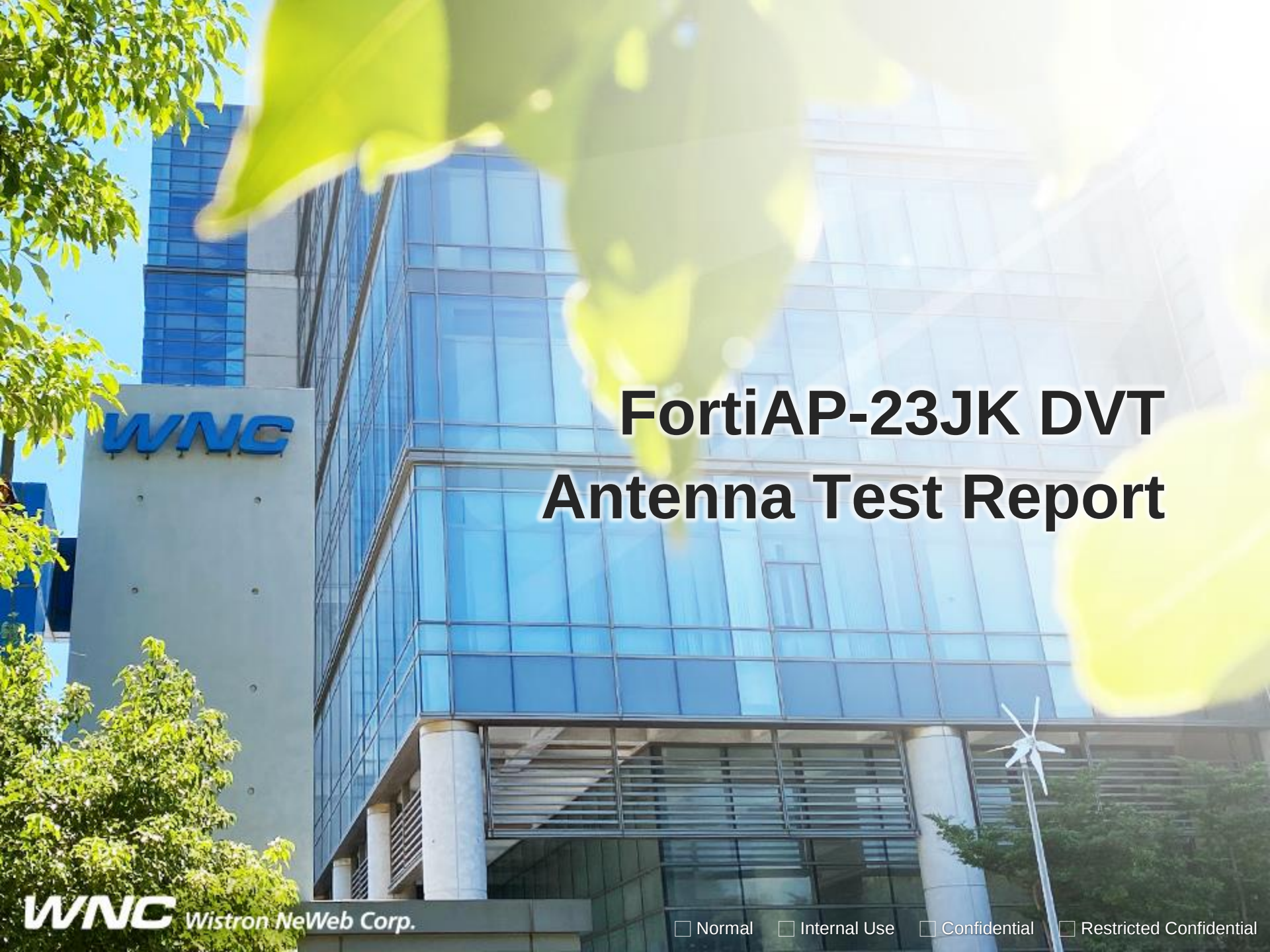




FortiAP-23JK DVT Antenna Test Report

Content

■ Test Information

- Setup Picture
- Equipment
- Procedure

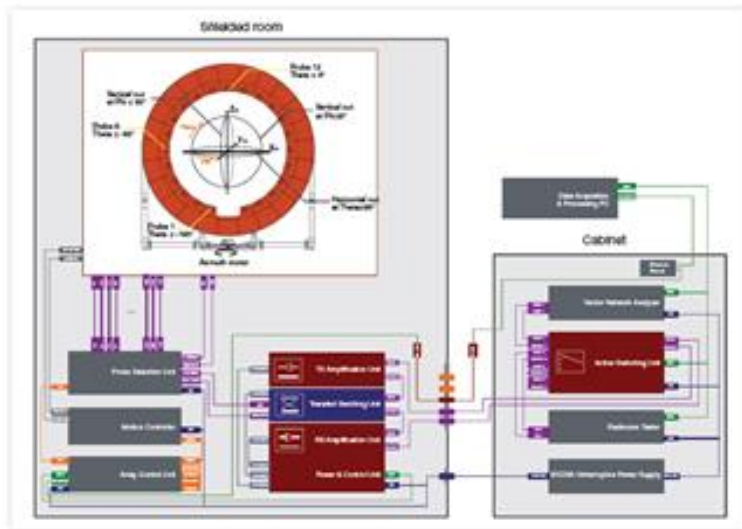
■ Antenna Placement and Performance Summary

- Wi-Fi 2/5G
- WIFI 6G
- BLE
- Isolation

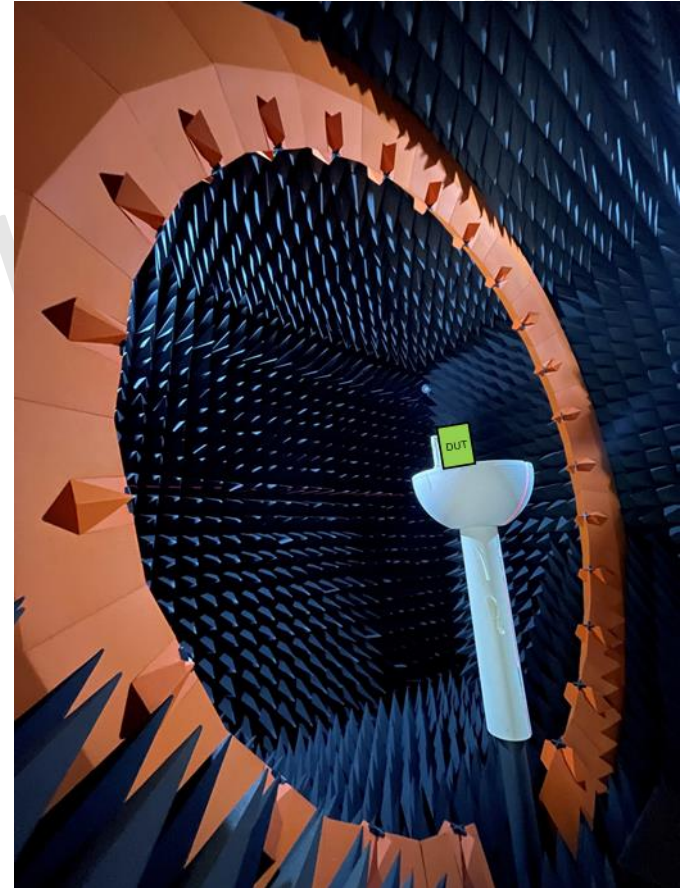
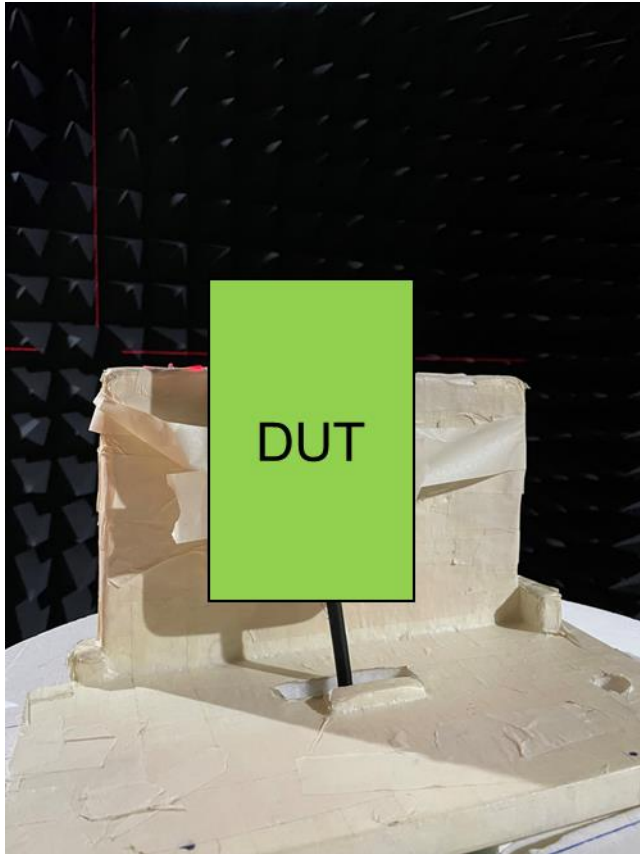
WNC Confidential

Test Information

- Antenna Vendor : WNC
- Test Date : 20241108
- Test Engineer : Leo Chuang
- Measurement System : SATIMO SG24-L
- Software Name : Wave Studio
- Software Version : 22.5.6



Setup Picture

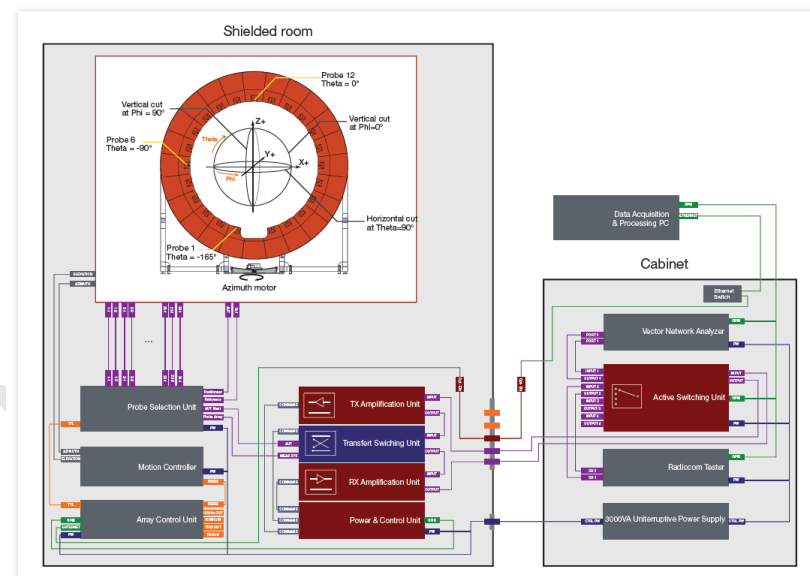


Test Equipment

- Measurement System: SATIMO SG24-L Chamber

Measurement setup:

- pattern & gain measurement
 - 1.satimo chamber (SG24-L)
 - 2.satimo program (wave studio)
 - 3.system overview :
- test item
 - 1.antenna passive test 400MHz~9GHz

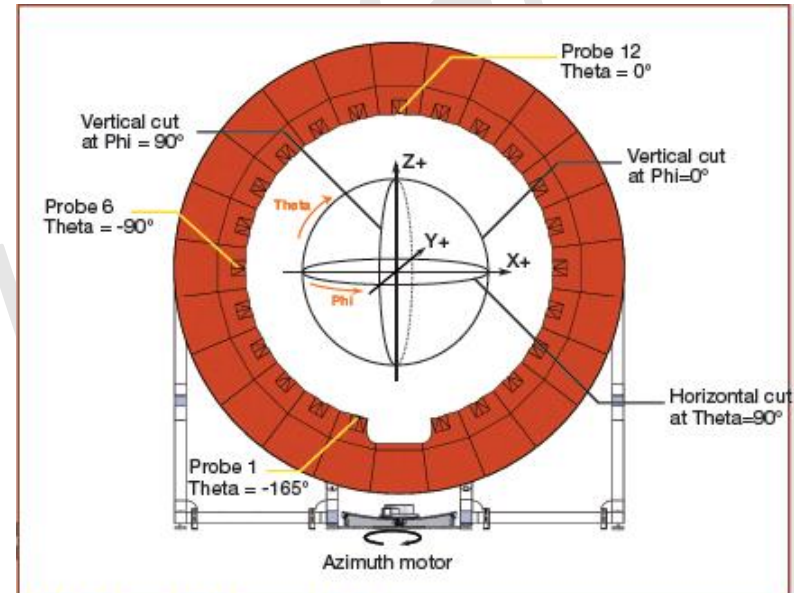


- Calibration Information

Device	Type / Model	Serial #	Manufacture	Cal. Date	Cal. Until
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2024-06-05	2025-06-03
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2024-06-05	2025-06-03

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 3 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.

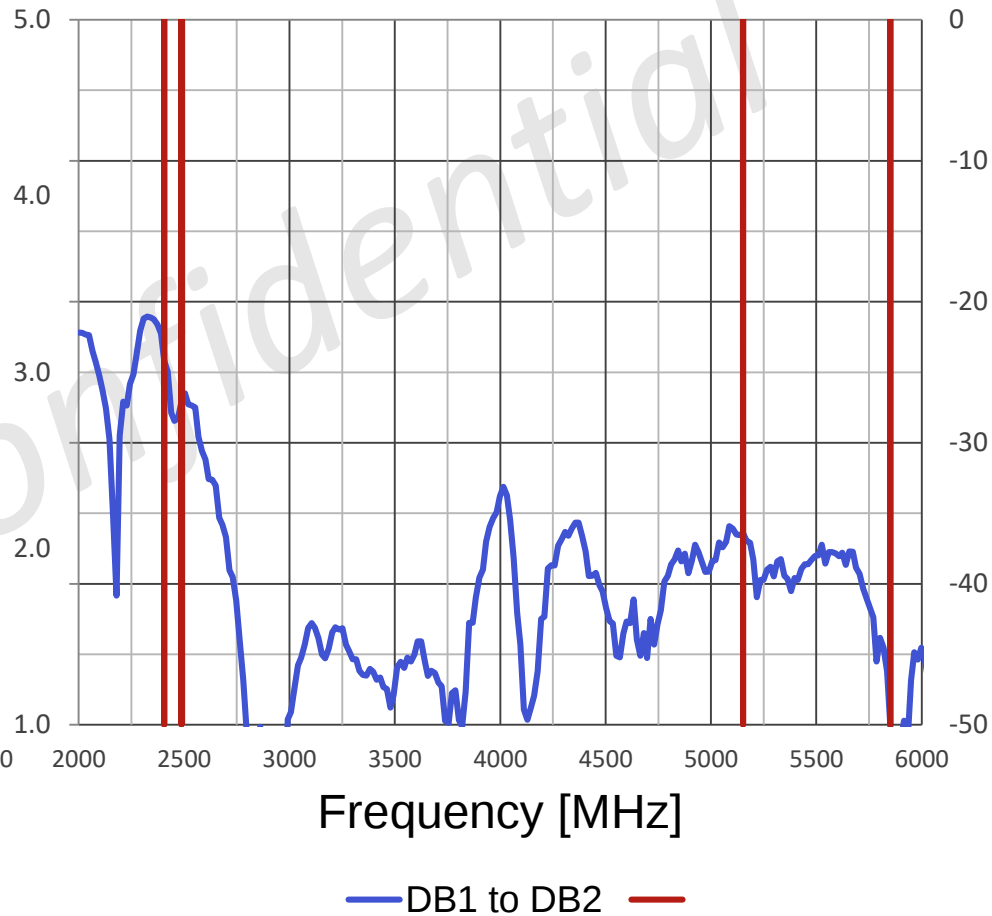
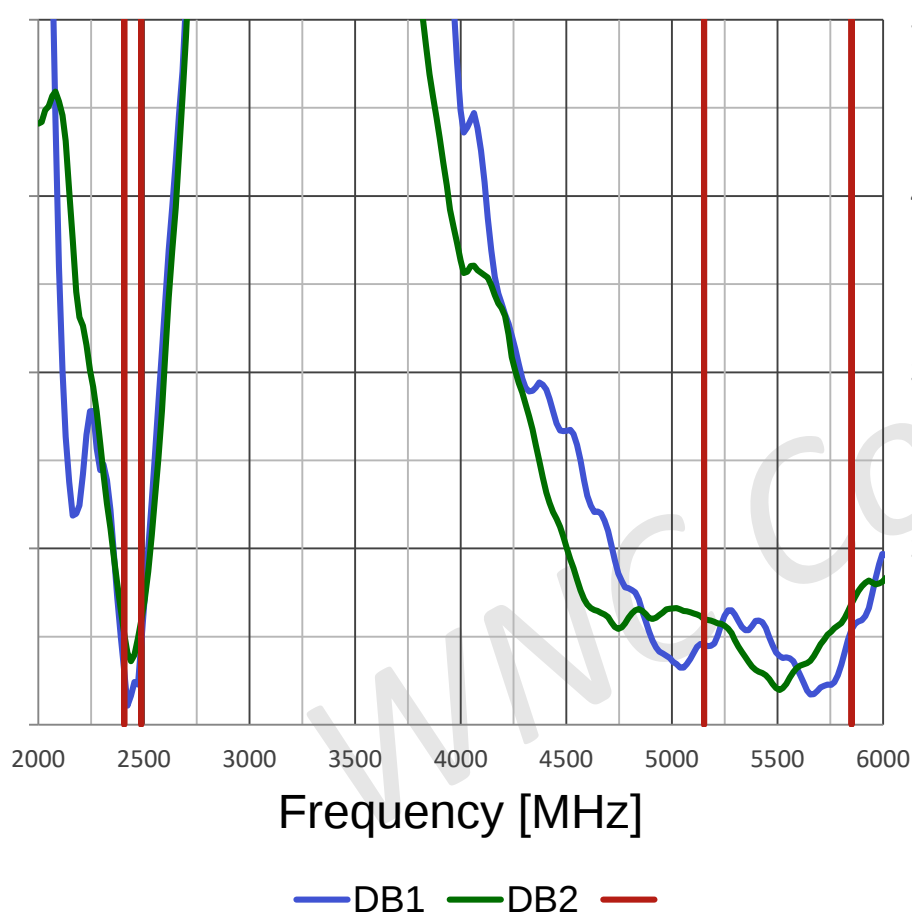


