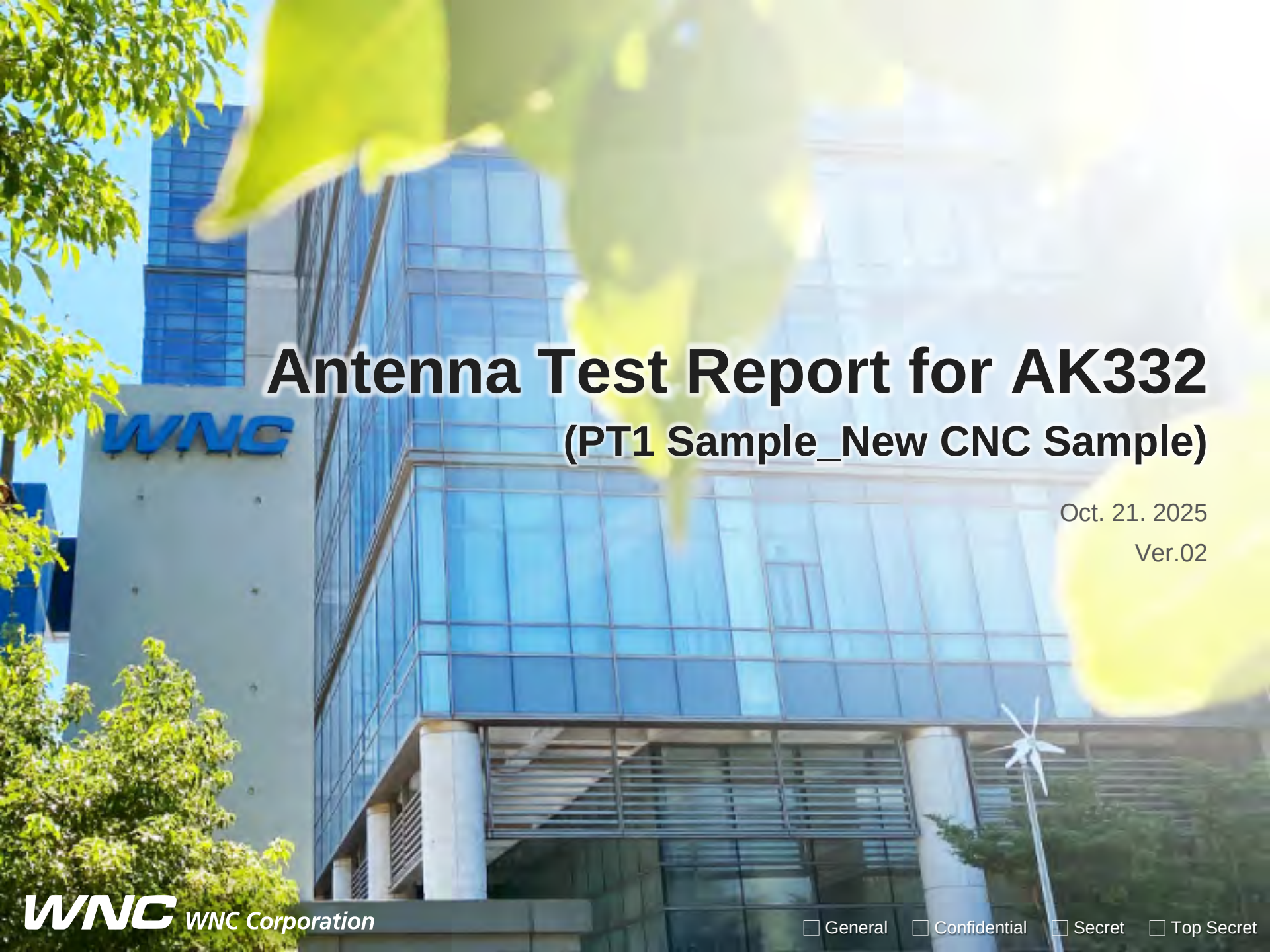




Antenna Test Report for AK332

(PT1 Sample_New CNC Sample)

Oct. 21. 2025

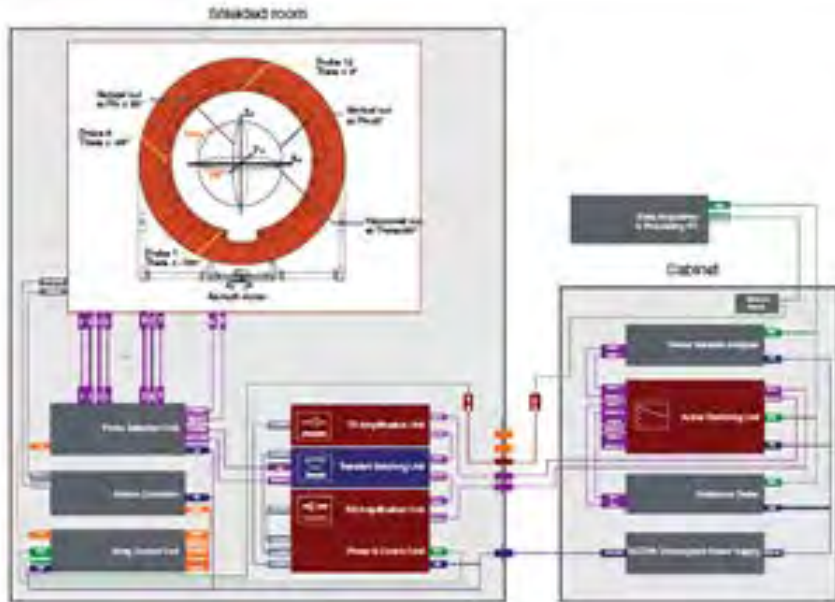
Ver.02

Contents

- Chamber Info.
- Name and address of the antenna manufacture
- Summary
- Antenna Configuration
- VSWR
- Isolation
- Efficiency and Peak Gain
- Radiation Pattern

Chamber Info.

- Antenna Vendor : WNC
- Test Date : 20251021
- Test Engineer : Eason
- Measurement System : SATIMO SG24L
- Software Name : Wave Studio
- Software Version : 24.2.6.0



1. This ant. test chamber is located in WNC which address is :
Add: 20 Park Avenue II (or Yuanchiu 2nd Rd.), Hsinchu Science Park, Hsinchu 300, Taiwan
Tel: +886-3-666-7799

Chamber Info.

