



AP3020W DVT Antenna Test Report

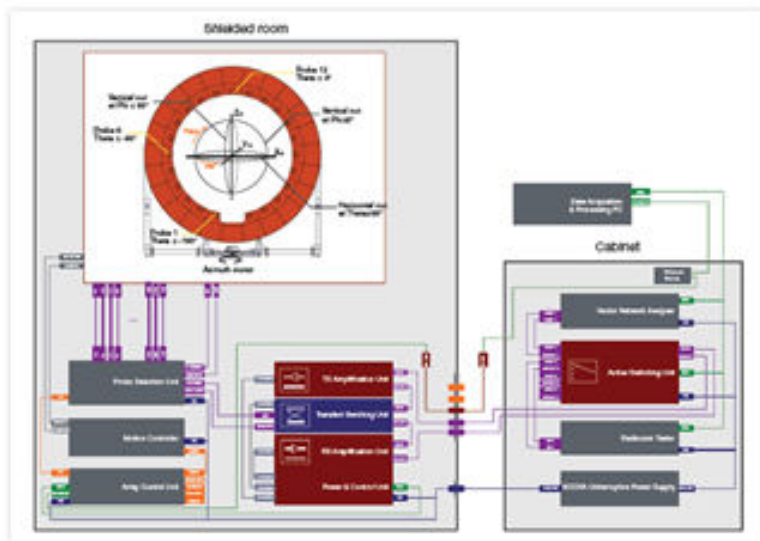
2026/03/31

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Chamber Information

- Antenna Vendor : WNC
- Test Date : 2026/01/14
- Test Engineer : Jack TJ Liu
- Measurement System : SATIMO SG24-L
- Software Name : Wave Studio
- Software Version : 22.5.6



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

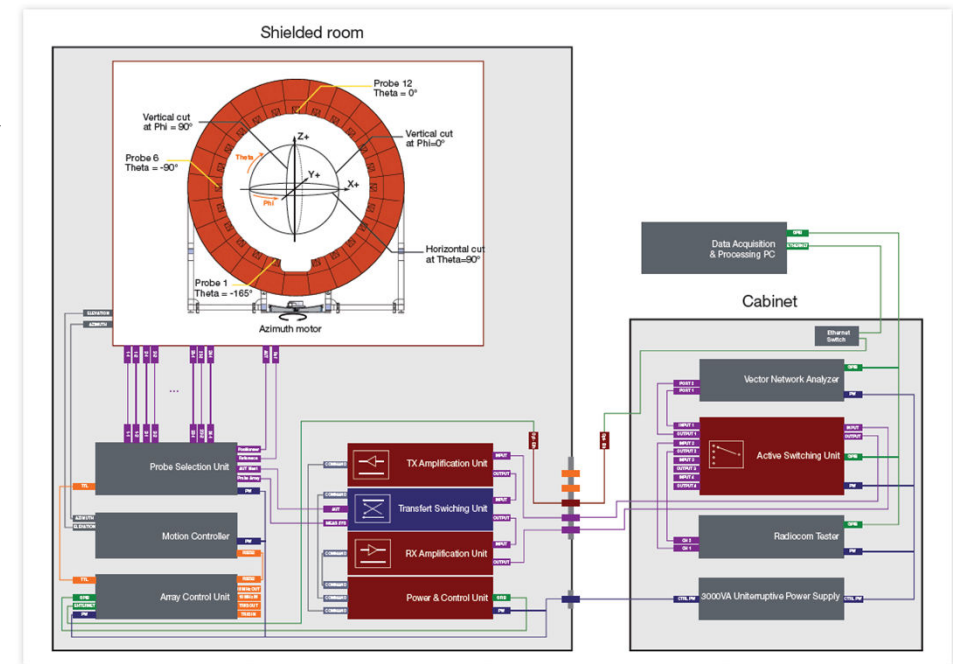
Test Equipment

■ Measurement System : SATIMO SG24-L Chamber

■ Measurement Setup

- pattern & gain measurement
 - SATIMO chamber (SG24-L)
 - SATIMO program (wave studio)
 - System overview
- Test item
 - antenna passive test 400MHz~9GHz