Antenna Placement and Performance Summary

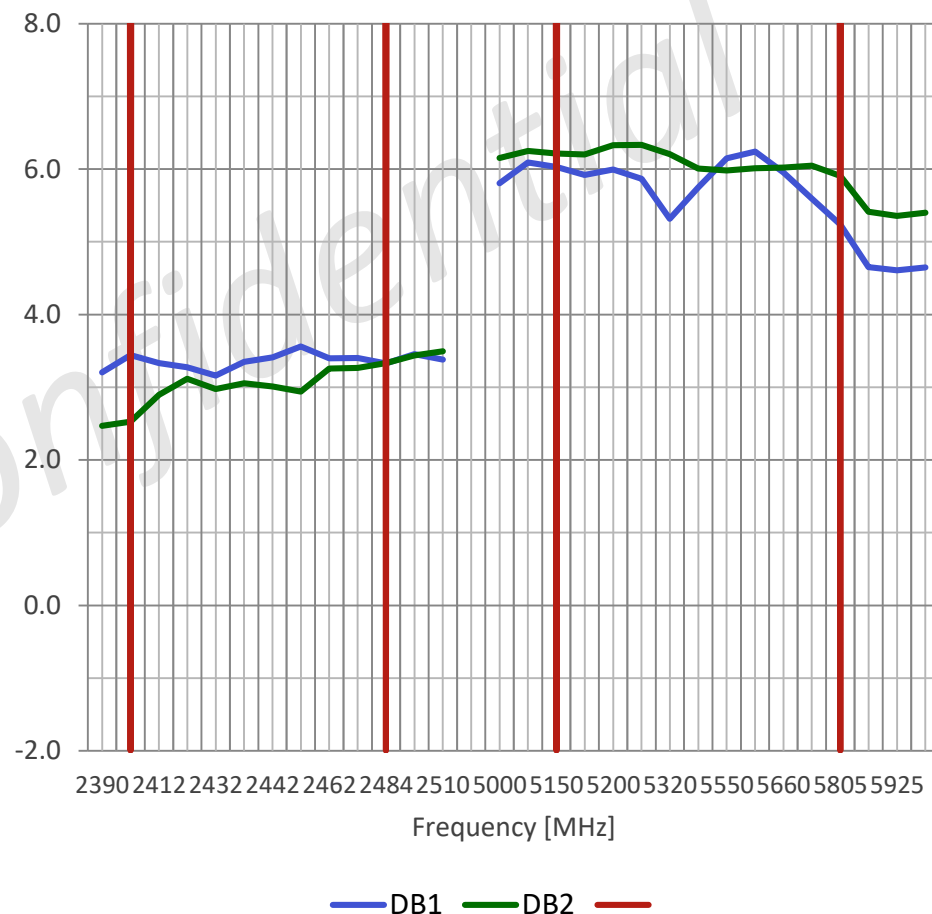
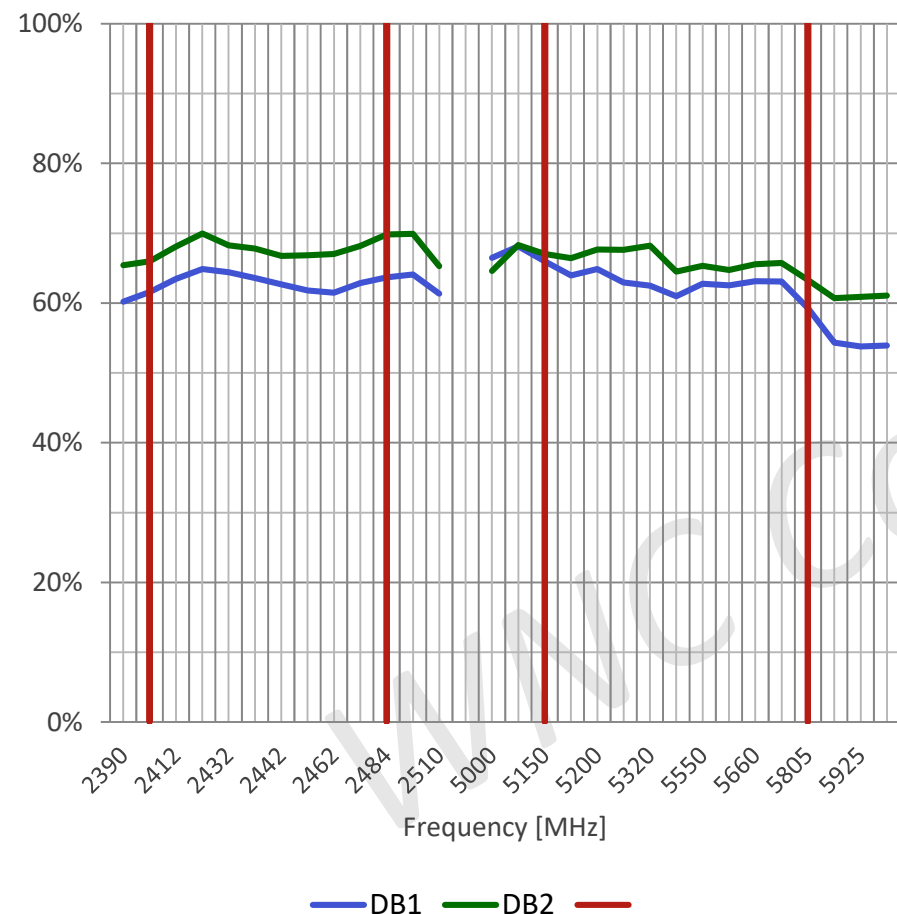
Radio	Model Name	Size	Ant. Type	Vendor	Connector	Polarization
Dual Band 1	95XPAD15.G78	30*14*0.8 mm	Dipole	WNC	IPEX MHF1	Vertical
Dual Band 2	95XPAD15.G79					
Wi-Fi 6G	95XPAD15.G83	22*14*0.8 mm	Dipole	WNC	IPEX MHF1	Vertical
BLE/Wi-Fi 6G	95XPAD15.G82	30*14*0.8 mm	Dipole	WNC	IPEX MHF1	Vertical

Radio	Frequency (GHz)	VSWR	Efficiency	Peak Gain	Isolation	Isolation
Dual Band	2.4-2.5 5.1-5.9	< 2.0 < 2.0	~ 65 % ~ 64 %	3.6 dBi 6.3 dBi	> 24 dB > 36 dB	Wi-Fi DB to Wi-Fi 6G : > 30 dB @ 5-7GHz BLE to others : > 24 dB @ 2GHz
Wi-Fi 6G	5.9-7.35	< 2.0	~ 61 %	4.2 dBi	> 33 dB	
BLE	2.4-2.5	< 2.0	~ 50 %	4.2 dBi	NA	

