



AP3020 DVT Antenna Test Report

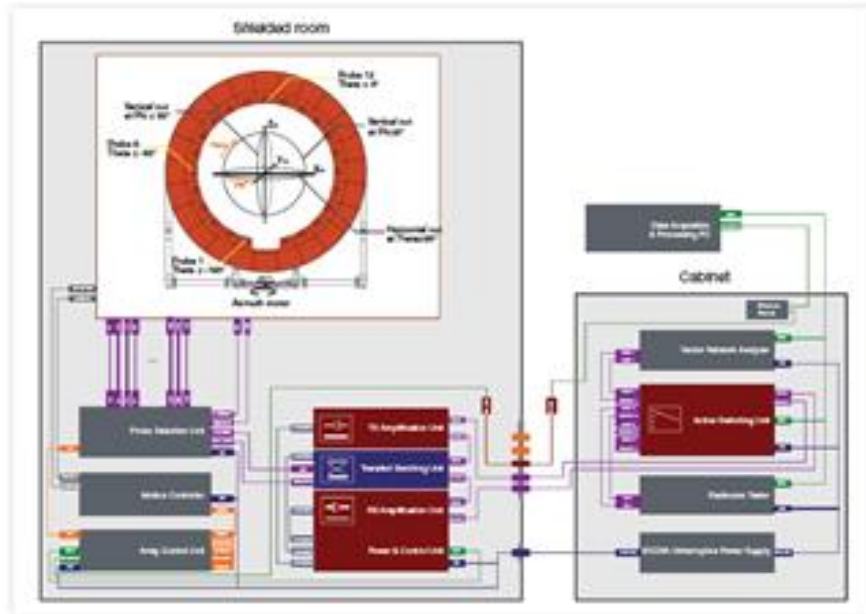
2026/08/07

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Chamber Information

- Antenna Vendor : WNC
- Test Date : 2026/06/04
- 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