- Measurement System: SATIMO SG24 Chamber

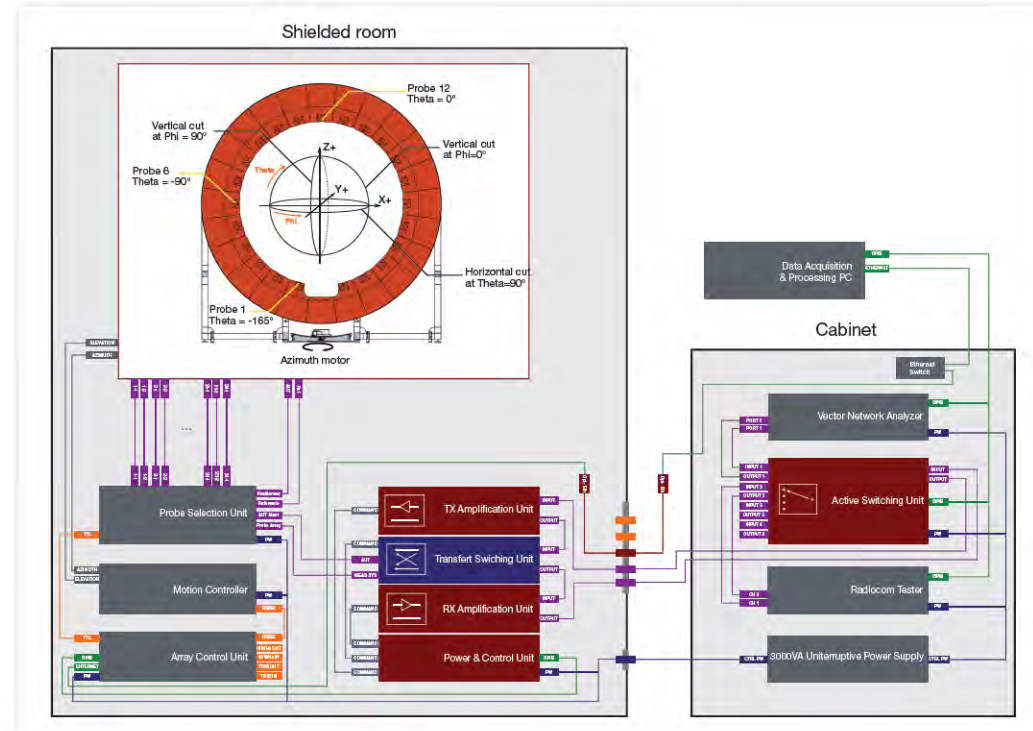
Measurement setup:

- pattern & gain measurement

- 1.satimo chamber (SG24L)
- 2.satimo program (wave studio)
- 3.system overview :

- test item

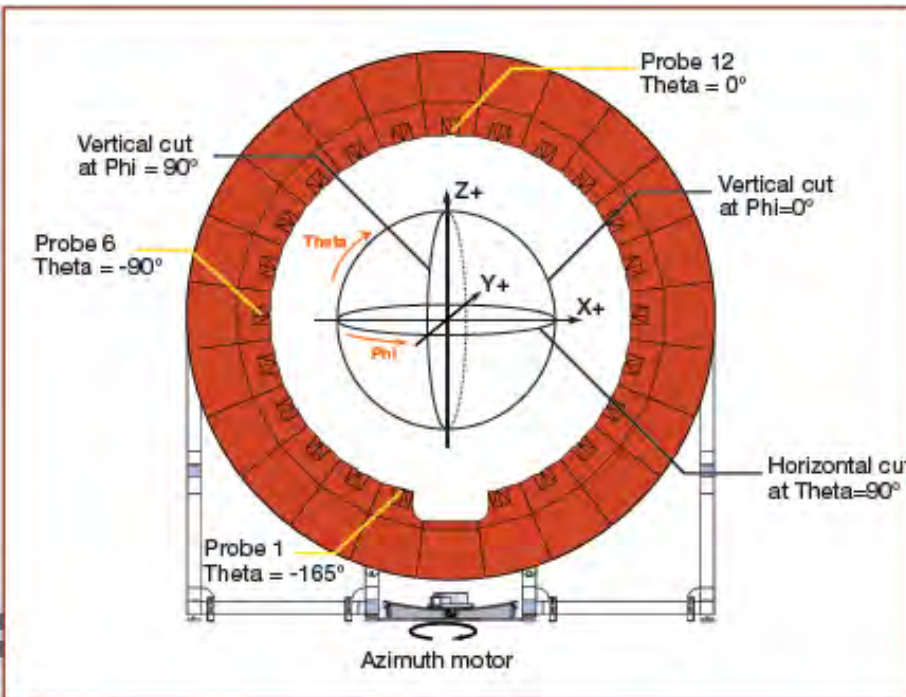
- 1.antenna passive test 400MHz~9GHz



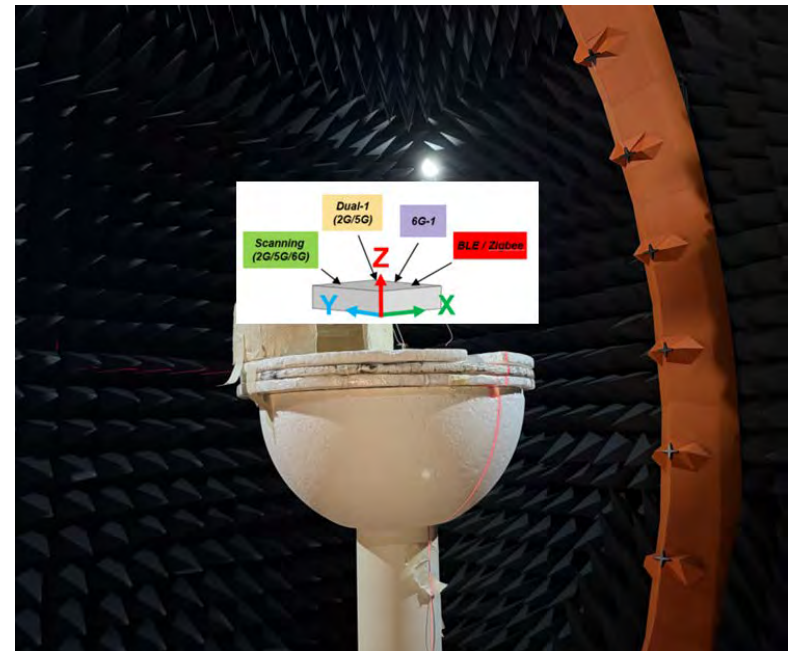
- Calibration Information

Device	Type / Model	Serial #	Manufacture	Cal. Date
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2025-11-19
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2025-11-12

Chamber Info.



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.