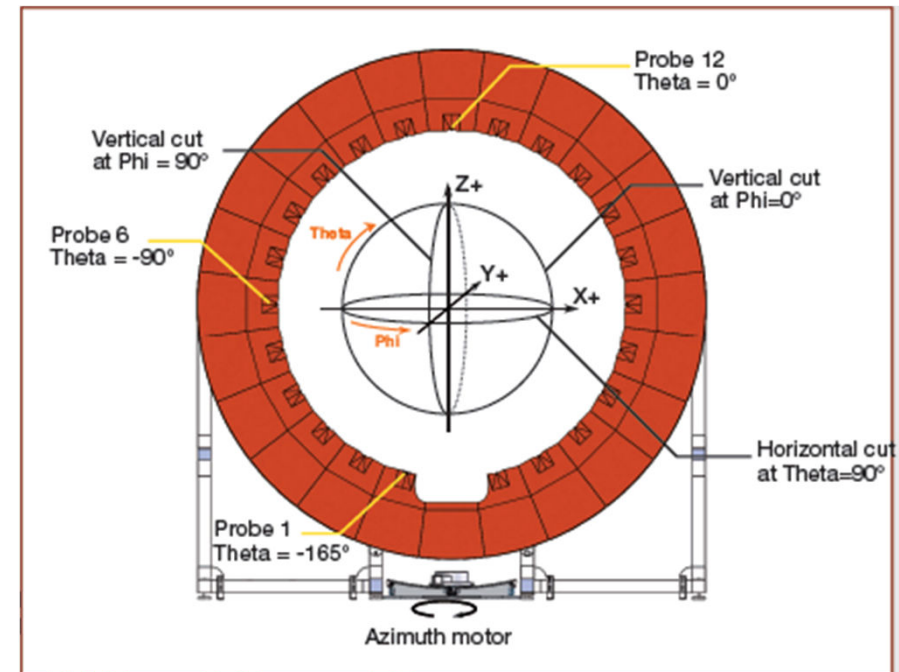
■ Calibration Information



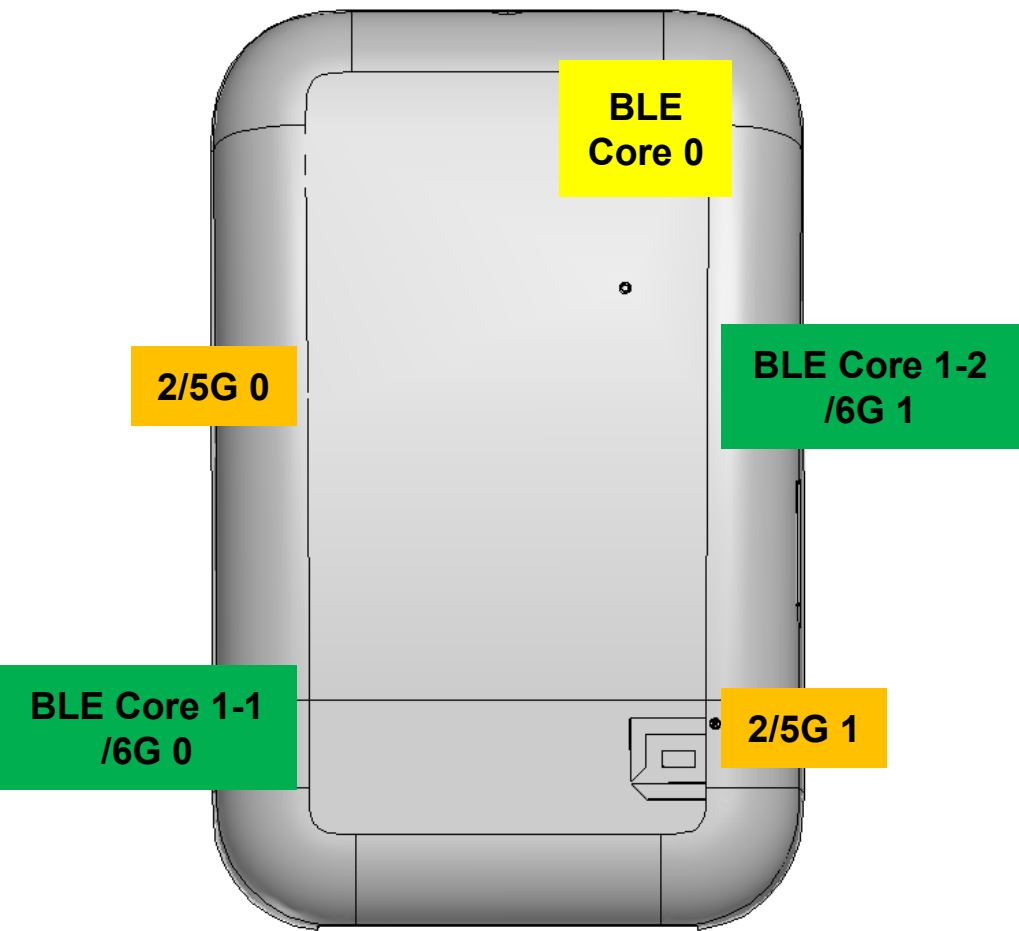
Device	Type / Model	Serial #	Manufacture	Cal. Date	Cal. Until
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2025-10-17	2026-10-16
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2025-10-17	2026-10-16

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



Brand	Antenna	WNC P/N	Antenna Type
WNC	2/5G 0	95XPAM15.GAD	Dipole
	2/5G 1	95XPAM15.GAC	Dipole
	BLE Core 1-1/6G 0	95XPAM15.GAF	Dipole
	BLE Core 1-2/6G 1	95XPAM15.GAE	Dipole
	BLE Core 0	48R7PB91.SGBASK	Printed PIFA

Peak Gain Table

Antenna	Peak Gain	Position of Peak Gain (θ , ϕ)
BLE Core 0	3.5 dBi	$\theta = 84^\circ$, $\phi = 63^\circ$

Antenna	Peak Gain	Position of Peak Gain (θ , ϕ)
BLE Core 1-1	4.7 dBi	$\theta = 96^\circ$, $\phi = 39^\circ$
BLE Core 1-2	6.0 dBi	$\theta = 78^\circ$, $\phi = 135^\circ$

