N/A	1102347-7214	MVG	N/A	N/A
6	TX Amplification Unit	N/A	1102527-5909	MVG	N/A	N/A
7	RX Amplification Unit	N/A	1102536-3823	MVG	N/A	N/A
8	Transfer Switching Unit	N/A	1102183-3351	MVG	N/A	N/A
9	Mixer Unit	N/A	1102545-7208	MVG	N/A	N/A
10	Power And Control Unit	N/A	1102706-7209	MVG	N/A	N/A
11	Cable 13.7m - 400MHz to 18GHz	SS402	00100A1F5A1XXS	Woken	2024/6/12	2025/6/12
12	Temperature & Humidity Meter	HTC-01	-	Metravi	N/A	N/A

Note:
1. There are 63 set ANT probes in WNC's SG64 Chamber.

Test Setup and Procedure



- Place the device at the center of the chamber.
- Connect the antenna cable to RF cable of the chamber
- Run Satimo test SW (**NPAC Spherical Measurement, v1.5.4 (GIT-E6965664))**
- Get 3D data in 2.8125 degree step from phi 0°~360°and theta -90°~ +90°, including efficiency, peak gain, 2D & 3D radiation pattern.
- This is far field test for **WHVY1** antenna verification.
- This is passive measurement, which means the device is off and not in any operating mode.



Antenna Specifications

- Antenna Information :

Antenna Number	Type	Polarization	Brand	Model	Cable length	Connector type
WiFi-1	PIFA	Linear	WNC	48XKAB20.0GAFHYE	101mm	iPex
WiFi-3 / BT	PIFA	Linear	WNC	48XKAB20.0GAFHYE	30mm	iPex
Z-Wave	PIFA	Linear	WNC	48XKAB20.0GAFHYE	N/A	N/A
345MHz	PIFA	Linear	WNC	48XKAB20.0GAFHYE	N/A	N/A

- WiFi Peak Gain:

Fuction	2400-2500 (MHz)	5150-5850 (MHz)
WiFi-1 (dBi)	1.2	5.9
WiFi-3 (dBi)	1.2	5.9

- Z-Wave Antenna Peak Gain:

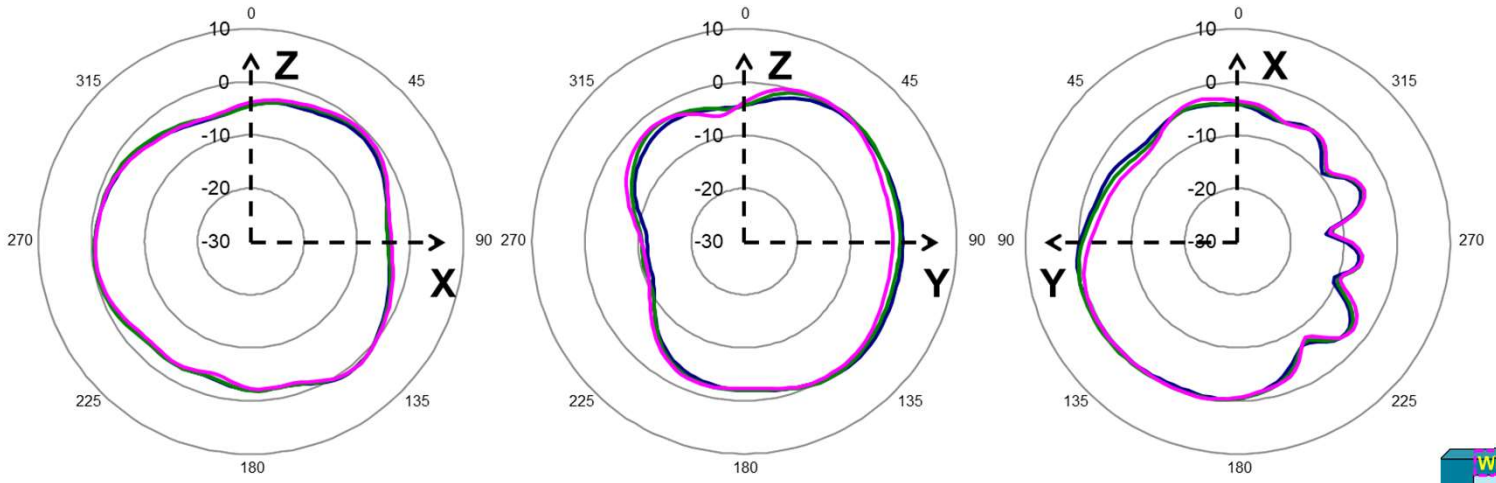
Z-Wave	880-920 (MHz)
Peak Gain (dBi)	1.2