Name and address of the antenna manufacture

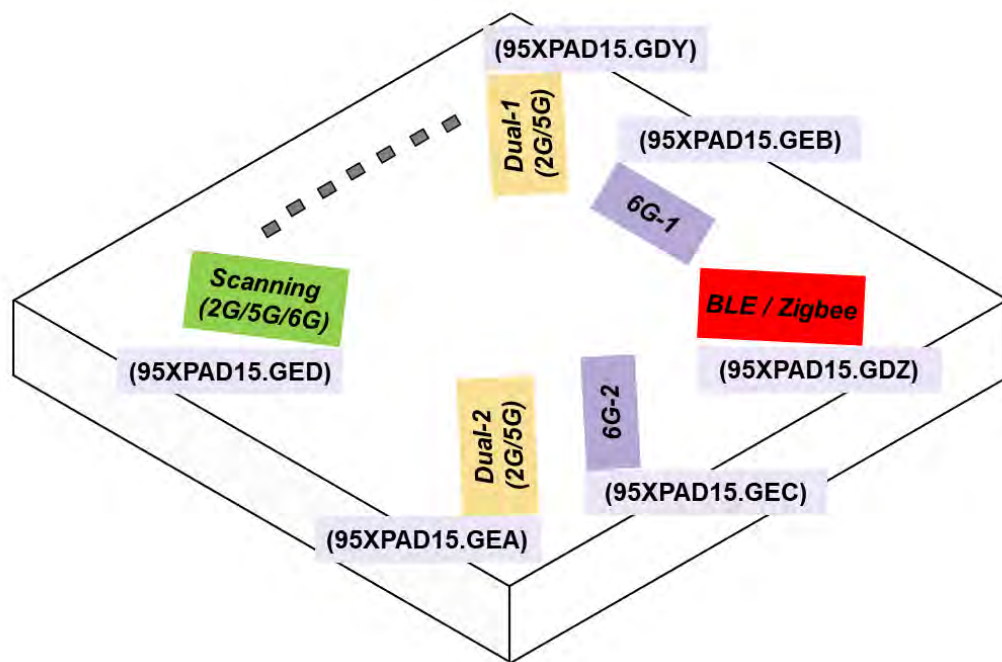


WebCom Communication (Kunshan) Corporation - Kunshan Plant

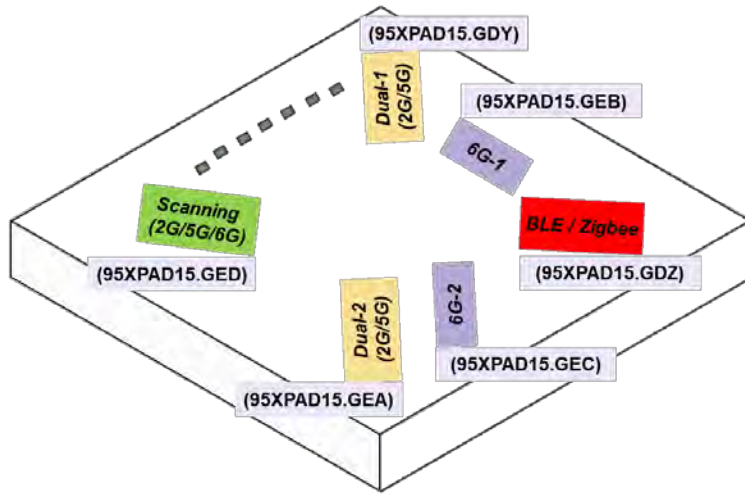
- No. 6, 88 Central Avenue, Kunshan City, Jiangsu Province, P.R.C.
- +86-512-5772-2688
- +86-512-5772-3168

Summary

ANT	VSWR	Efficiency (%)	Peak Gain (dBi) (max value)	Isolation (dB) (within radio)	Isolation (dB) (among radio)
Wi-Fi Dual_2G/5G	< 2 / < 2	> 60 / > 60	4.96 / 5.28	> 20 / > 25	✓ Wi-Fi_5G to Wi-Fi_6G: > 25
Wi-Fi 6G	< 2	> 60	5.99	> 25	✓ BLE/Zigbee to Wi-Fi_2G: > 20 ✓ BLE/Zigbee to Scanning_2G: > 20
BLE / Zigbee	< 2	> 60	4.51	-	✓ Scanning_2G to Wi-Fi_2G: > 20 ✓ Scanning_5G to Wi-Fi_5G: > 25 ✓ Scanning_6G to Wi-Fi_6G: > 25
Scanning_2/5/6(G)	< 2 / < 2 / < 2	> 60 / > 60 / > 55	3.93 / 5.64 / 5.61	-	



Antenna Configuration

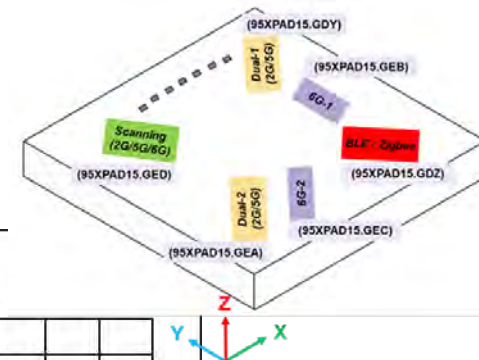


Antenna Spec. Dual (2.4G + 5G) x 2 + 6G only x 2 + BLE / Zigbee x 1 + Scanning_2G/5G/6G x 1

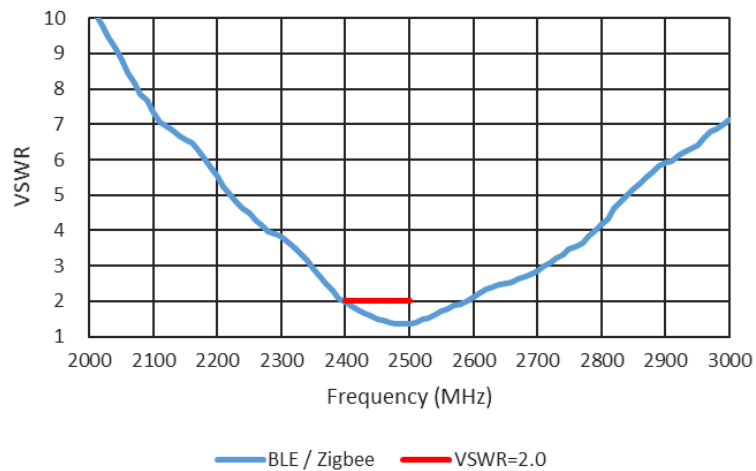
- 2 x metal antennas for Wi-Fi Dual_2G/5G radio
- 2 x metal antennas for Wi-Fi 6G radio
- 1 x metal antennas for BLE / Zigbee
- 1 x metal antennas for Scanning_2G/5G/6G

ANT Name	Brand Name	Part Number	Antenna Type	Connector
Dual-1 (2G/5G)	WNC Corporation	95XPAD15.GDY	PIFA	I-PEX
Dual-2 (2G/5G)	WNC Corporation	95XPAD15.GEA	PIFA	I-PEX
6G-1	WNC Corporation	95XPAD15.GEB	PIFA	I-PEX
6G-2	WNC Corporation	95XPAD15.GEC	PIFA	I-PEX
BLE / Zigbee	WNC Corporation	95XPAD15.GDZ	PIFA	I-PEX
Scanning (2G/5G/6G)	WNC Corporation	95XPAD15.GED	PIFA	I-PEX

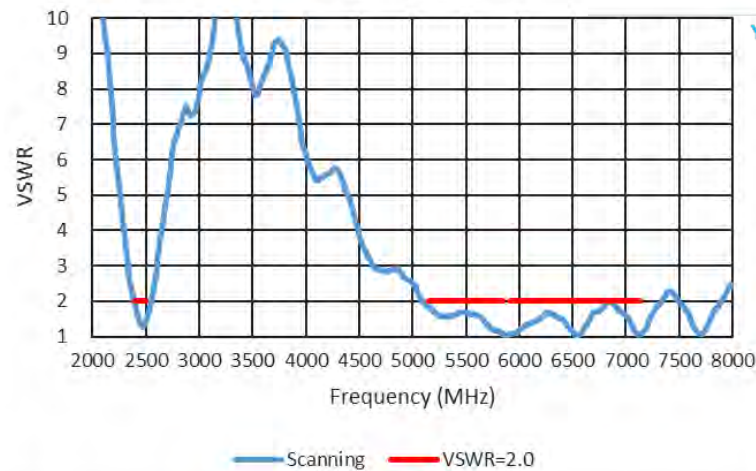
Test date: 2025/10/21
Test personnel : Eason Chen