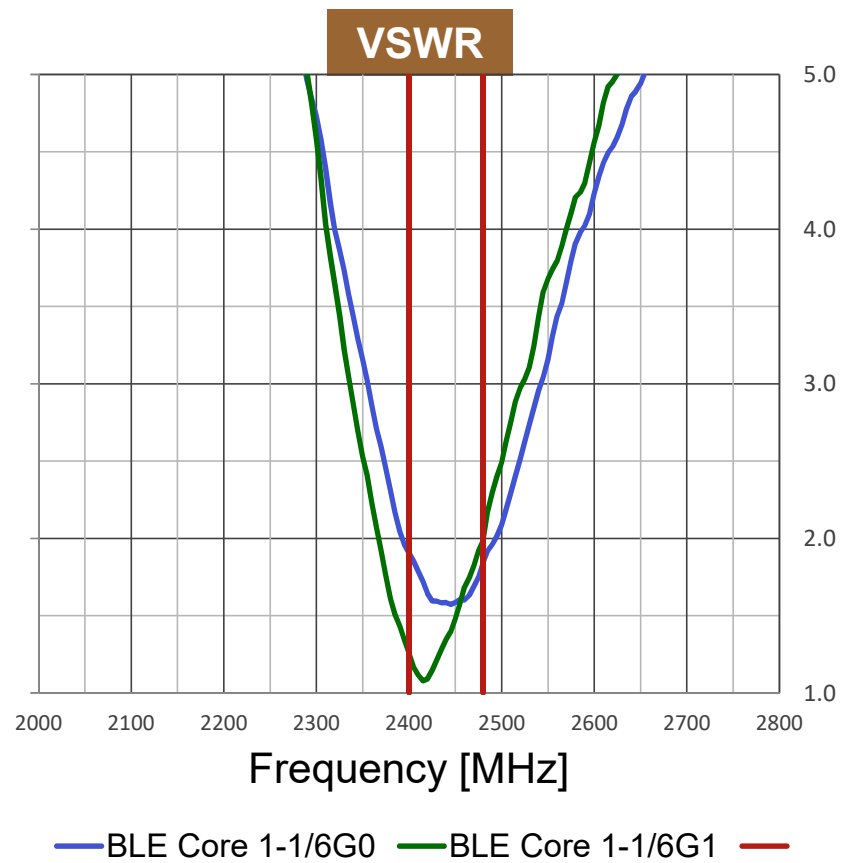
Antenna Performance Summary

Antenna	Frequency (GHz)	VSWR	Efficiency	Peak Gain
BLE Core 1-1	2.4-2.48	< 2.0	~ 59 %	4.7 dBi
BLE Core 1-2	2.4-2.48	< 2.0	~ 67 %	6.0 dBi
BLE Core 0	2.4-2.48	< 1.6	~ 50 %	3.5 dBi