- 345MHz Antenna Peak Gain:

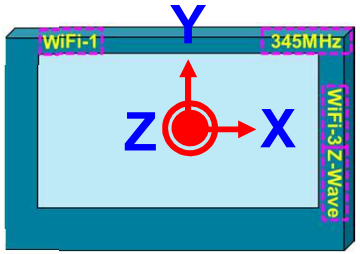
	345MHz
Peak Gain (dBi)	0.8

Antenna Performance – Radiation Pattern(WiFi-1 Antenna)

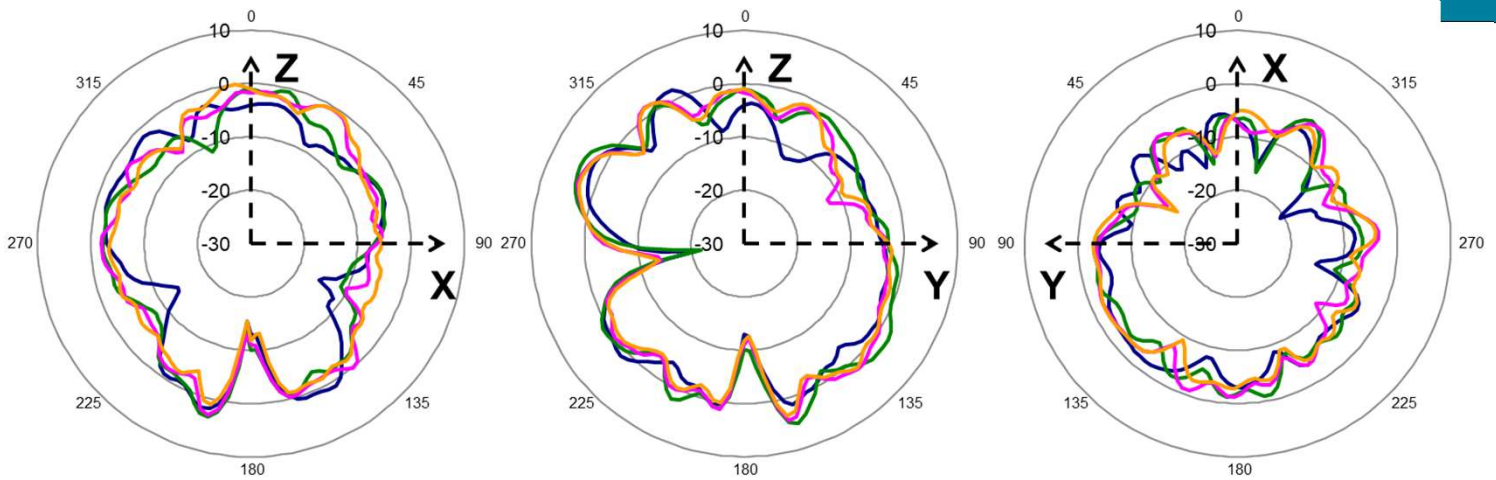
➢ 2.4GHz



2412MHz
2442MHz