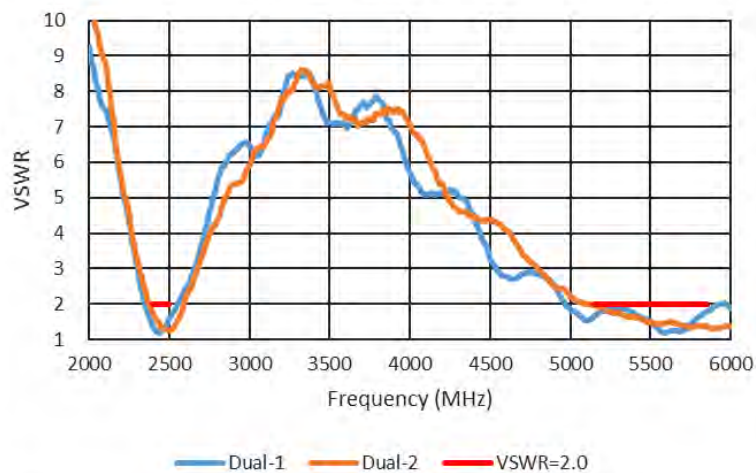
BLE / Zigbee



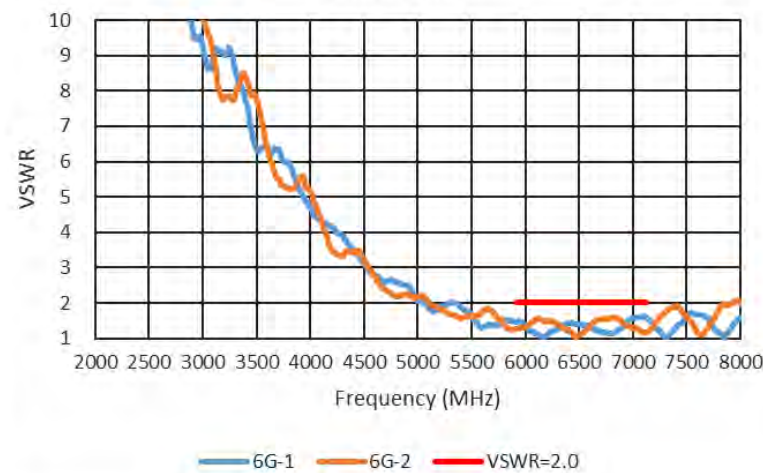
Scanning_2G/5G/6G



Dual_2G/5G Group

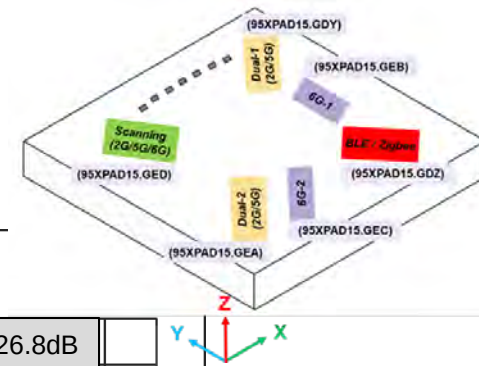


6G Group

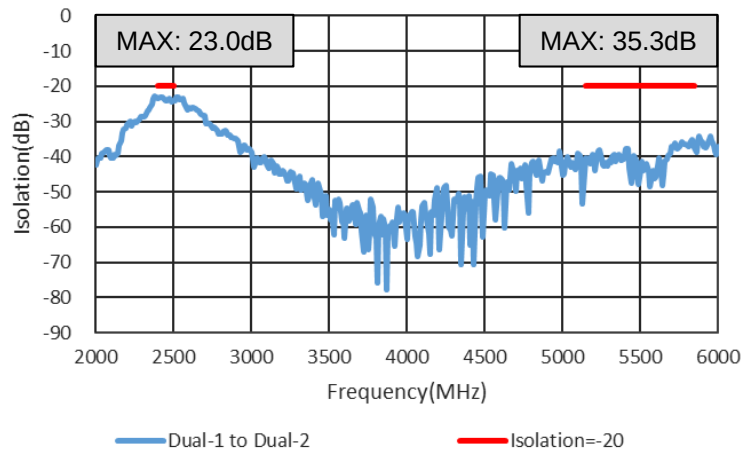


Isolation

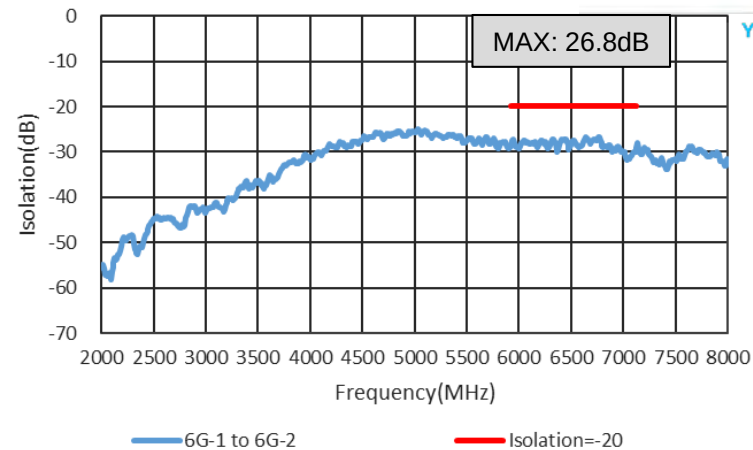
Test date: 2025/10/21
Test personnel : Eason Chen



