



Samsara_MCO Antenna Testing Report - DVT2

2025.09.23

Wistron Neweb Corporation
S1 manufacturing site. 5 Lihsin Rd. VI, Hsinchu Science Park, Hsinchu 300, Taiwan
HQ: 20 Park Avenue II, Hsinchu Science Park, Hsinchu 300, Taiwan

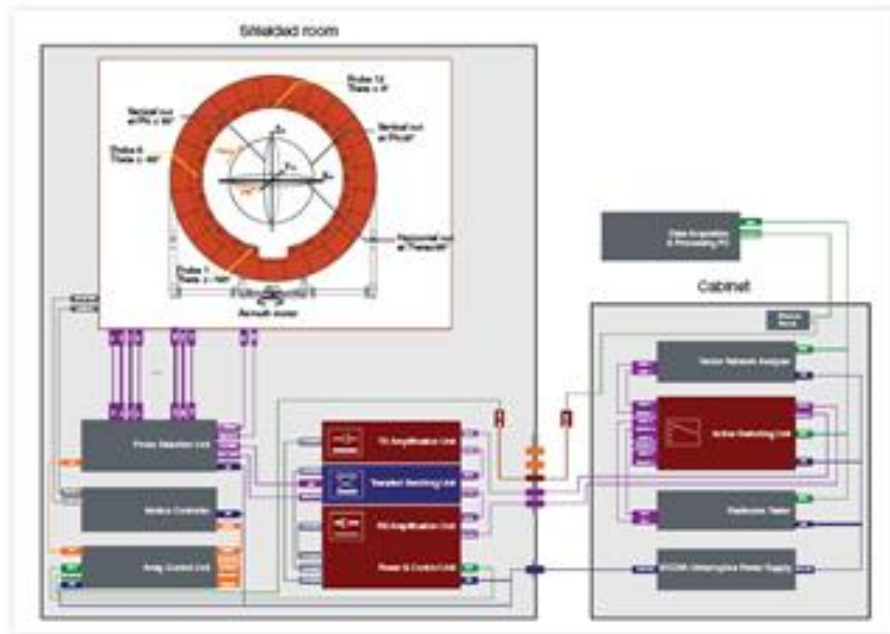
Antenna Performance Summary

ANT	Type	Polarization	VSWR	Isolation	Efficiency	Peak Gain	Radiation Pattern	model
BLE	PCB Trace	Linear	< 2.0	> 15 dB	63~73 %	< 3.82 dBi	OMNI	CFR_0000002308
UWB	PCB Trace	Linear	< 2.0	> 18 dB	54~61 %	< 4.4 dBi	OMNI	CFR_0000002483

✓ Top cover, bottom cover and batteries are all included during the test.

Test Chamber General Information

- Antenna Vendor : WNC
- Test Date : Dec. 2024
- Test Engineer : Joe
- Measurement System : SATIMO SG24
- Software Name : Wave Studio
- Software Version : 22.5.6



Antenna Measurement System Information

- Measurement System: SATIMO SG24 Chamber

Measurement setup:

- pattern & gain measurement

1.satimo chamber (SG24)