2484MHz



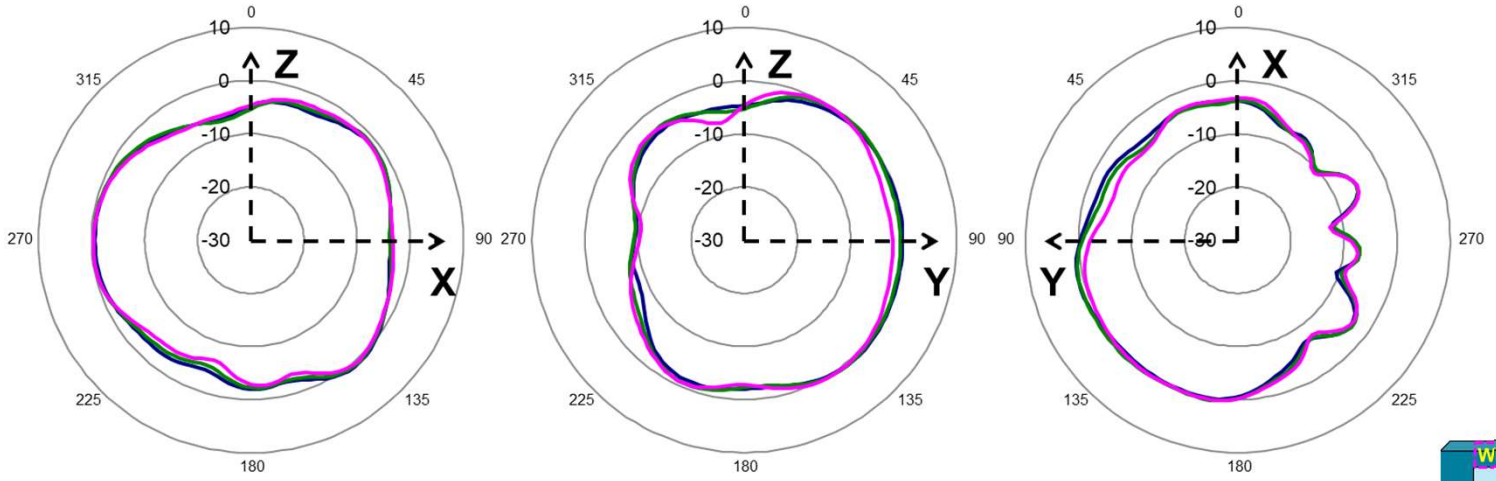
➢ 5GHz

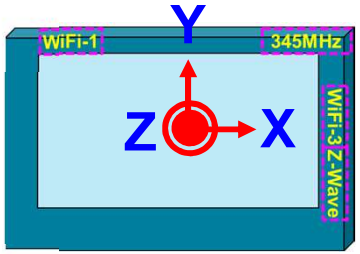


5150MHz
5470MHz
5750MHz
5850MHz

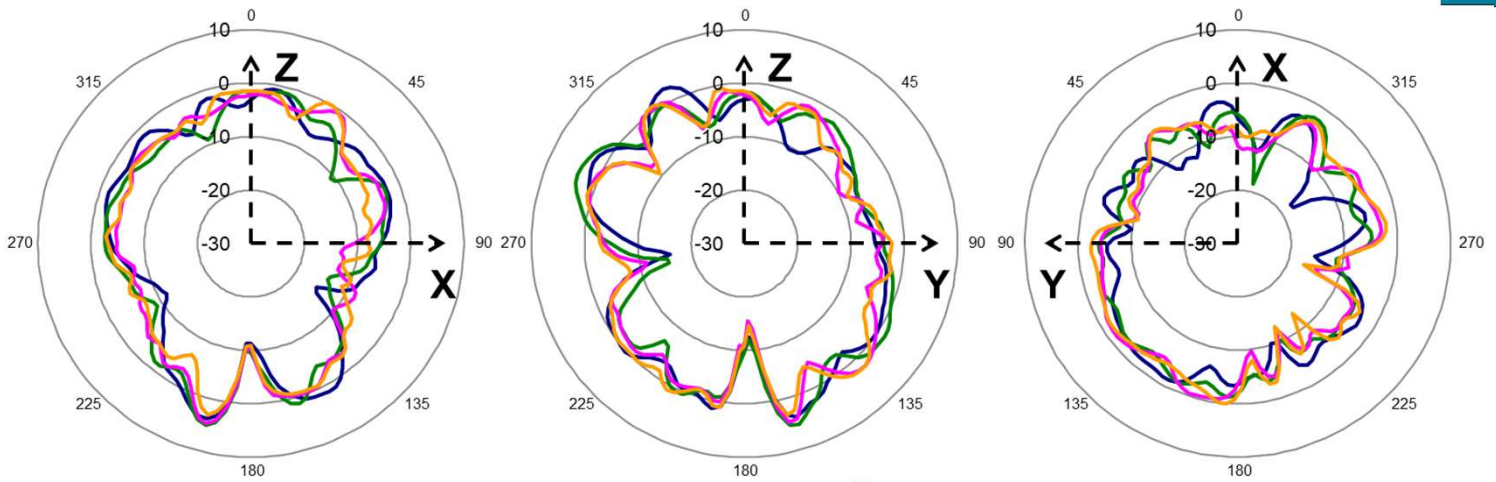
Antenna Performance – Radiation Pattern(WiFi-3 Antenna)