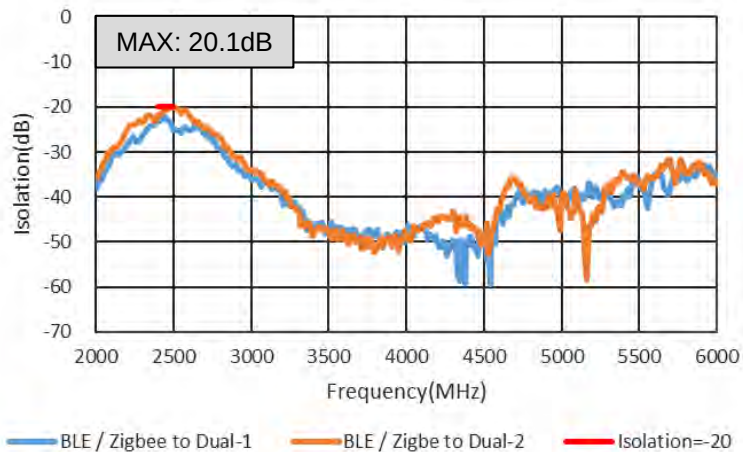
Dual_2G/5G Group



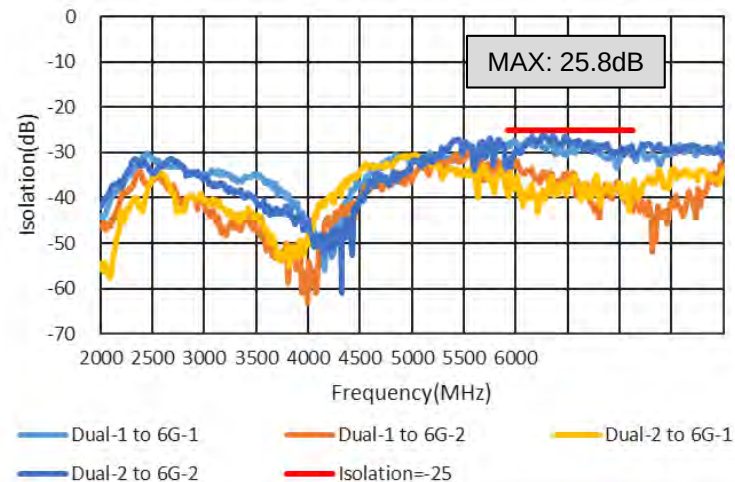
6G Group



BLE / Zigbee to Dual_2G

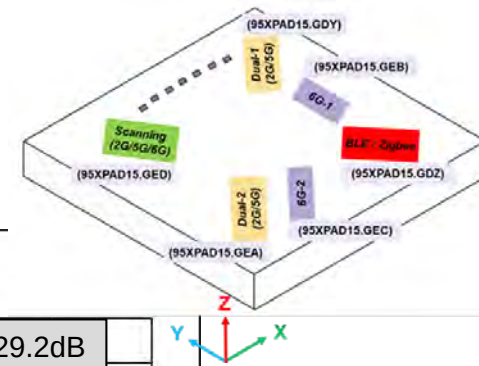


Dual_5G to 6G

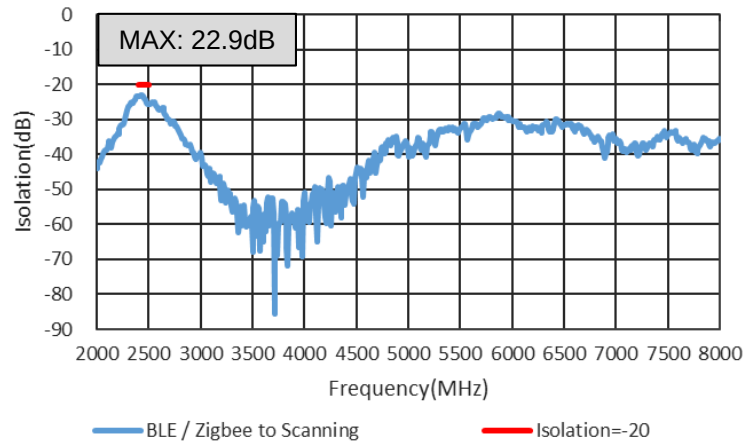


Isolation

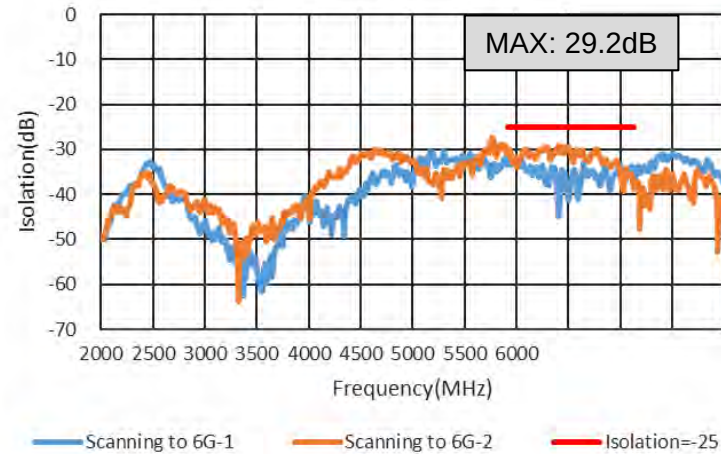
Test date: 2025/10/21
Test personnel : Eason Chen



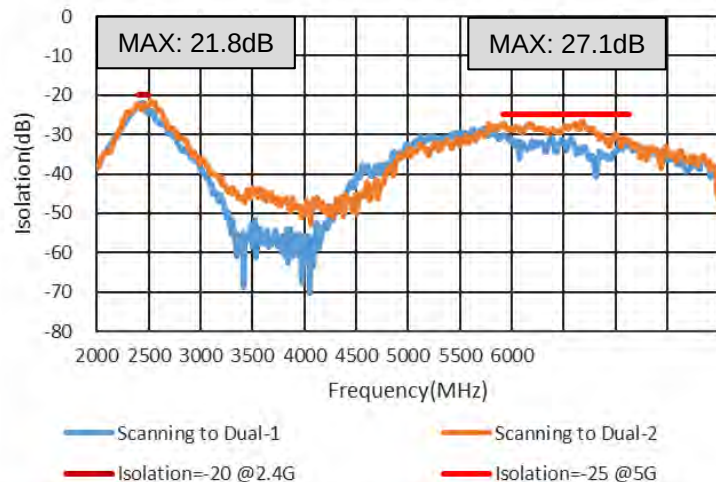
BLE / Zigbee to Scanning_2G



Scanning_6G to 6G



Scanning_2G/5G to Dual_2G/5G



Efficiency and Peak Gain

BLE / Zigbee

BLE / Zigbee	2400	2450	2500
Eff.	65.6%	70.2%	71.4%
Eff. dB	-1.83	-1.54	-1.46
Peak Gain	3.46	4.09	4.51

Dual_2G/5G

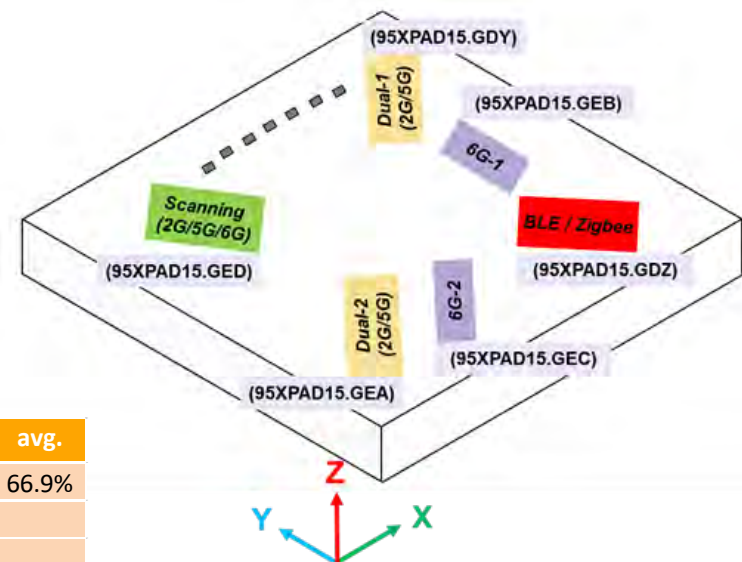
Dual-1	2400	2450	2500	avg.	5150	5350	5550	5725	5850	avg.
Eff.	68.0%	68.6%	70.6%	69.1%	65.4%	63.4%	70.6%	70.0%	65.2%	66.9%
Eff. dB	-1.67	-1.64	-1.51		-1.85	-1.98	-1.51	-1.55	-1.86	
Peak Gain	3.08	3.52	4.18		5.06	4.95	4.78	4.39	3.68	
Dual-2	2400	2450	2500	avg.	5150	5350	5550	5725	5850	avg.
Eff.	68.8%	69.2%	71.9%	70.0%	66.6%	67.0%	70.1%	67.8%	66.8%	67.7%
Eff. dB	-1.62	-1.60	-1.43		-1.77	-1.74	-1.54	-1.69	-1.75	
Peak Gain	3.59	4.17	4.96		5.28	5.01	4.78	4.76	4.86	