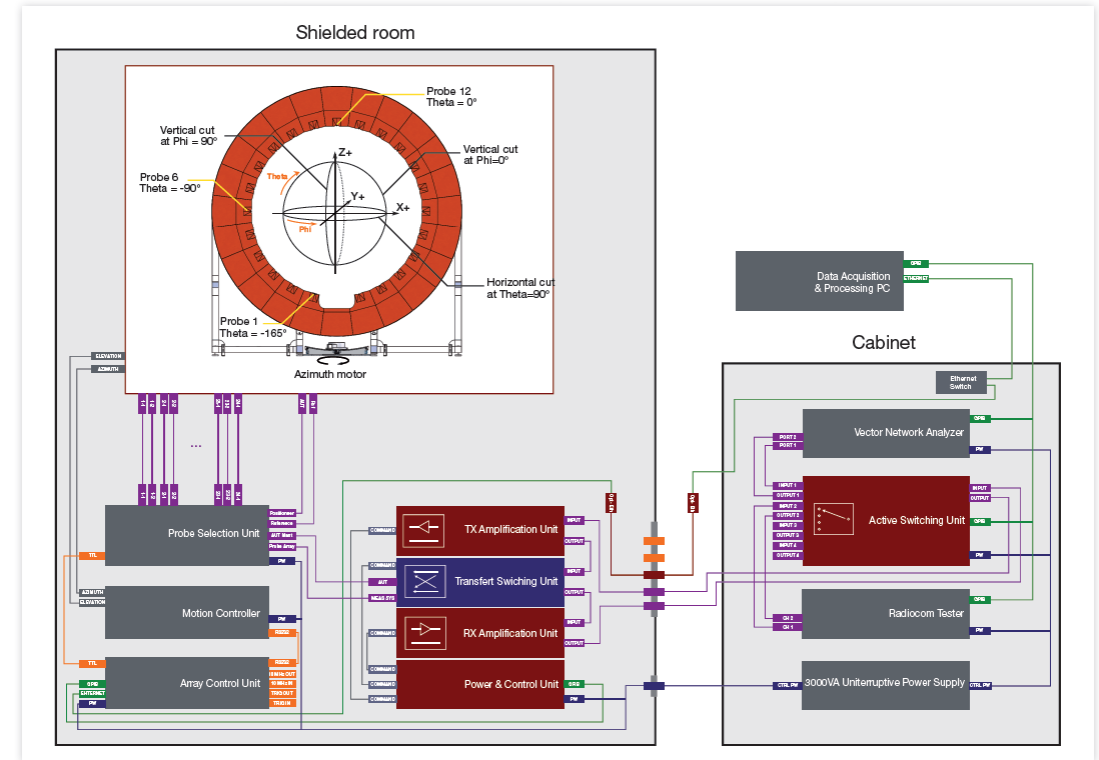
2.satimo program (wave studio)

3.system overview :