VSWR/Isolation Wi-Fi 2/5G

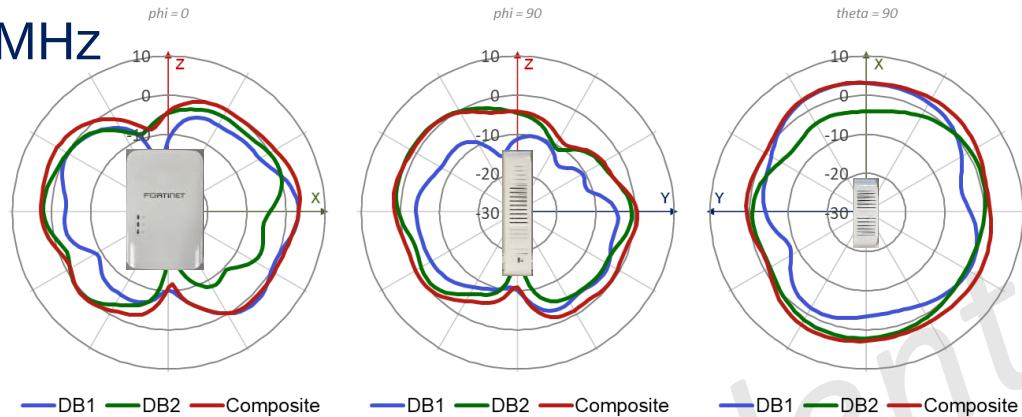


Efficiency/Peak Gain Wi-Fi 2/5G

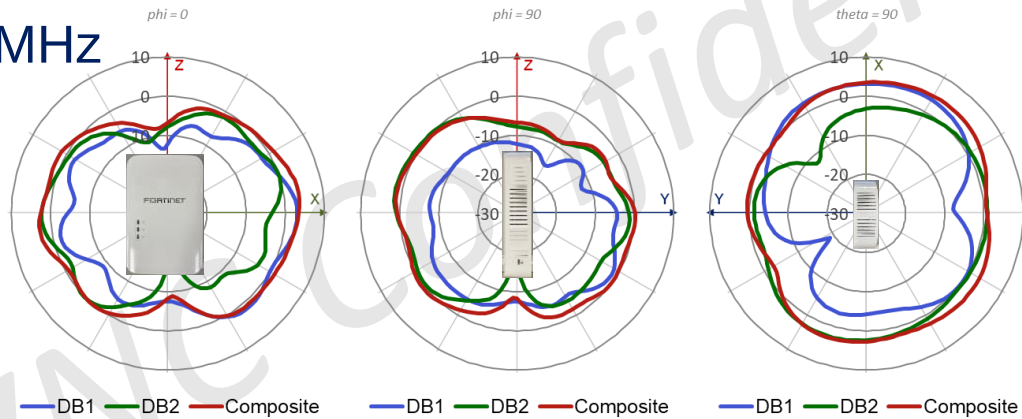


Realized Gain Pattern Wi-Fi 2/5G

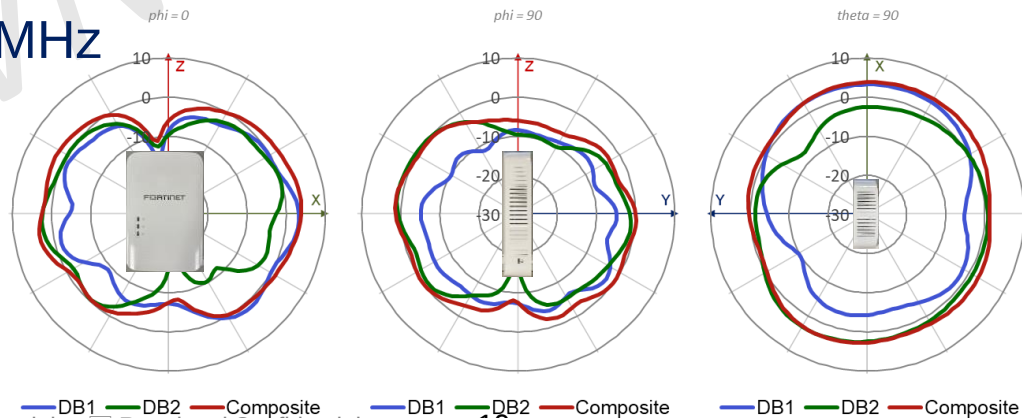
2401MHz



2452MHz

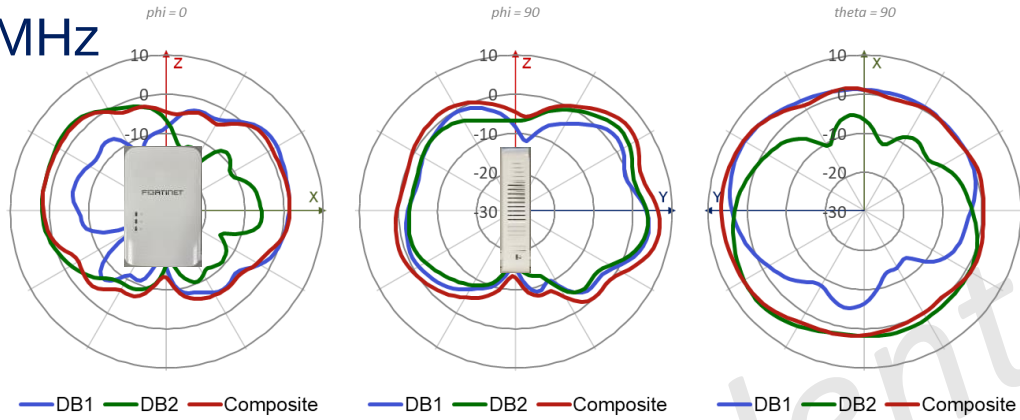


2484MHz

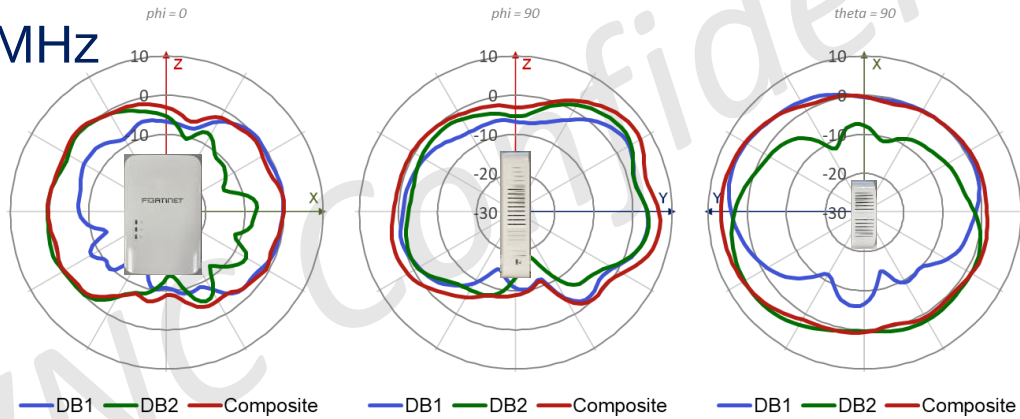


Realized Gain Pattern Wi-Fi 2/5G

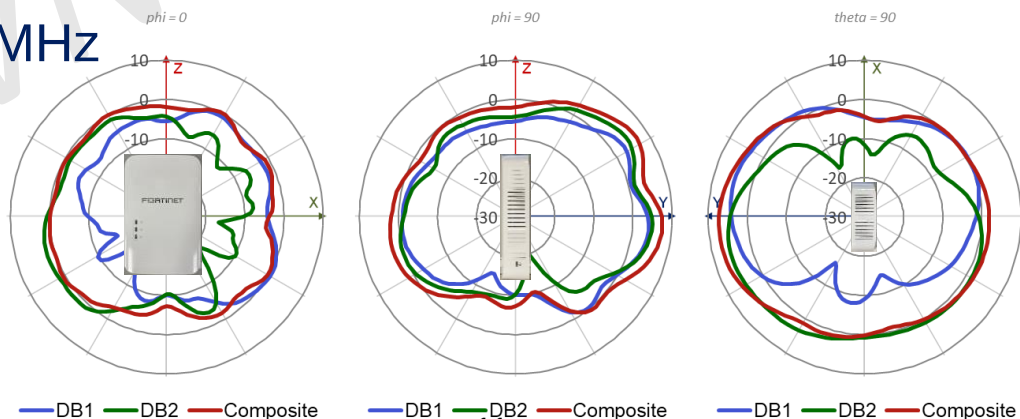
5150MHz



5550MHz

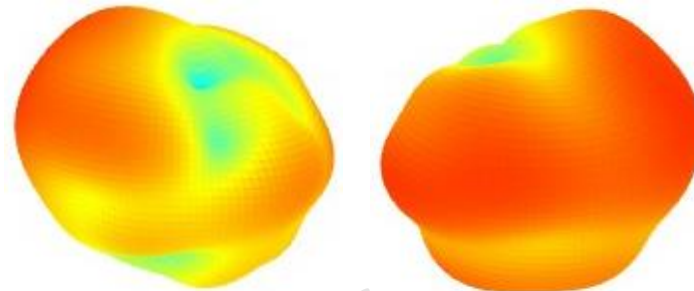
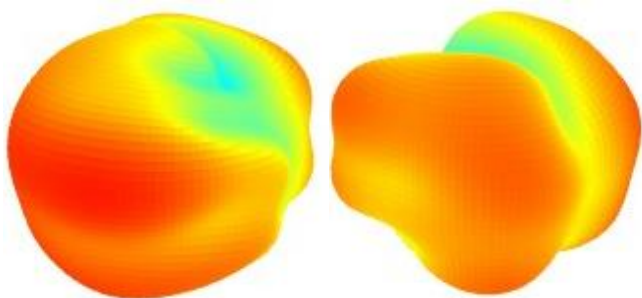


5850MHz

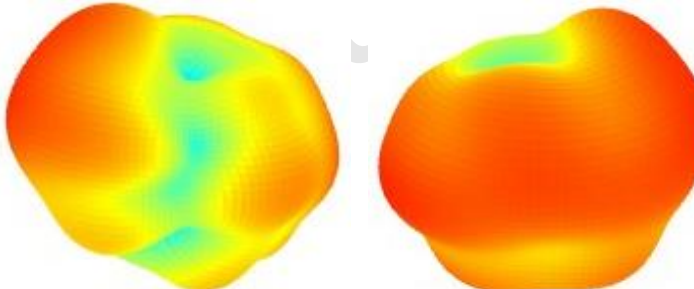
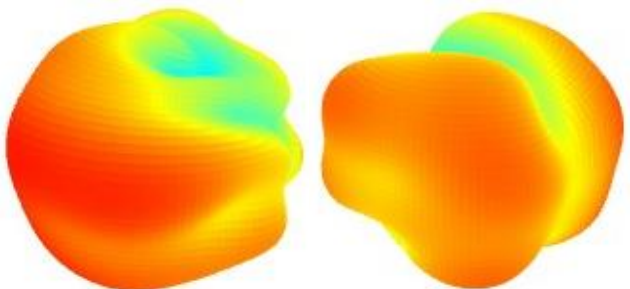