6G

6G-1	5925	6225	6565	6885	7125	avg.
Eff.	66.8%	66.2%	63.6%	62.9%	61.8%	64.3%
Eff. dB	-1.75	-1.79	-1.96	-2.01	-2.09	
Peak Gain	4.94	4.74	4.82	4.08	4.08	
6G-2	5925	6225	6565	6885	7125	avg.
Eff.	63.6%	66.8%	62.8%	62.3%	62.9%	63.7%
Eff. dB	-1.97	-1.75	-2.02	-2.06	-2.01	
Peak Gain	5.68	5.91	5.01	5.57	5.99	

Scanning_2G/5G/6G

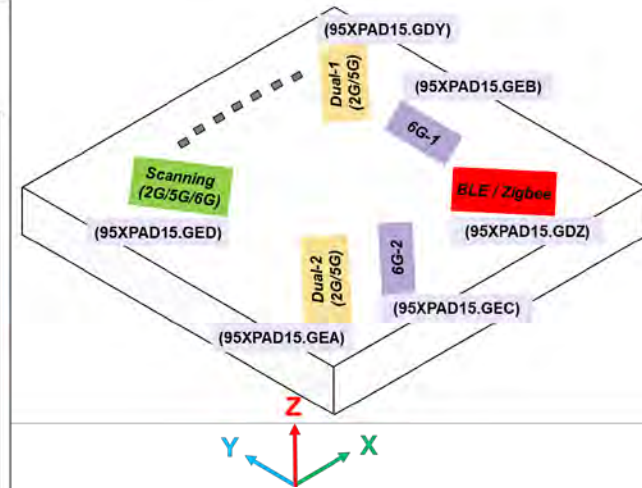
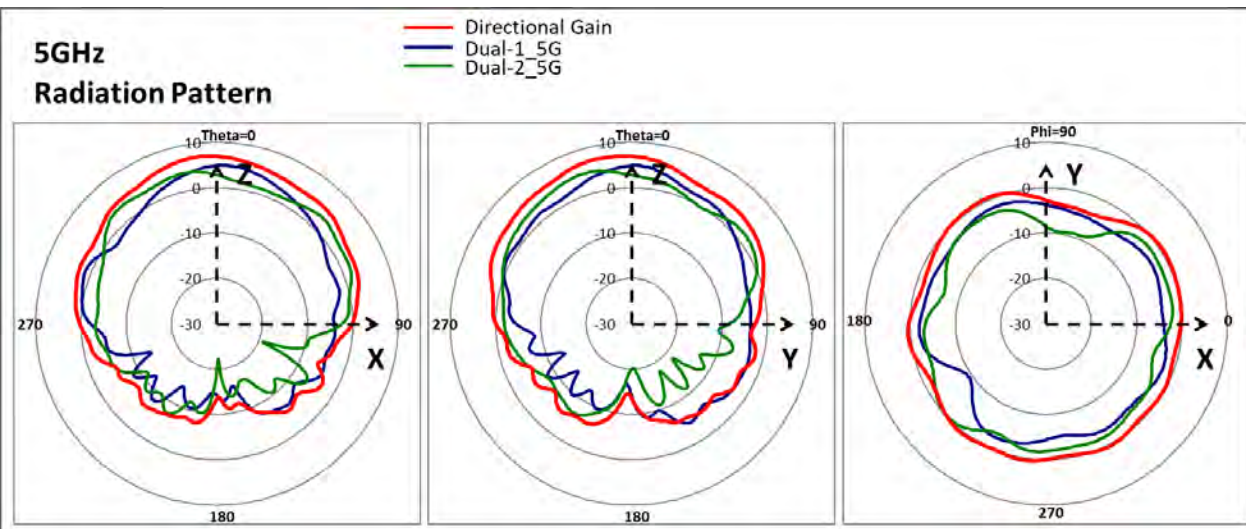
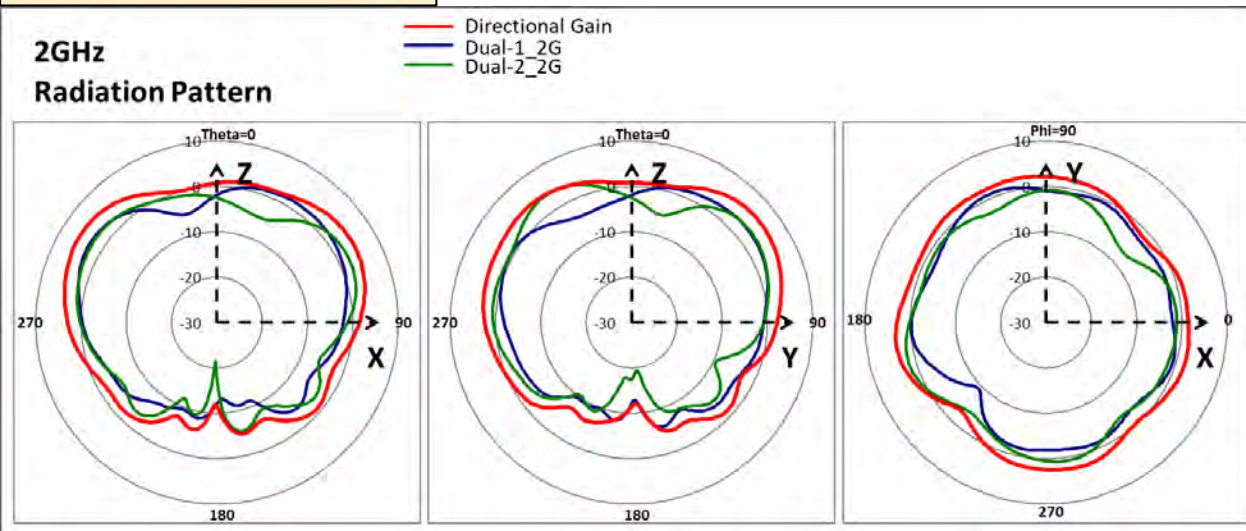
Scanning	2400	2450	2500	avg.	5150	5350	5550	5725	5850	avg.	5925	6225	6565	6885	7125	avg.
Eff.	65.4%	67.1%	69.8%	67.5%	68.1%	66.8%	66.5%	67.2%	65.8%	66.9%	64.0%	60.8%	63.2%	56.1%	60.0%	60.8%
Eff. dB	-1.84	-1.73	-1.56		-1.67	-1.75	-1.77	-1.72	-1.82		-1.94	-2.16	-1.99	-2.51	-2.22	
Peak Gain	3.71	3.93	3.43		5.33	4.78	5.64	4.64	4.70		4.83	5.26	5.61	4.07	4.89	