- test item

1.antenna passive test 400MHz~9GHz

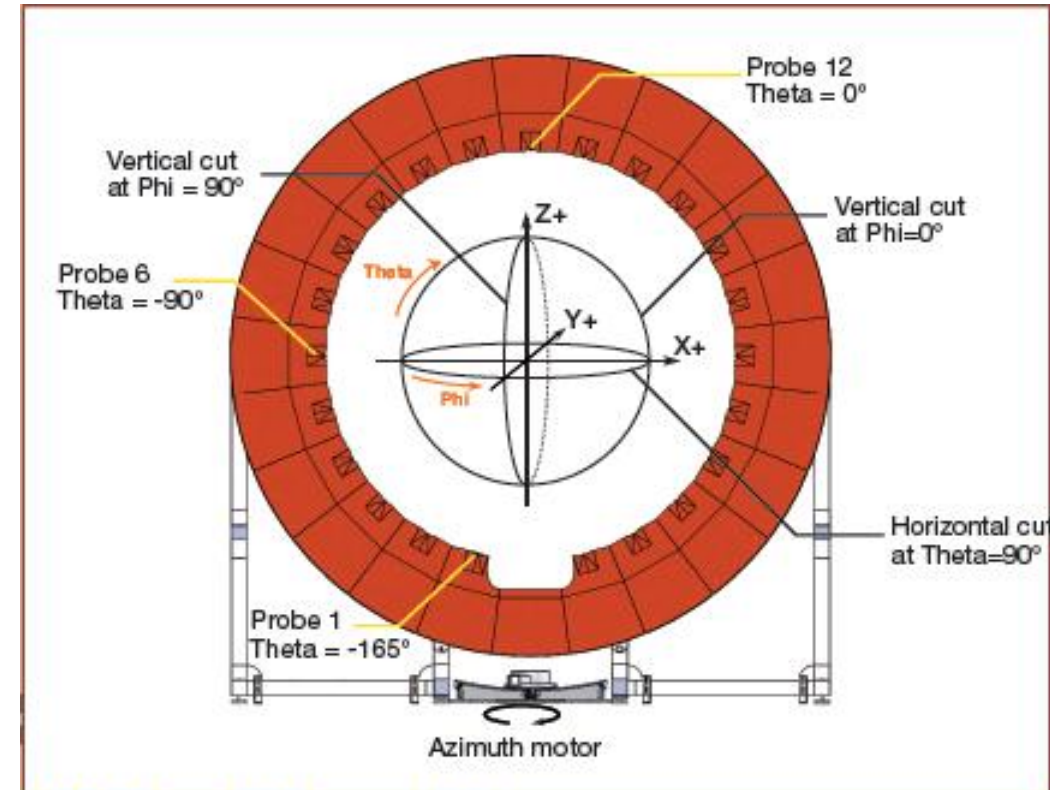
- Calibration Information



Device	Type / Model	Serial #	Manufacture	Cal. Date
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2024-11
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2024-11

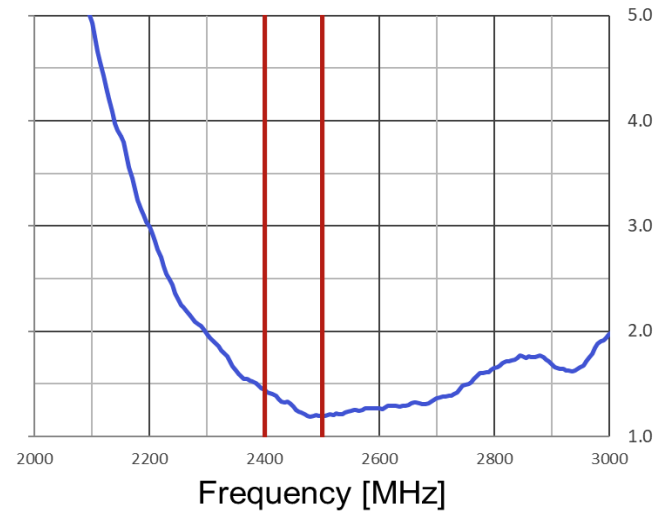
Test Procedure

1. Place the device to be tested on the fixture and align it with the center of the chamber.
2. Connect the antenna cable to the RF connector of the chamber.
3. Use the SW to configure parameters (antenna name, frequency points, measurement angles, antenna dimension), and then run the test SW (wave studio).
4. By phi from 0° to 360° and theta from 0° to 180° with a step size of 2 degrees, get the 3D data, including efficiency, peak gain, 2D and 3D radiation patterns.
5. This is far field test for antenna verification.
6. This is passive measurement, which means the device is off and not in any operating mode.