BLE Core 1-1&1-2

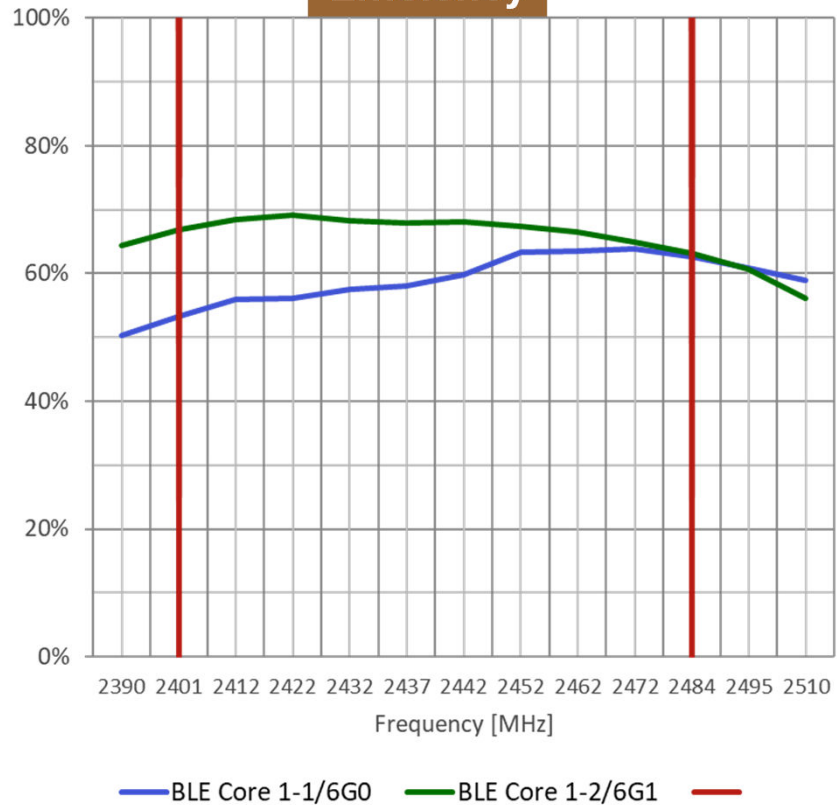


VSWR BLE Core 1-1&1-2

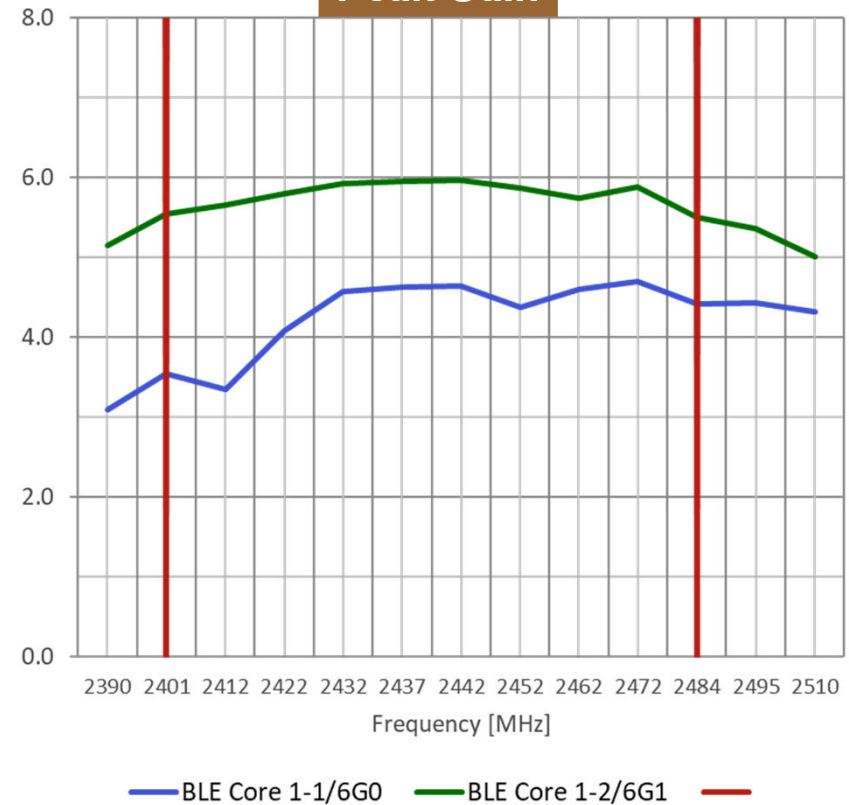


Efficiency & Peak Gain BLE Core 1-1&1-2