Test date: 2025/10/21
Test personnel : Eason Chen

Radiation Pattern for Wi-Fi Daul_2G/5G

Test date: 2025/10/21
Test personnel : Eason Chen

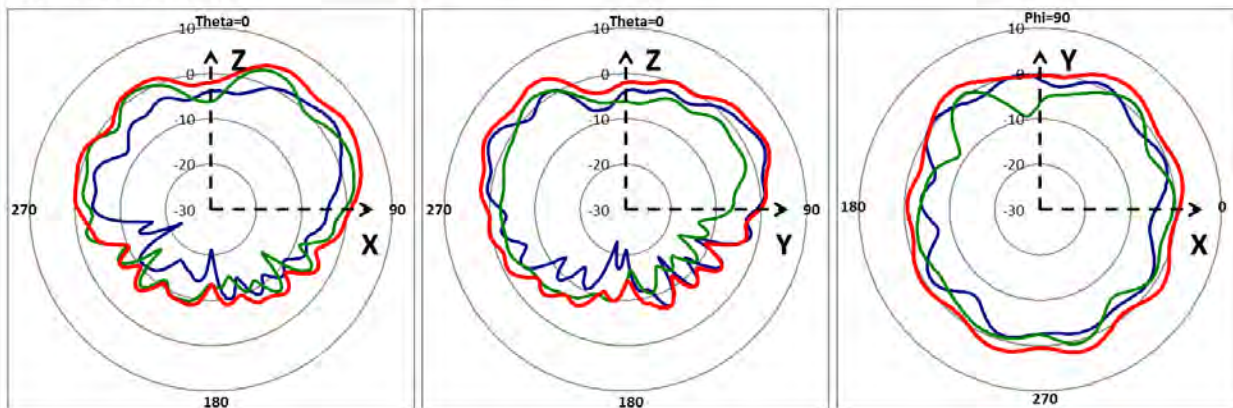


Radiation Pattern for Wi-Fi 6G & BLE / Zigbee

Test date: 2025/10/21
Test personnel : Eason Chen

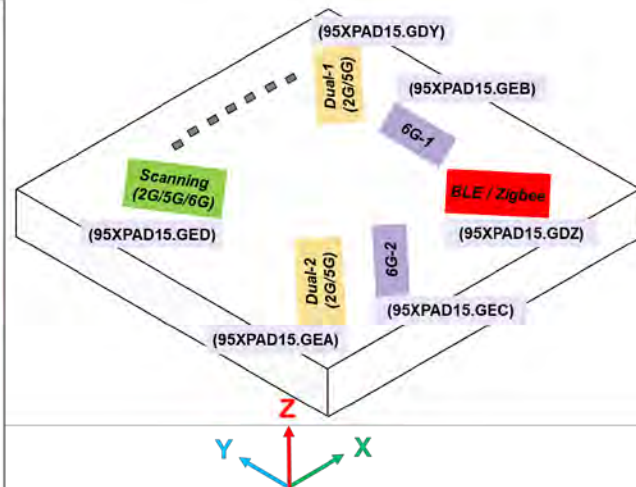
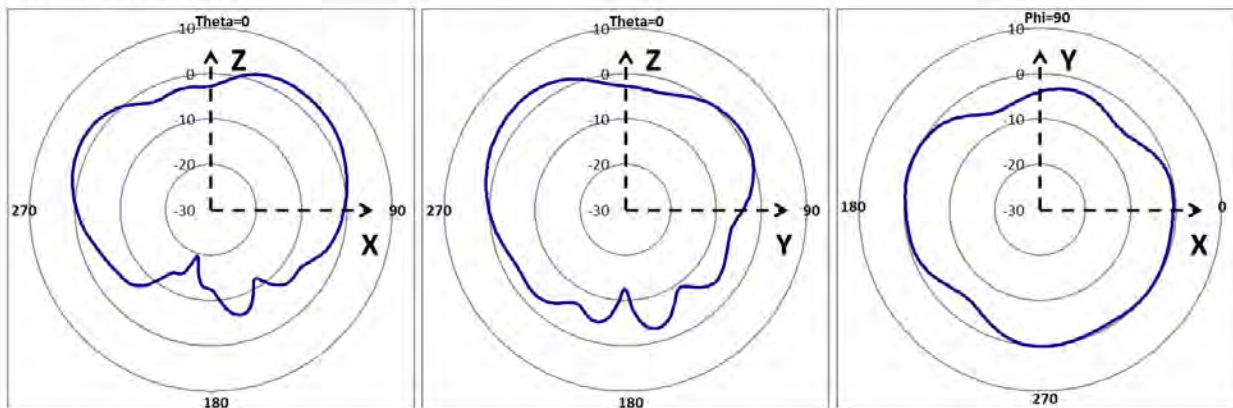
6GHz Radiation Pattern