Realized Gain Pattern Wi-Fi 2/5G

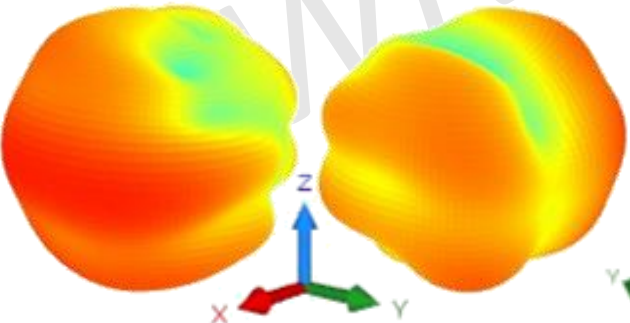
2401MHz



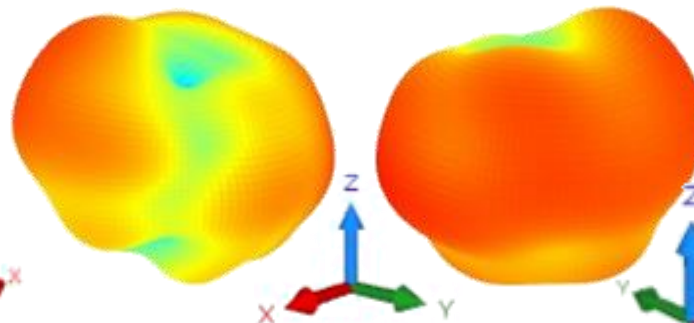
2452MHz



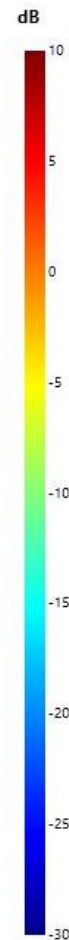
2484MHz



DB1

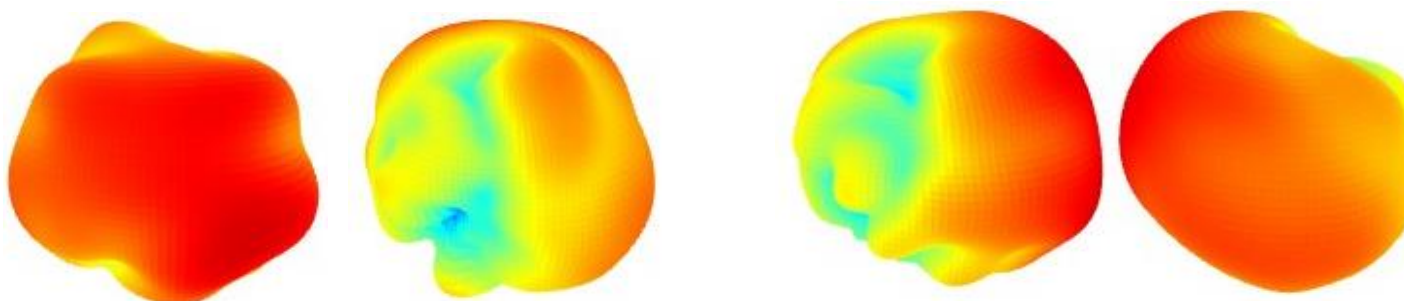


DB2

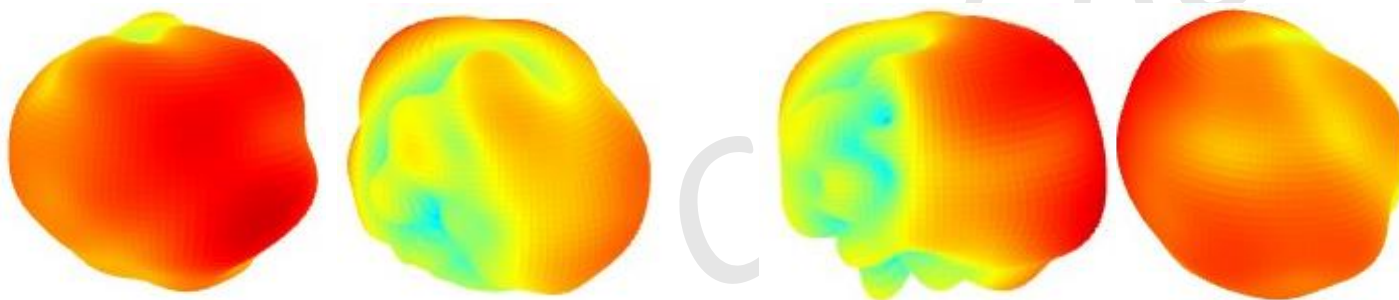


Realized Gain Pattern Wi-Fi 2/5G

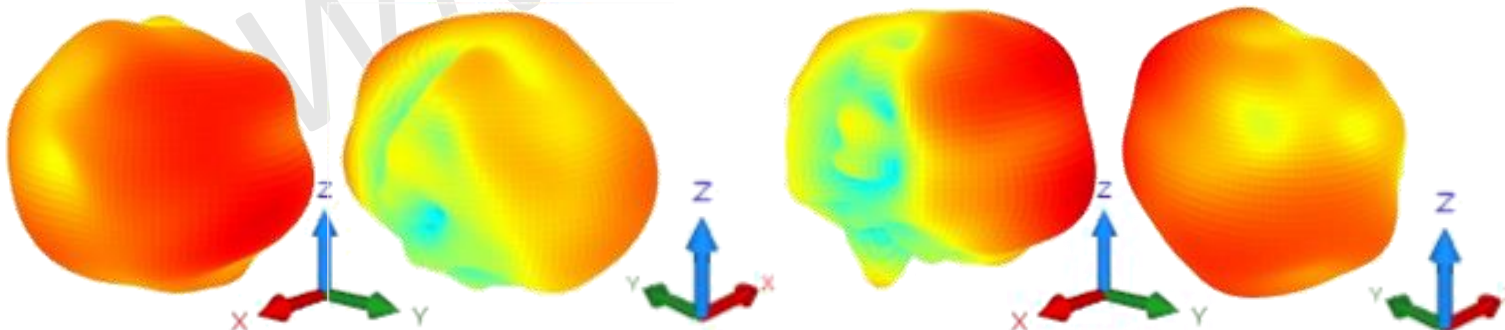
5150MHz



5550MHz

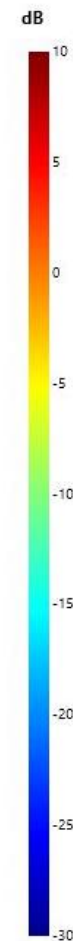


5850MHz

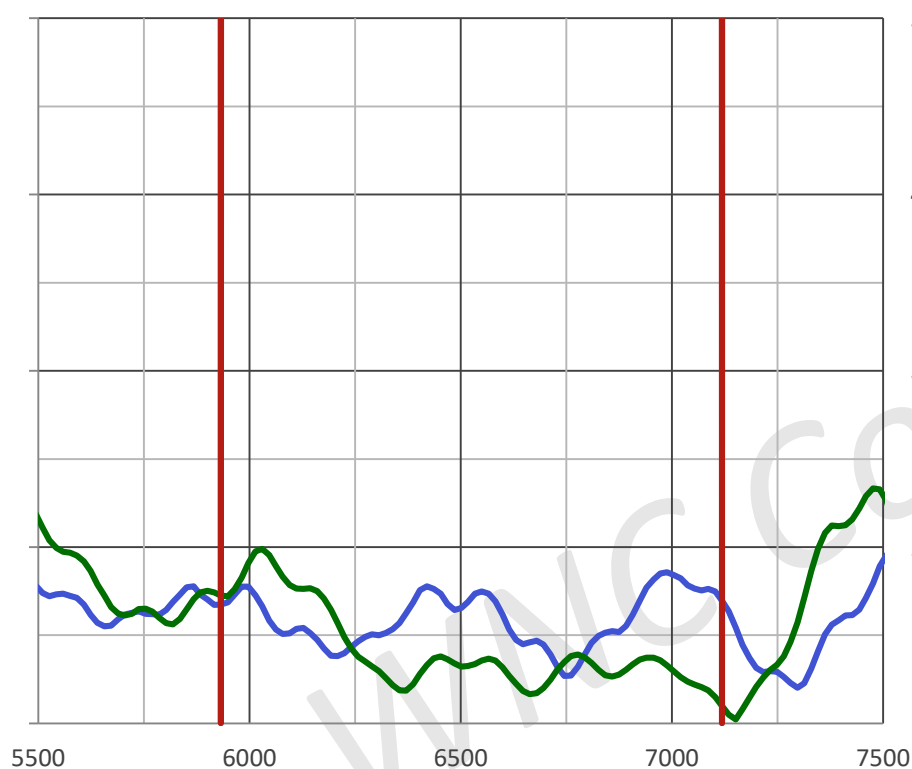


DB1

DB2

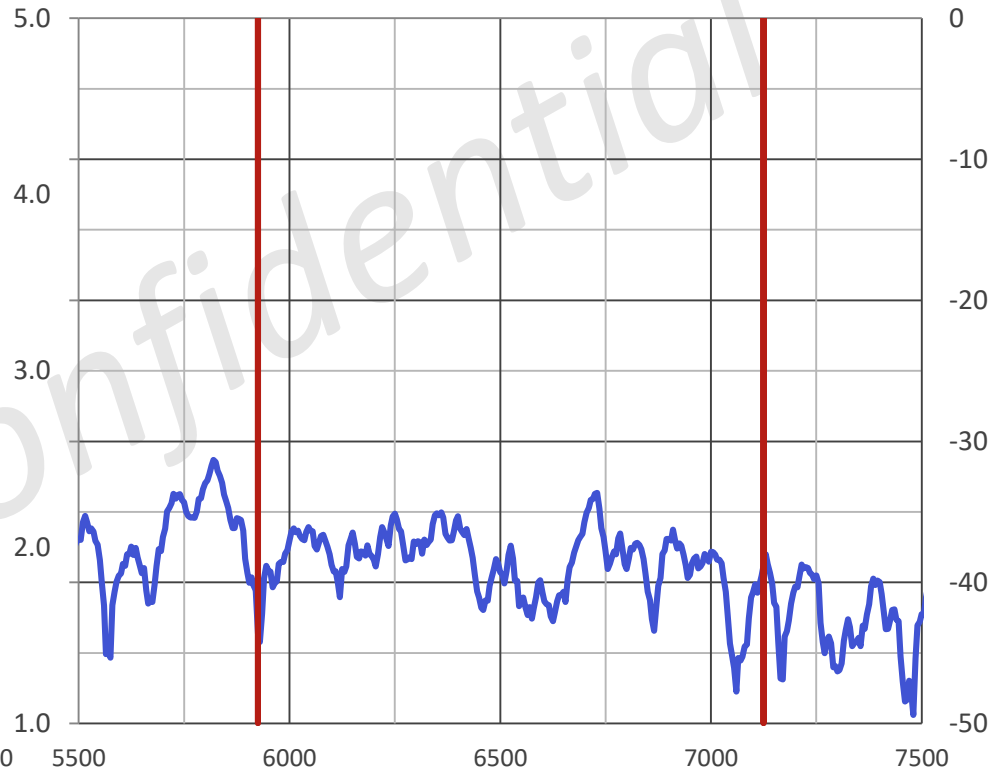


VSWR/Isolation Wi-Fi 6G



Frequency [MHz]

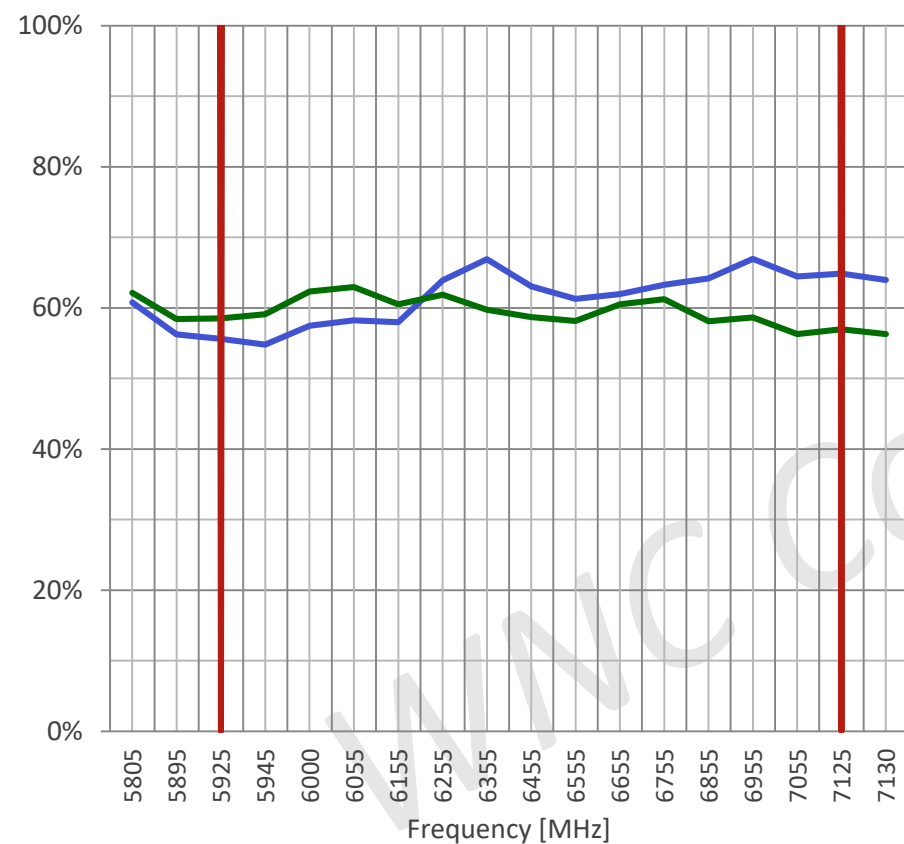
— 6G2 — BLE6G1 —



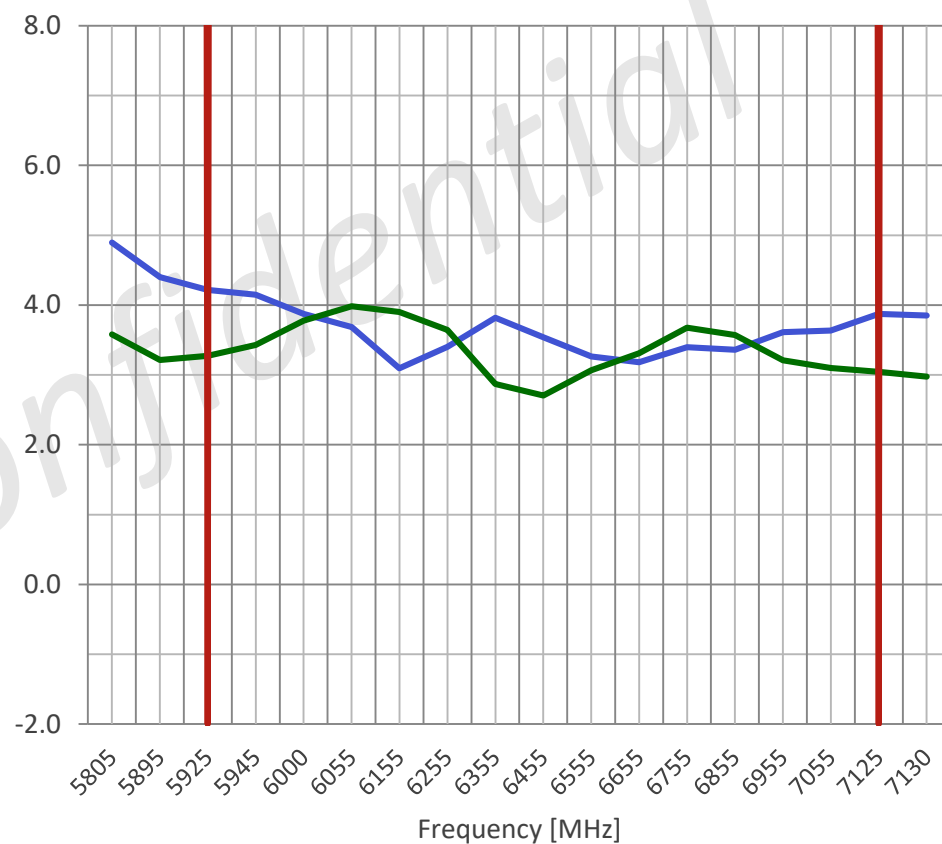
Frequency [MHz]