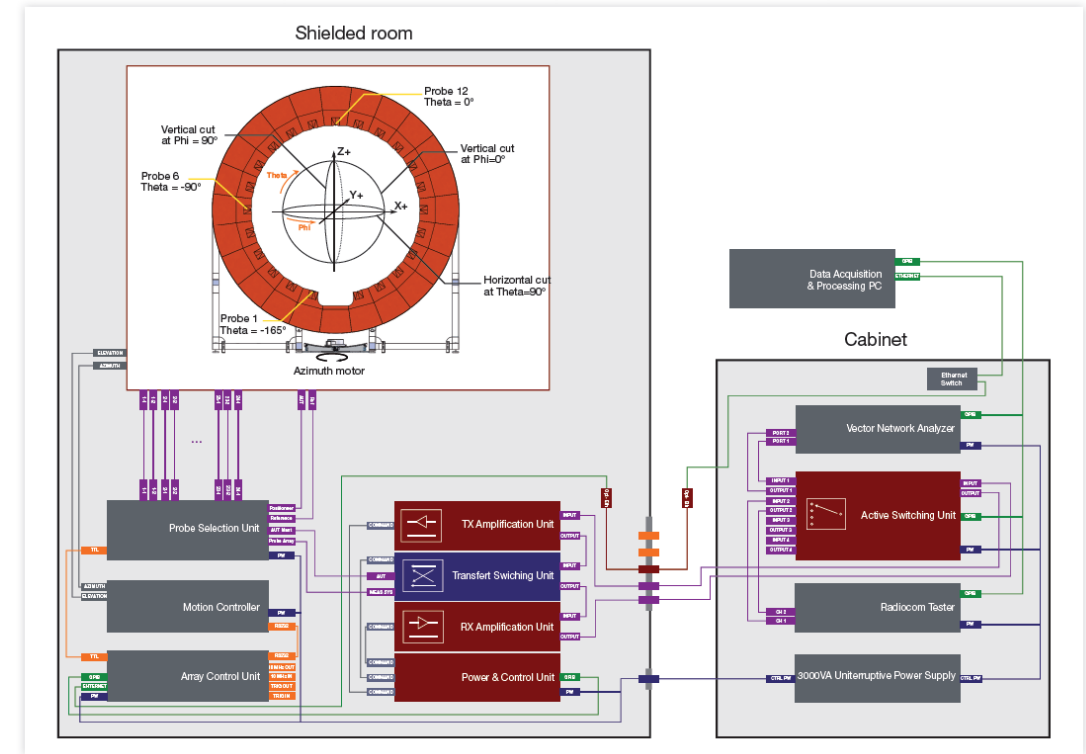
Test Equipment

■ 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

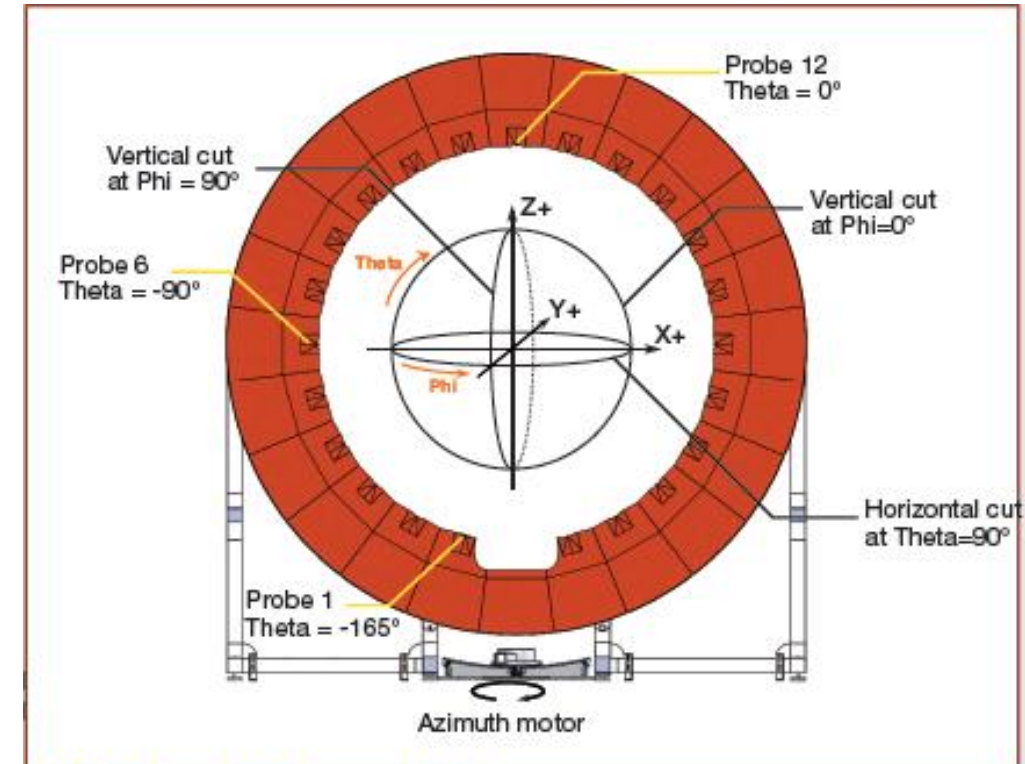
■ Calibration Information



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 P/N

Brand	Antenna	WNC P/N	Antenna Type
WNC	2/5G 0	95XPAM15.G90	PIFA
	2/5G 1	95XPAM15.G91	Dipole
	2/5GL/6G 0	95XPAM15.G93	PIFA
	2/5GL/6G 1	95XPAM15.G92	Dipole
	BLE Core 0 (802.15.4)	95XPAM15.G94	PIFA
	BLE Core 1-1 (802.15.4)	95XPAM15.GAP	PIFA
	BLE Core 1-2 (802.15.4)	95XPAM15.GAQ	Dipole