— Directional Gain
— 6G-1
— 6G-2



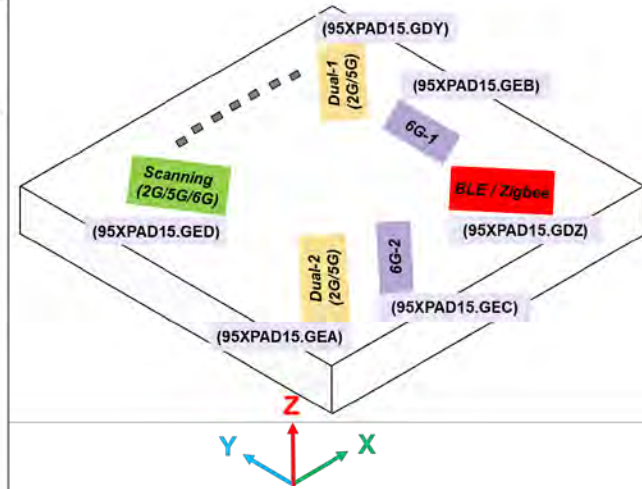
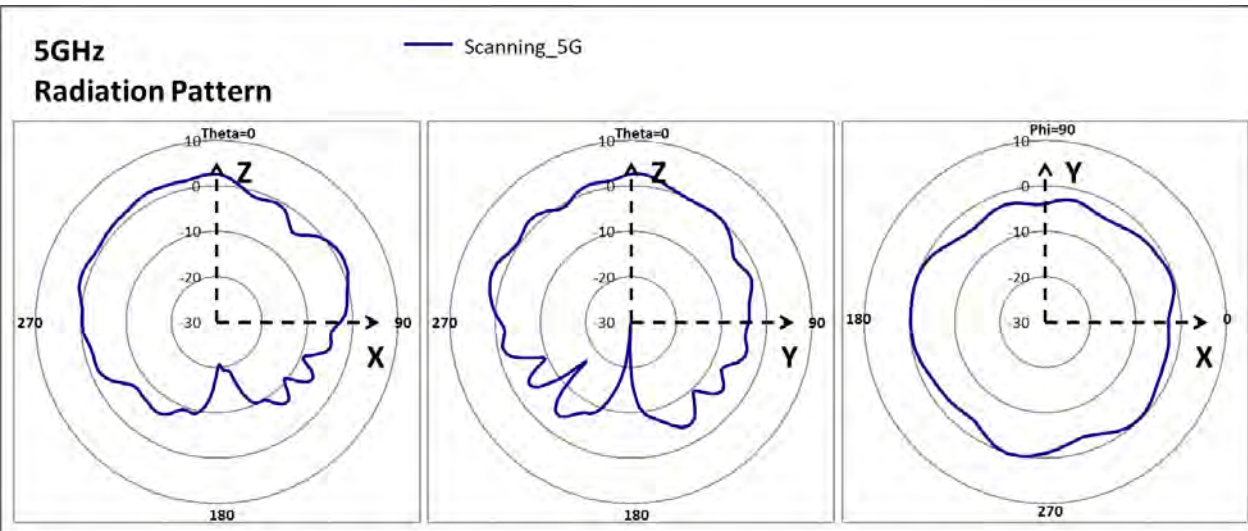
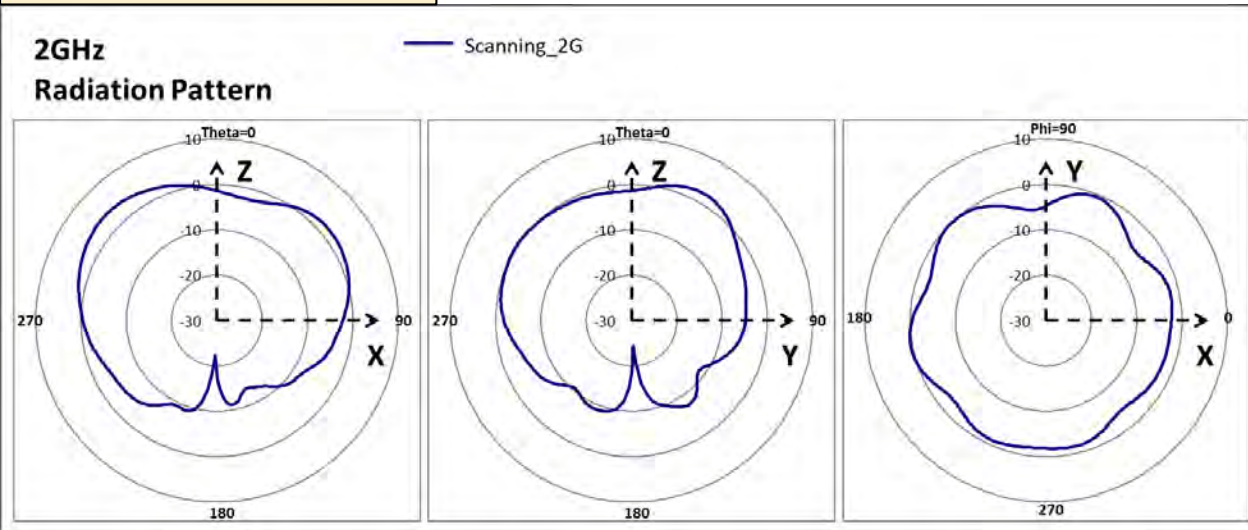
2GHz Radiation Pattern

— BLE / Zigbee



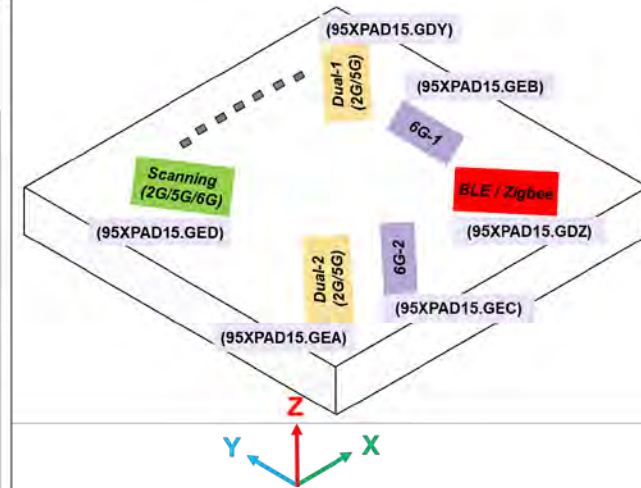
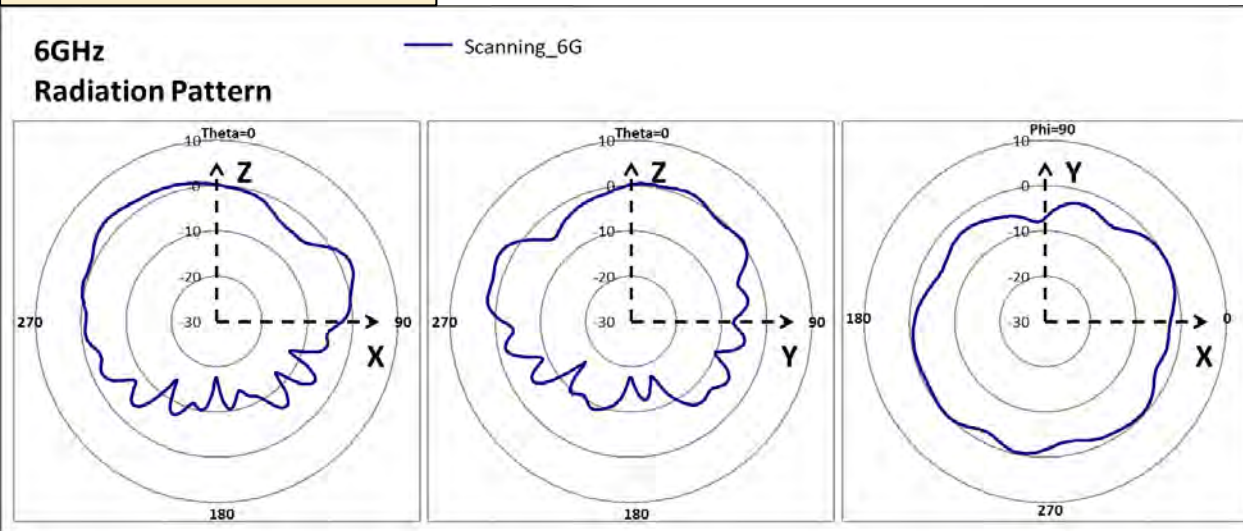
Radiation Pattern for Scanning_2G/5G

Test date: 2025/10/21
Test personnel : Eason Chen



Radiation Pattern for Scanning_6G

Test date: 2025/10/21
Test personnel : Eason Chen



The logo for WNC Corporation, featuring the letters 'WNC' in a bold, blue, italicized sans-serif font.

WNC

WNC Corporation

Thank You!