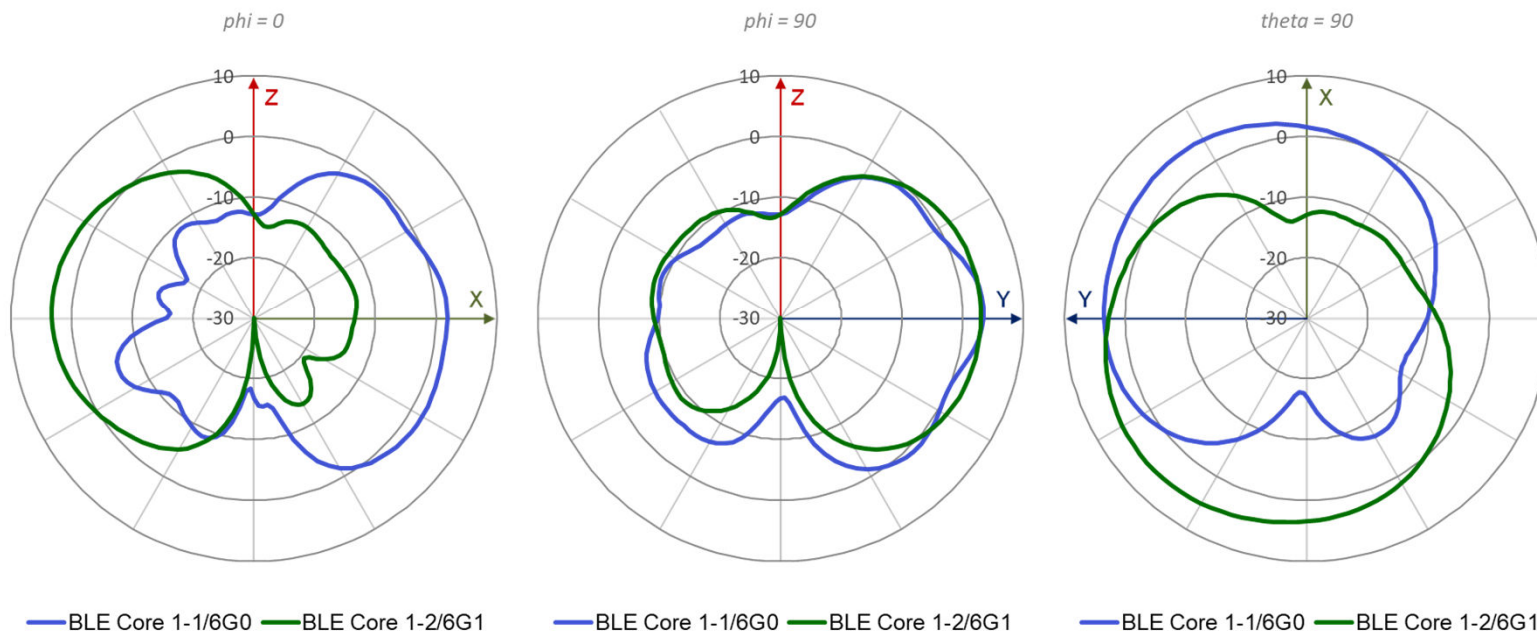
Efficiency



Peak Gain



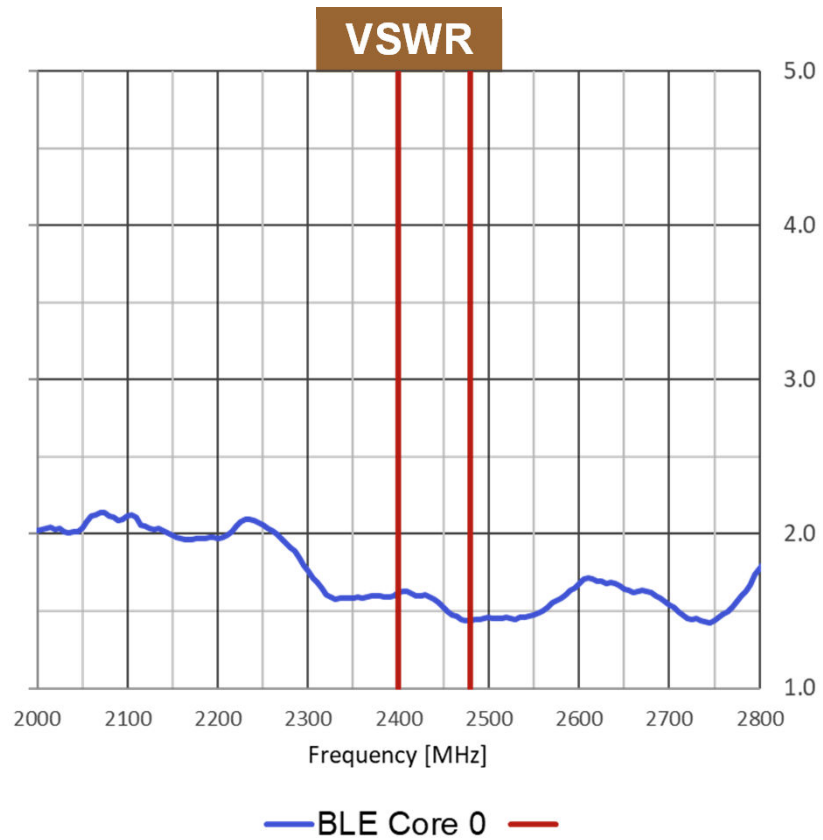
Realized Gain Pattern **BLE Core 1-1&1-2**