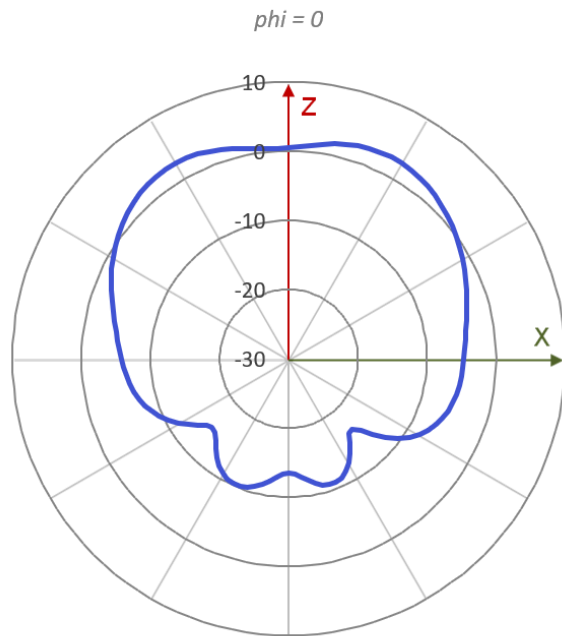
Peak Gain Table

Antenna	Peak Gain	Antenna Polarization	Position of Peak Gain (θ , ϕ)
BLE Core 0 (802.15.4)	4.5 dBi	V-Pol	$\theta = 36^\circ$, $\phi = 66^\circ$
BLE Core 1-1 (802.15.4)	4.5 dBi	V-Pol	$\theta = 39^\circ$, $\phi = 279^\circ$
BLE Core 1-2 (802.15.4)	4.9 dBi	H-Pol	$\theta = 27^\circ$, $\phi = 141^\circ$

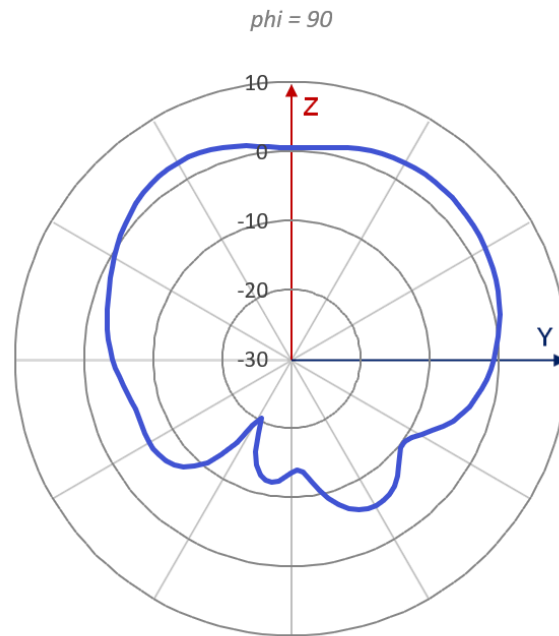
Antenna Performance Summary

Antenna	Frequency (GHz)	VSWR	Peak Gain
BLE Core 0 (802.15.4)	2.4-2.48	< 2.0	4.5 dBi
BLE Core 1-1 (802.15.4)	2.4-2.48	< 2.0	4.5 dBi
BLE Core 1-2 (802.15.4)	2.4-2.48	< 2.0	4.9 dBi

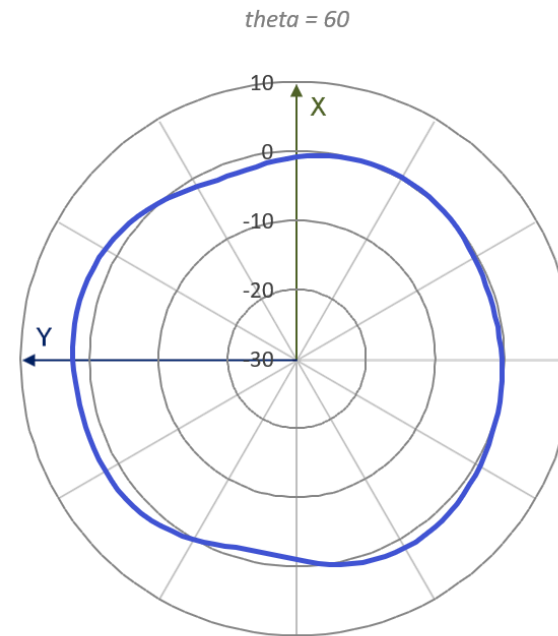
Realized Gain Pattern BLE Core 0(802.15.4)