— BLE6G1 to 6G2 —

Efficiency/Peak Gain Wi-Fi 6G



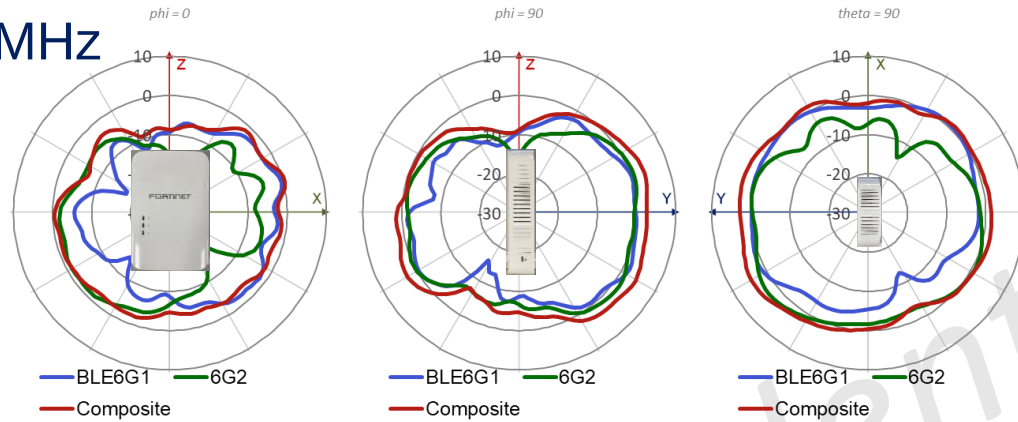
— BLE6G1 — 6G2 —



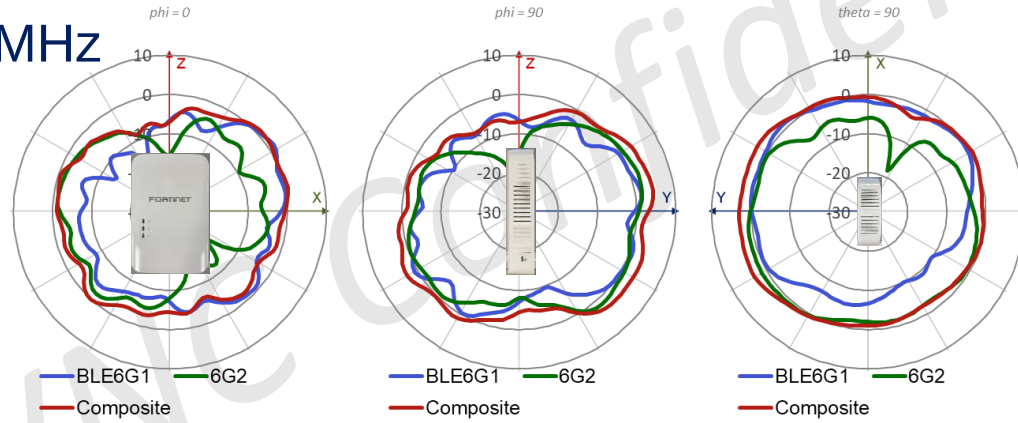
— BLE6G1 — 6G2 —

Realized Gain Pattern Wi-Fi 6G

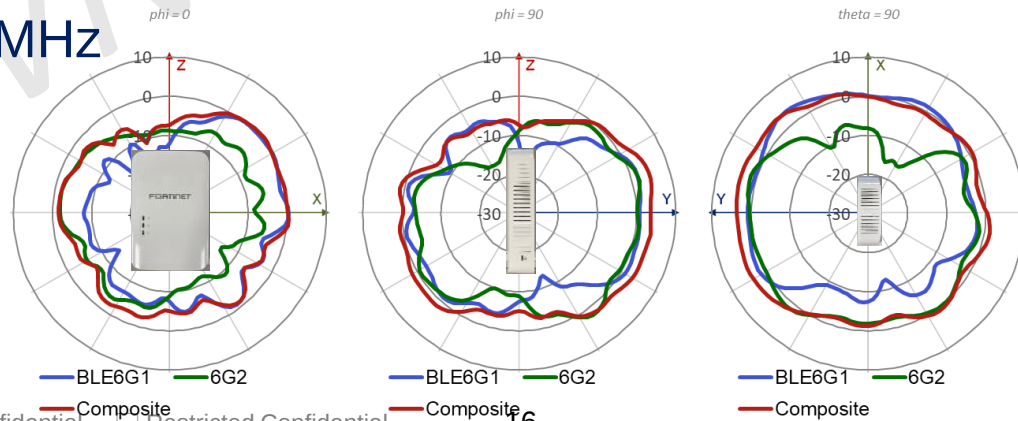
5925MHz



6555MHz

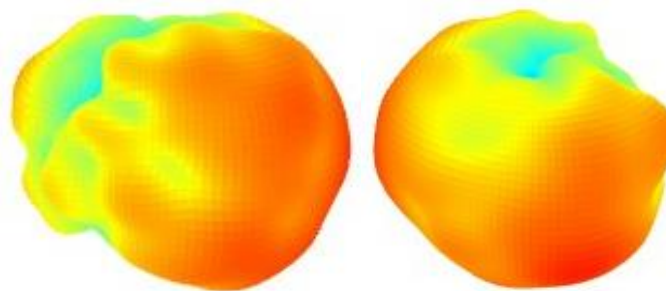
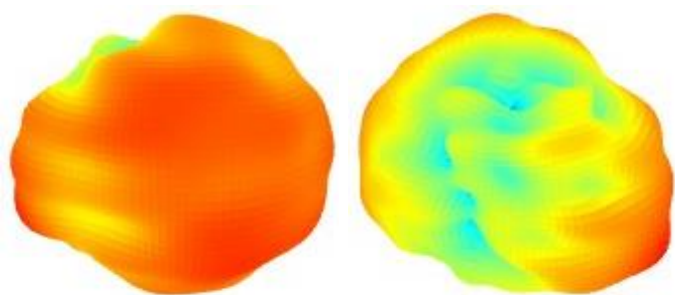


7125MHz

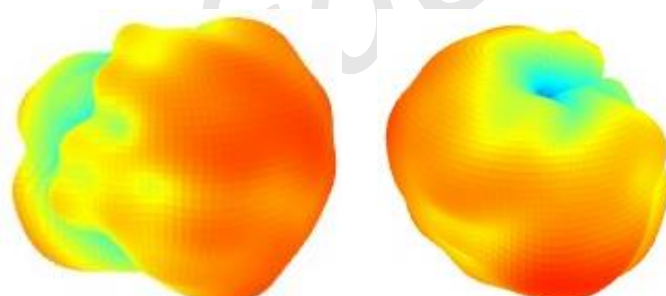
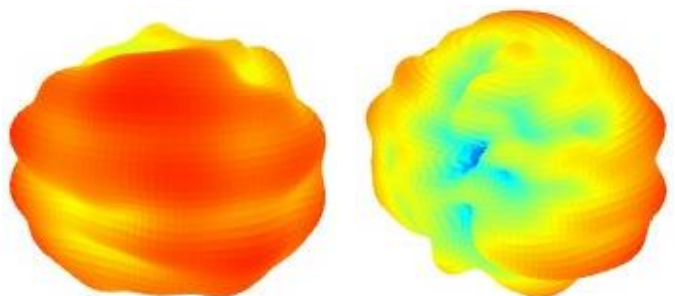