➢ 2.4GHz



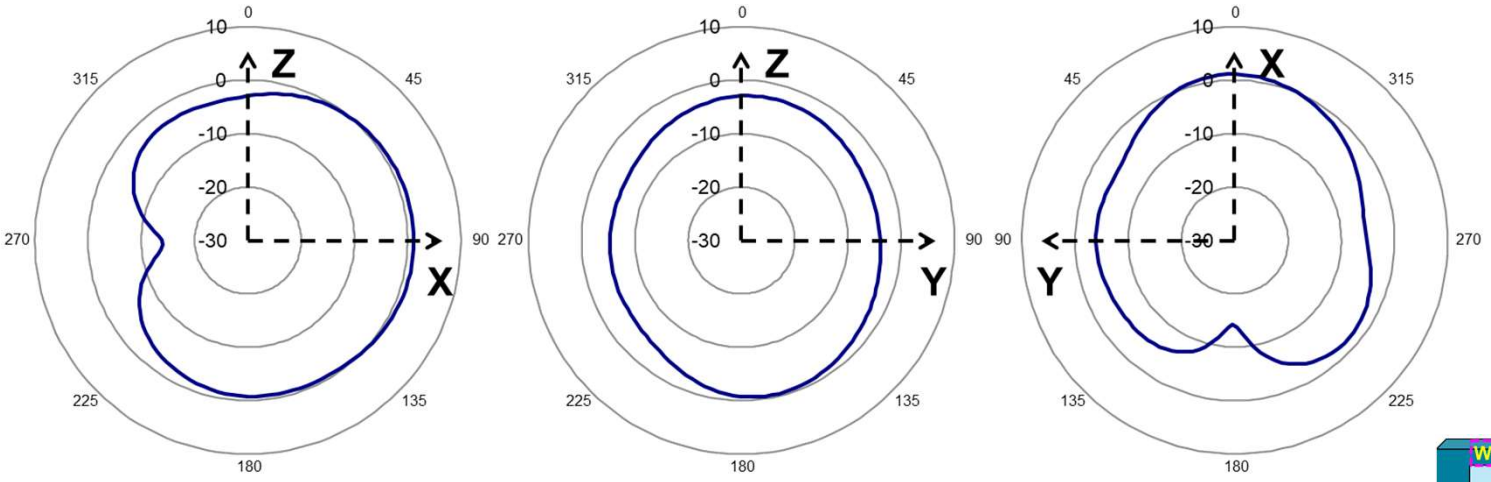


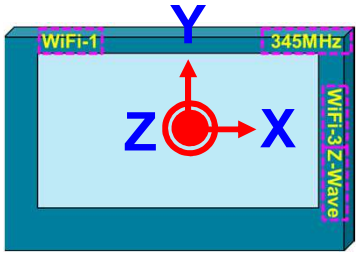
➢ 5GHz



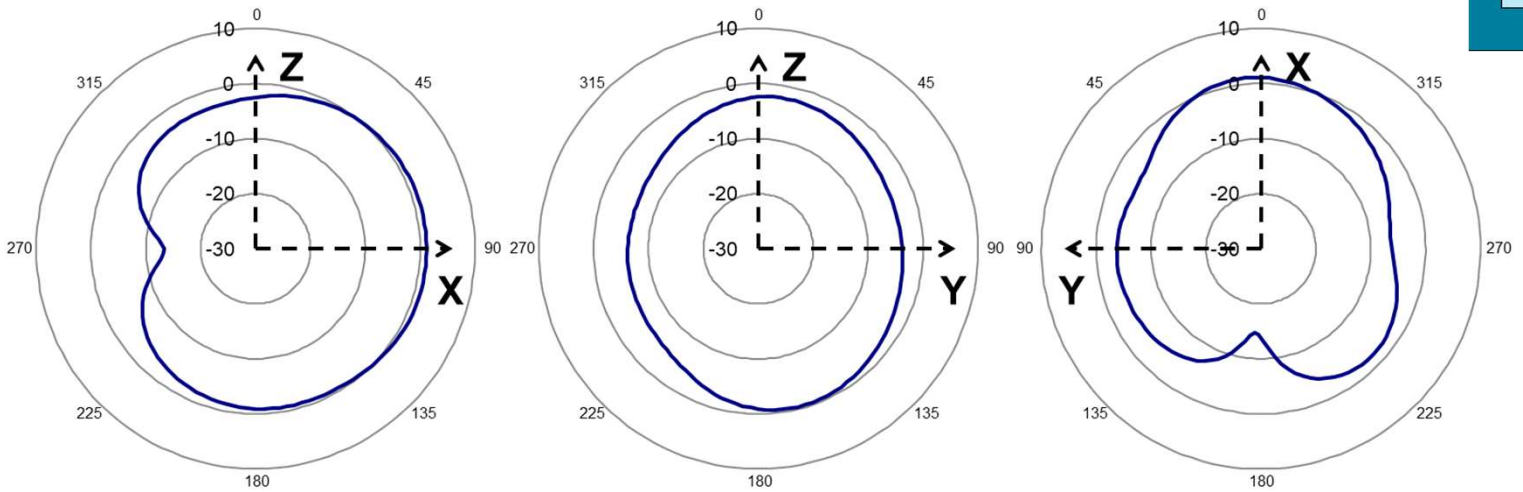
Antenna Performance – Radiation Pattern(Z-Wave)

➢ 900MHz





➢ 920MHz



Antenna Performance – Radiation Pattern(345MHz)

➢ 345MHz