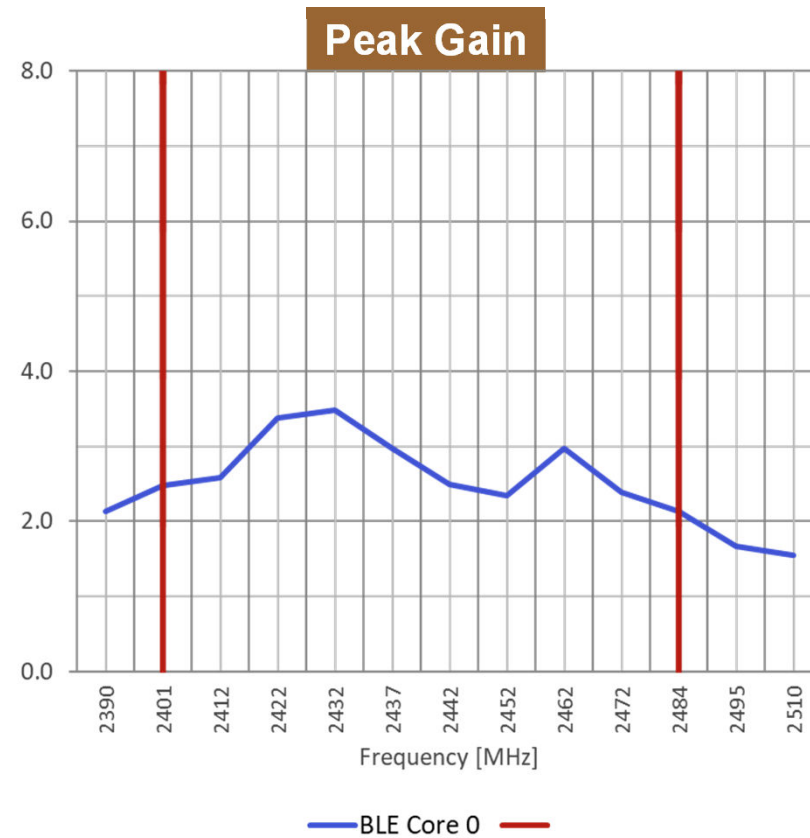
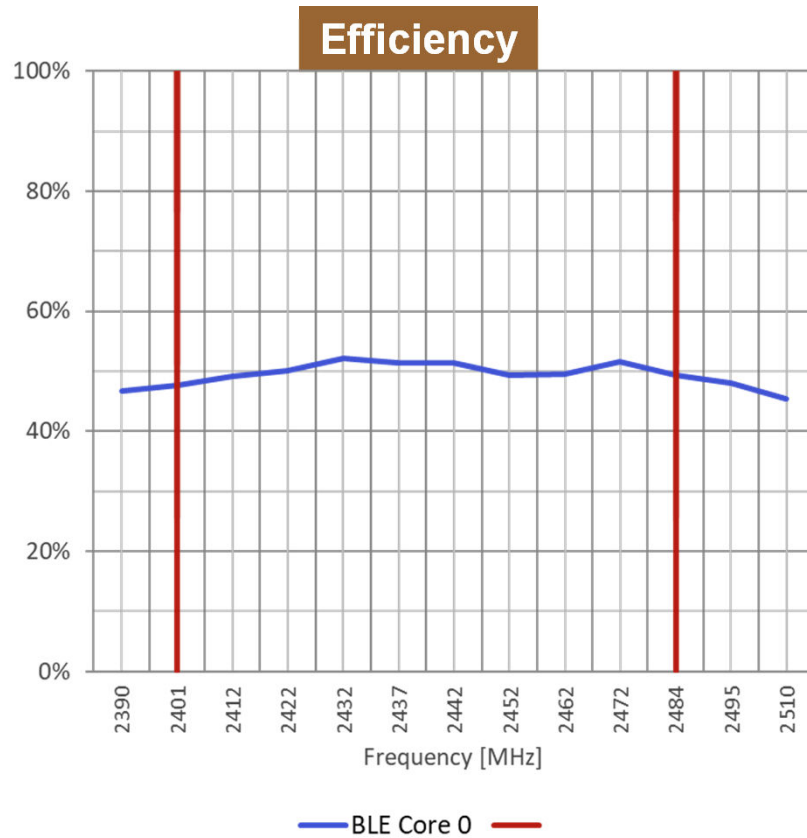
BLE Core 0