Realized Gain Pattern Wi-Fi 6G

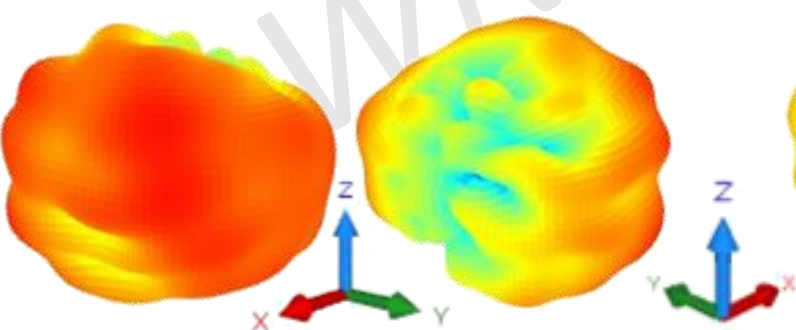
5925MHz



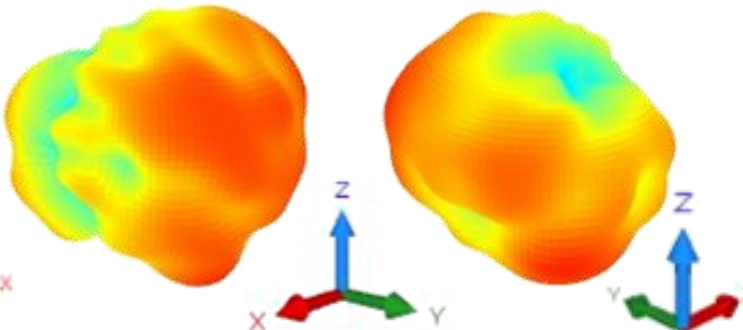
6555MHz



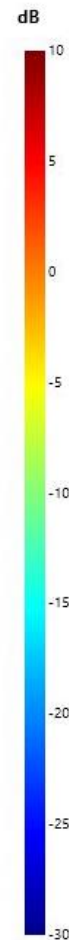
7125MHz



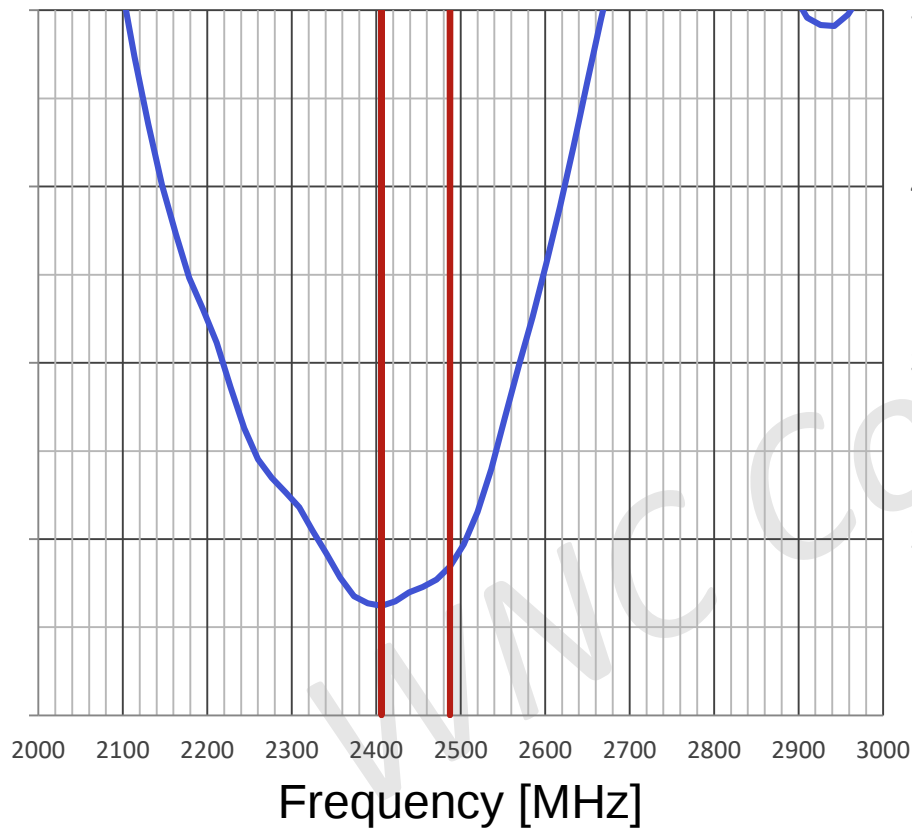
BLE6G1



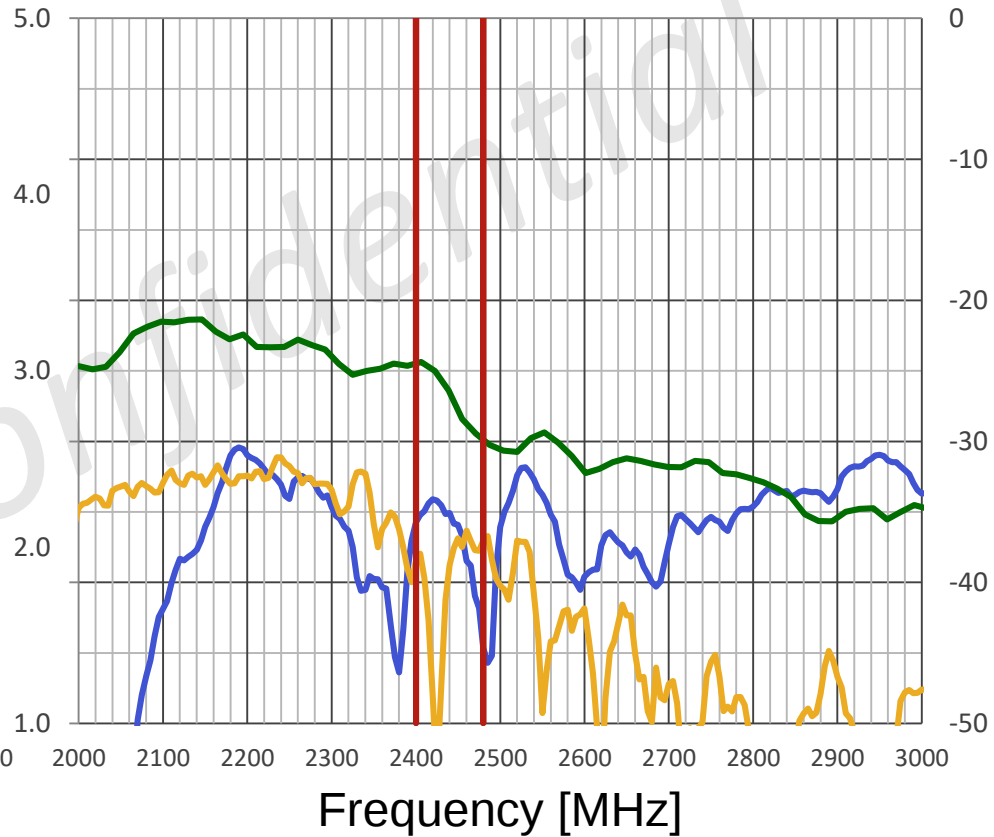
6G2



VSWR/Isolation BLE



— BLE6G1 —



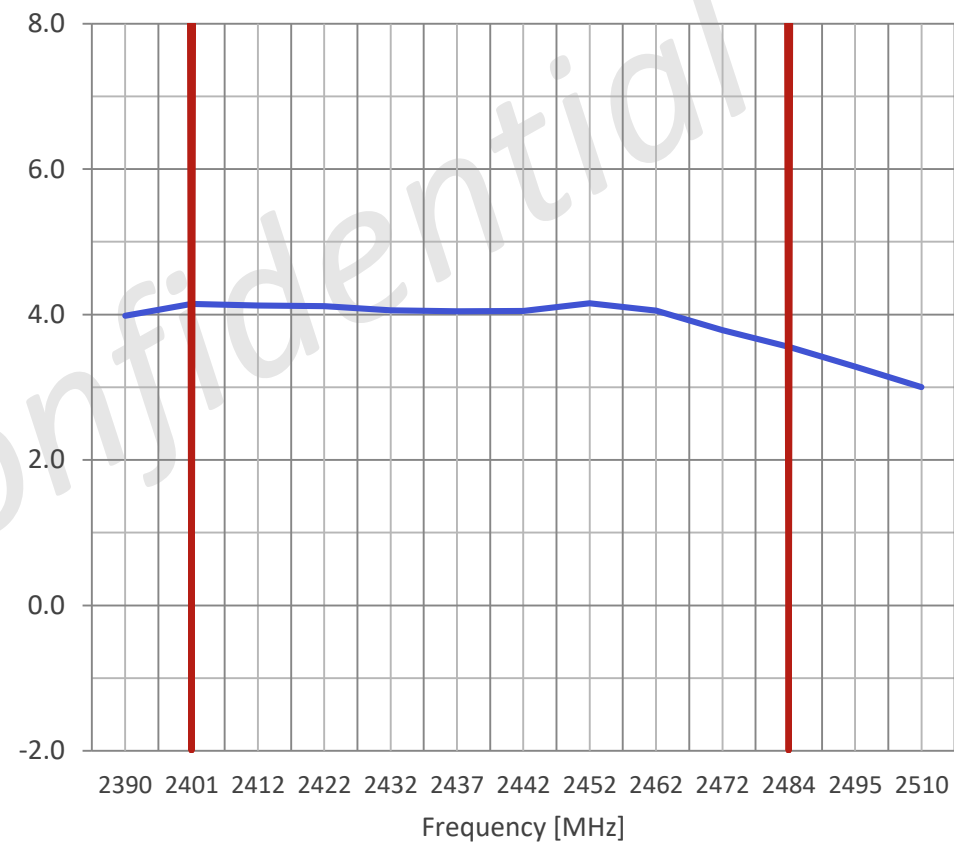
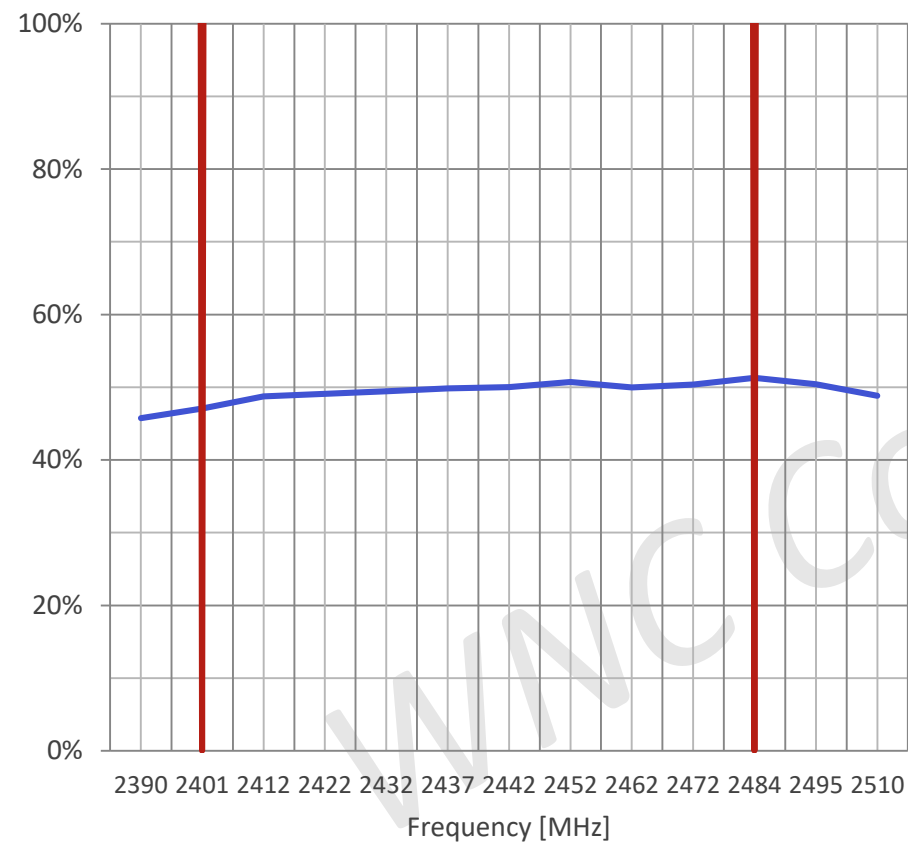
— BLE6G1 to 6G2