— BLE Core 0(802.15.4)

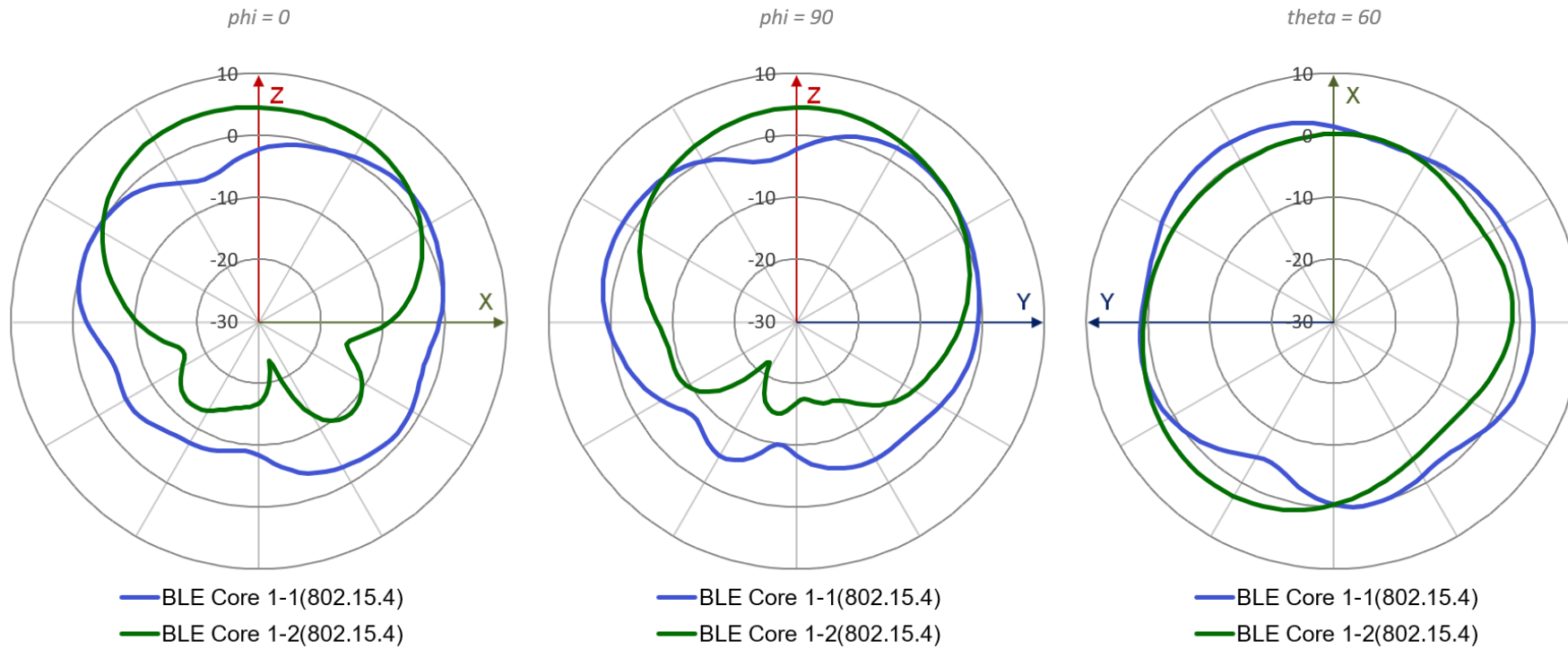


— BLE Core 0(802.15.4)



— BLE Core 0(802.15.4)

Realized Gain Pattern BLE Core 1-1/1-2(802.15.4)



WNC

WNC Corporation