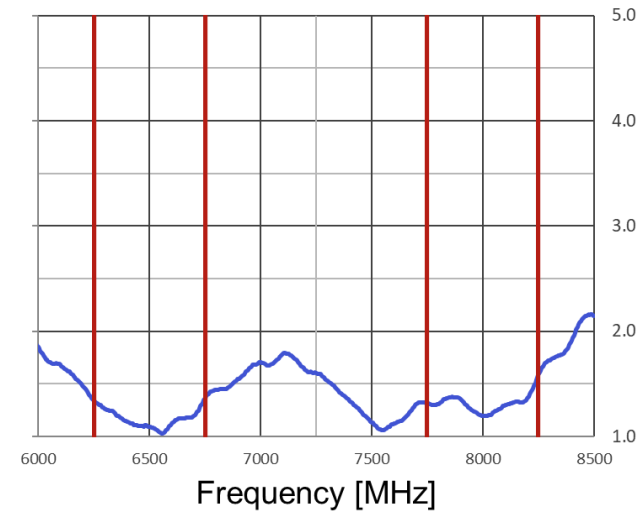
VSWR & Isolation

VSWR_BLE



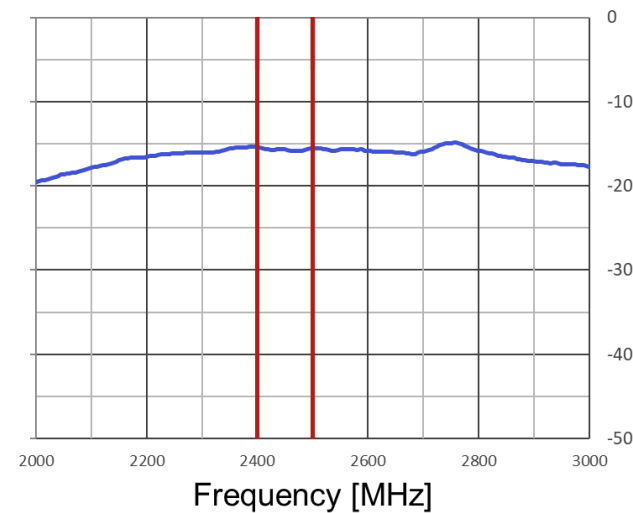
— BLE

VSWR_UWB



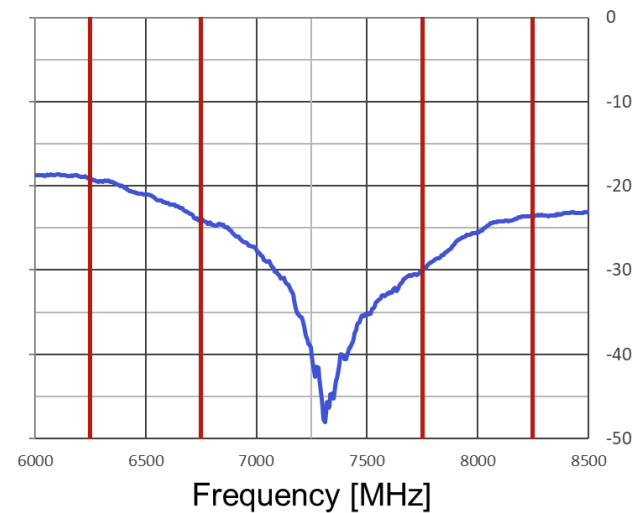
— UWB

Isolation @2.4G



— iso

Isolation @6.5G/8G

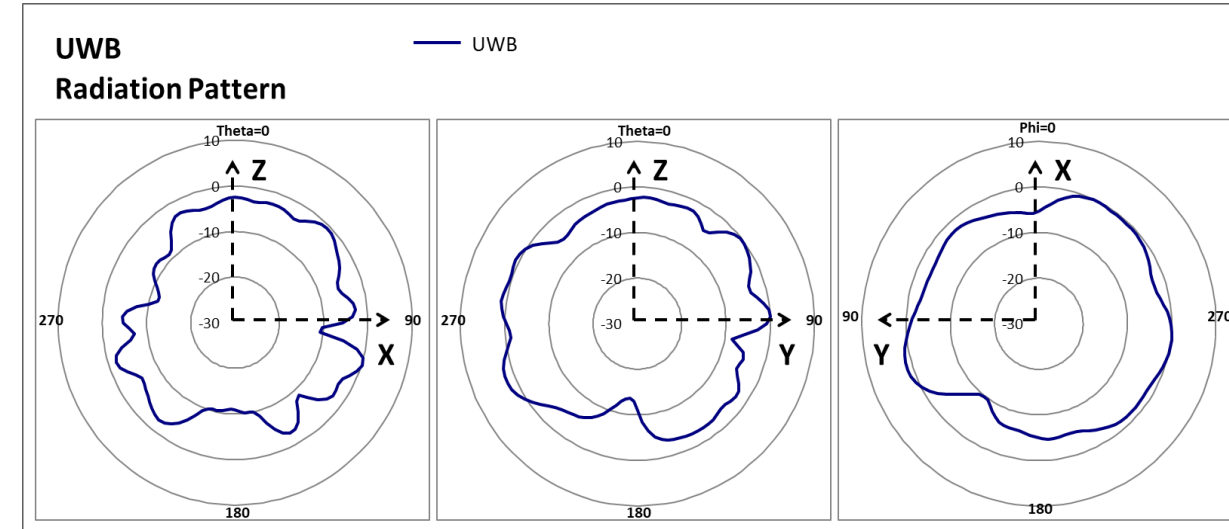
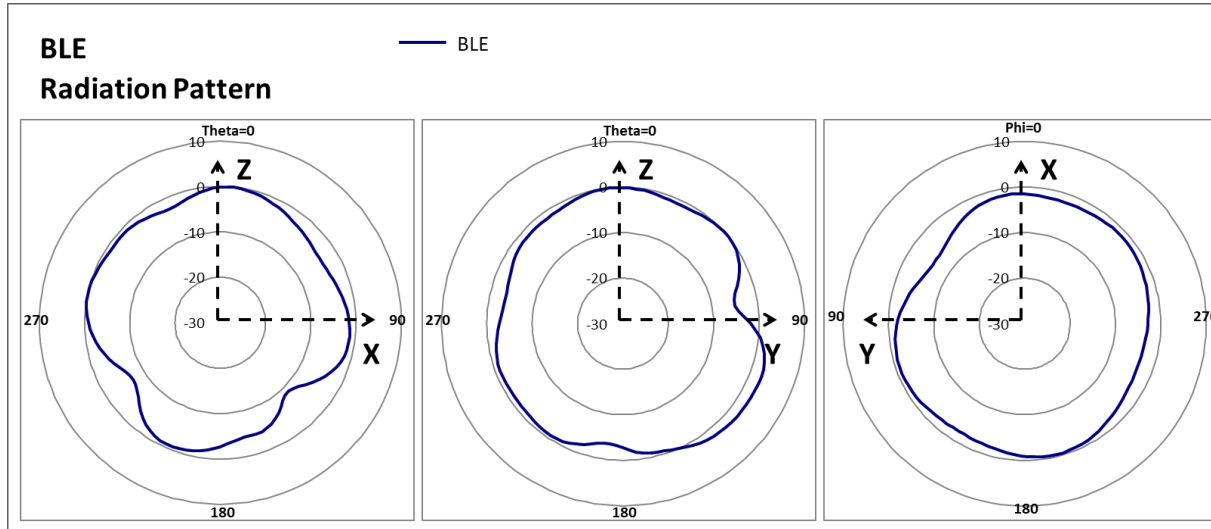
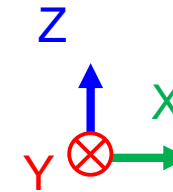


— iso

Efficiency/Peak Gain & Radiation Pattern

	Frequency	2400	2450	2500	Avg.
BLE	Efficiency	63%	65%	73%	67%
	Average Gain	-1.97	-1.87	-1.35	
	Peak Gain	2.90	2.78	3.82	

	Frequency	6000	6250	6500	7750	8000	8250	Avg.
UWB	Efficiency	56%	61%	56%	59%	59%	54%	57%
	Average Gain	-2.48	-2.18	-2.55	-2.31	-2.32	-2.66	
	Peak Gain	4.40	4.4	4.40	4.08	3.88	3.04	



The background of the slide features a photograph of a modern glass skyscraper under a bright sky. In the lower-left foreground, there are out-of-focus green leaves. The WNC logo is prominently displayed in the upper center, and the words 'Thank You!' are centered below it. A smaller WNC logo is visible on a building in the background.

WNC

WNC Corporation

Thank You!