— DB1 to BLE6G1

— DB2 to BLE6G1

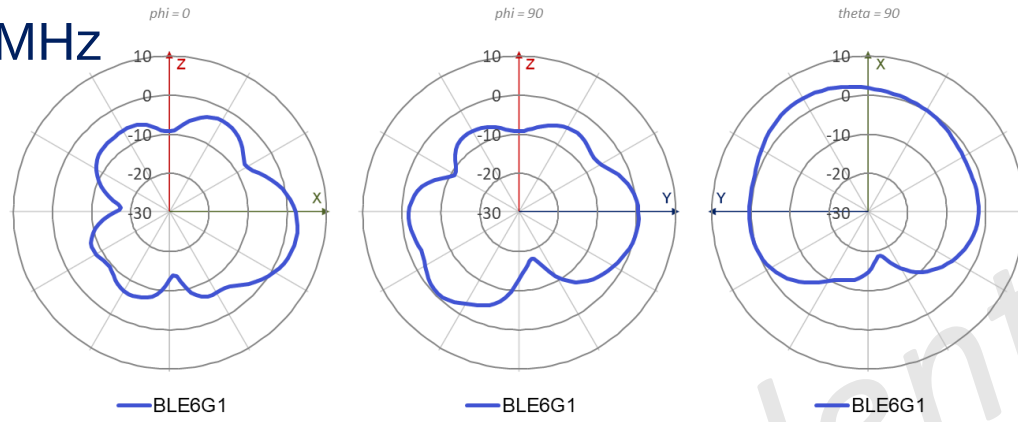
—

Efficiency/Peak Gain BLE

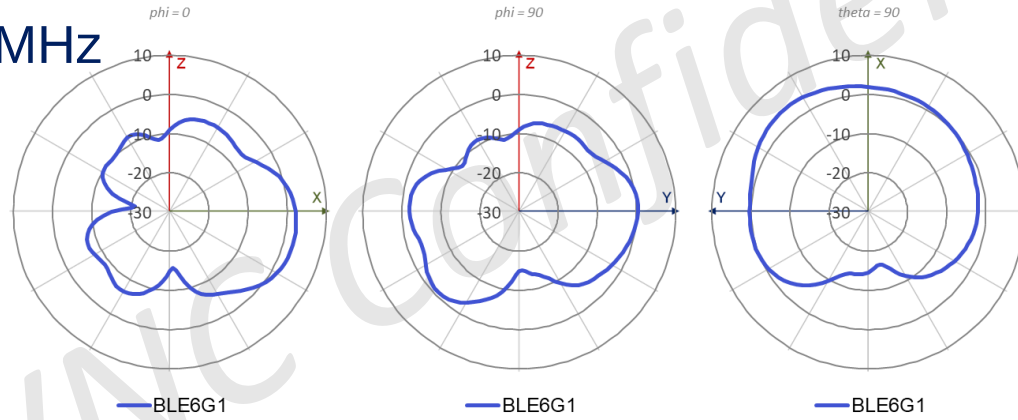


Realized Gain Pattern BLE

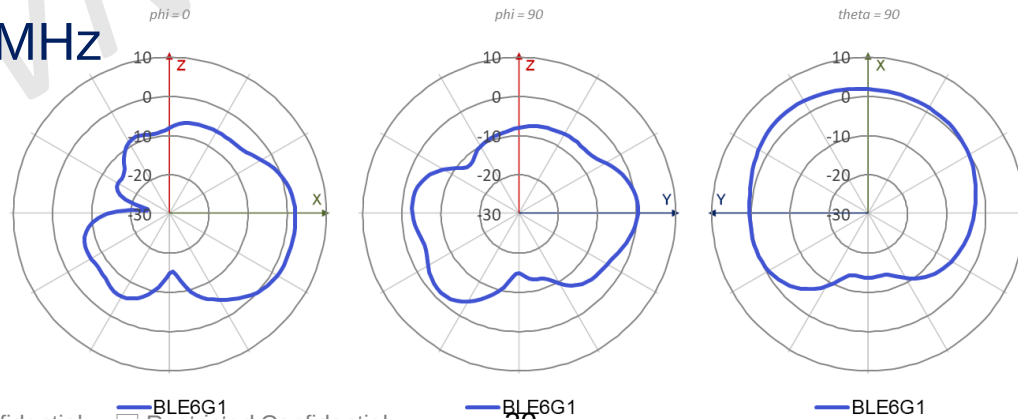
2401MHz



2452MHz

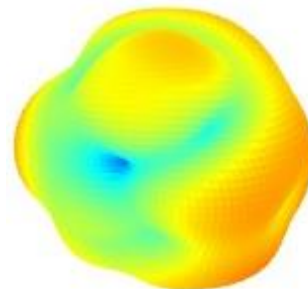
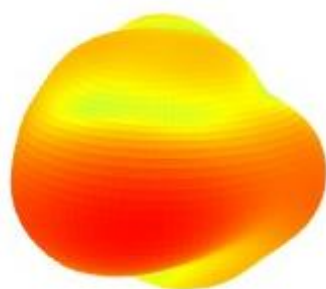


2484MHz

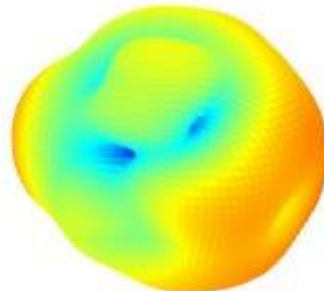
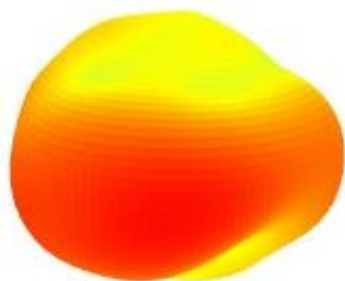


Realized Gain Pattern ^{BLE}

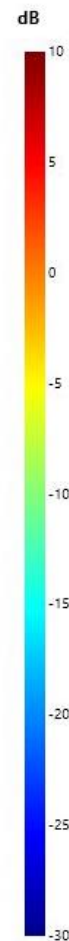
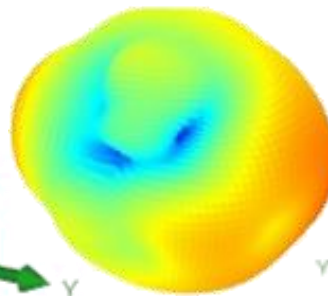
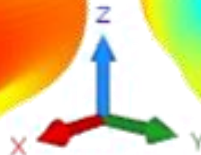
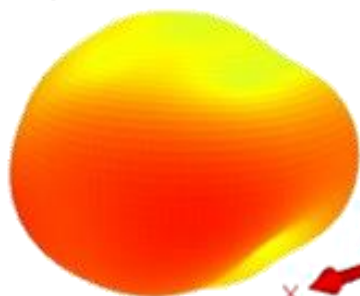
2401MHz



2452MHz

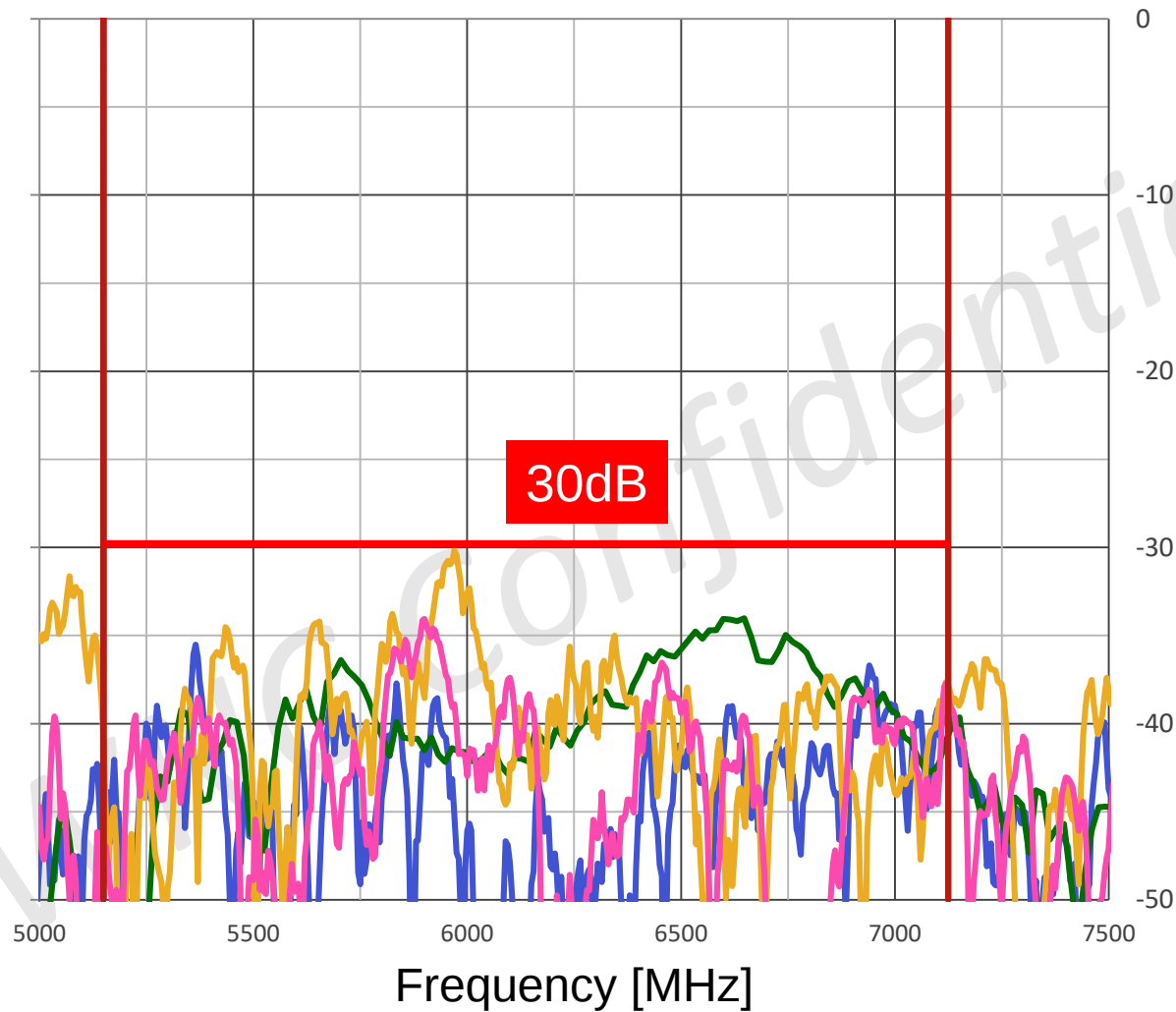


2484MHz



BLE6G1

Isolation Wi-Fi 2/5G to Wi-Fi 6G



— DB1 to 6G2 — DB1 to BLE6G1 — DB2 to 6G2
— DB2 to BLE6G1 —

The logo consists of the letters 'WNC' in a bold, blue, italicized sans-serif font. The 'W' and 'N' are connected, and the 'C' is a simple curve.

WNC

Wistron NeWeb Corp.

The background of the slide is a photograph of a modern, multi-story office building with a glass facade. The building is partially obscured by a large, out-of-focus green leaf in the foreground on the left. A smaller 'WNC' logo is visible on a sign on the building's facade. The sky is bright blue with some light clouds.

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