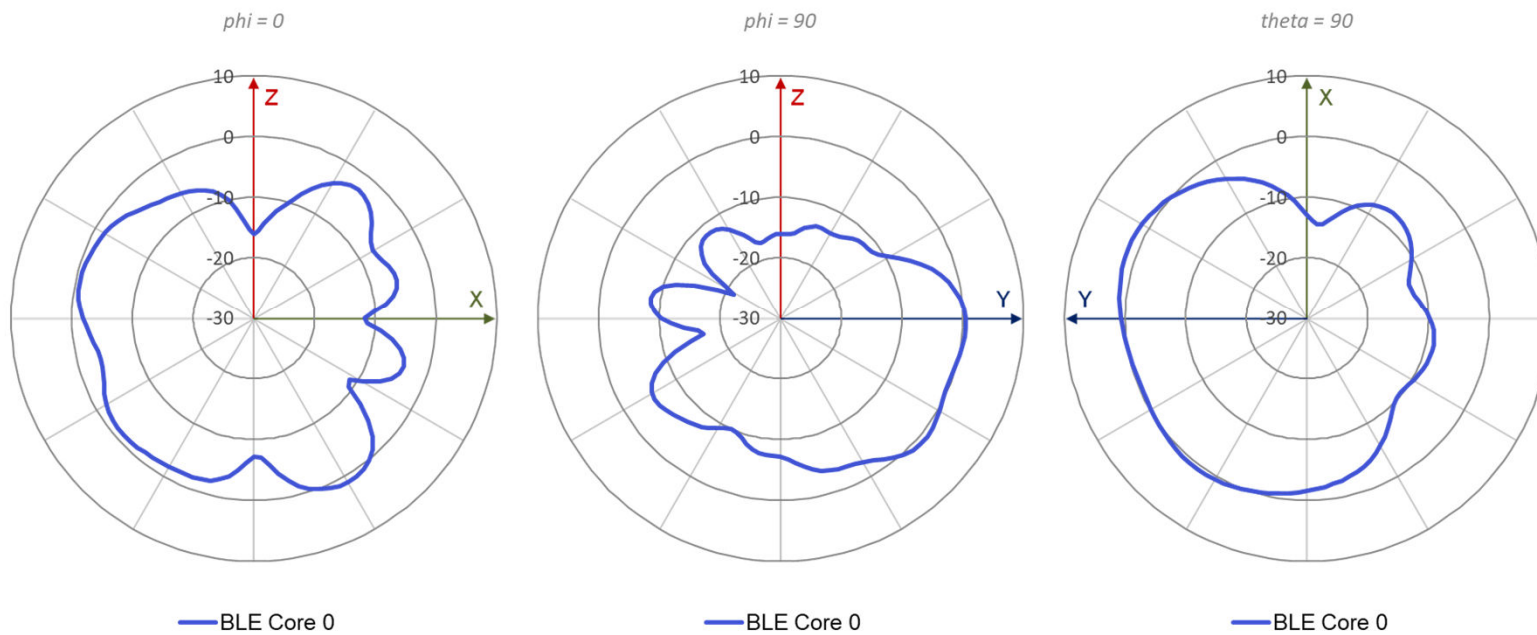
VSWR BLE Core 0



Efficiency & Peak Gain BLE Core 0



Realized Gain Pattern BLE Core 0



WNC

WNC Corporation

