



**Extreme
AP5060U
DVT**

ANTs Measurement Report

2025/09/05



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- General Information
 - Test Information
 - Test Equipment
 - Test Procedure
 - Setup Picture
- DVT Antenna Measurement Summary
- Result table of Antenna Measurement
 - 2D Radiation Pattern & Isolation

■ Antenna Result

- Antenna Type
- Peak Gain
- Radiation Pattern
- Isolation
 - Within Radio
 - Among Radio

■ Antenna List

- BLE0~2
- GPS

General Information

■ Antenna Information:

— Antenna type and part number :

Show as antenna result description

— Brand: WNC

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

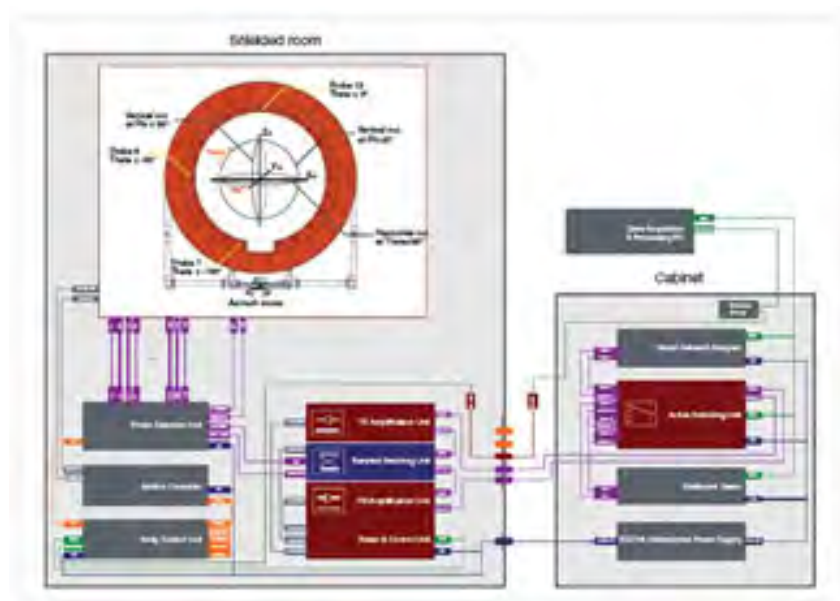
■ Test Date and Member

Date: 2025/07/21

Member: Alvin Hsu

Test Information

- Antenna Vendor : WNC
- Test Date (yyyymmdd) : 20250721
- Test Engineer : Alvin Hsu
- Measurement System : SATIMO SG24-L
- Software Name : Wave Studio
- Software Version : 22.5.6



Test Equipment

- Measurement System: SATIMO SG24-L Chamber

Setup architecture :

SG24-L system :

1. Hardware system (as Figure.1)
2. Software system (Wave Studio)

Test item :

1. Passive radiation properties of antenna

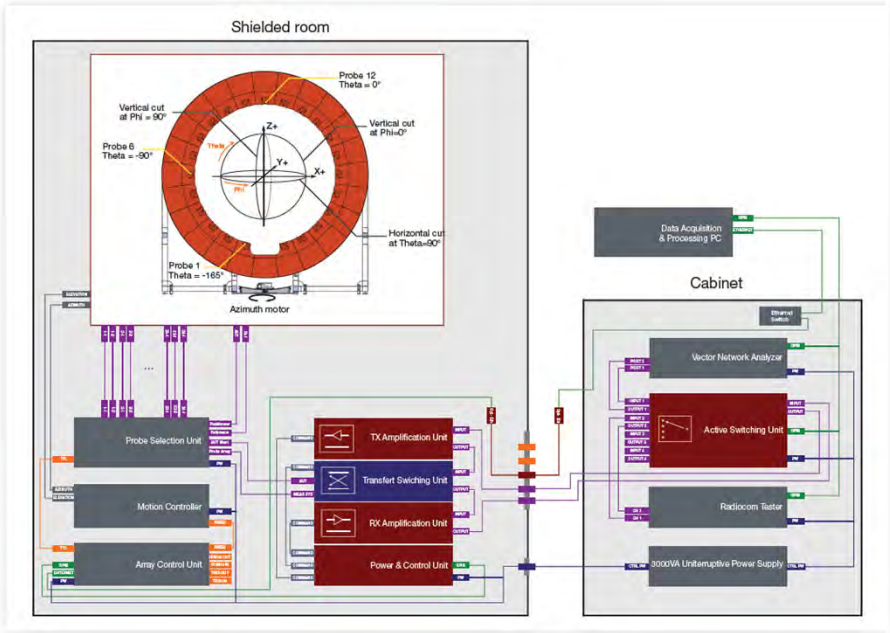


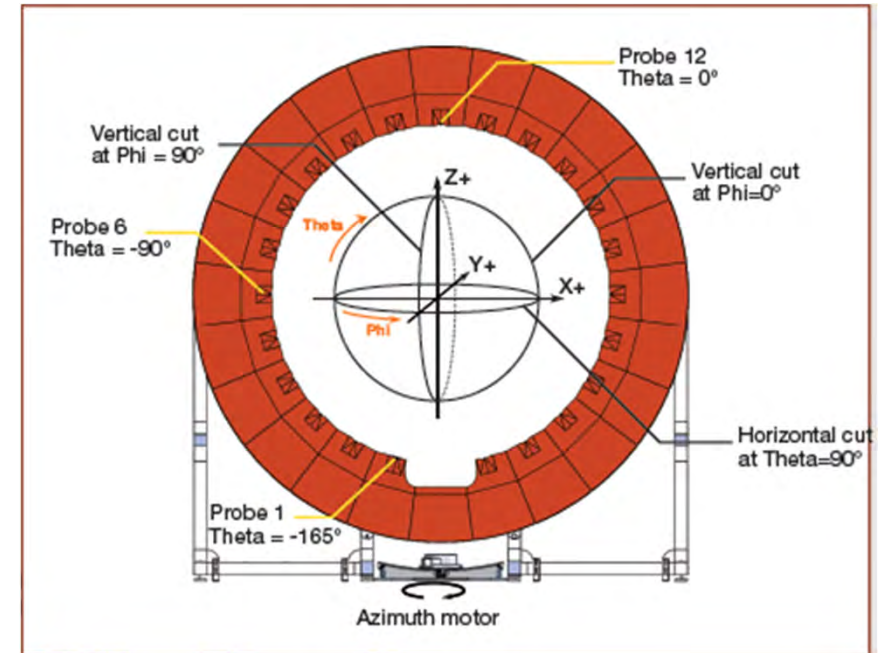
Figure.1 System diagram of SG24-L

- Calibration Information

Device	Type / Model	Serial #	Manufacture	Cal. Date	Cal. Until
Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2024-08-09	2025-10-17
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2024-08-09	2025-10-17

Test Procedure

1. Align and fix the DUT in center of the chamber .
2. Connect the DUT with RF connector of test device .
3. Adjust the settings (name , frequency , dimension) , and operate the Wave Studio program .
4. Get the 3D data by each 3 degrees one step for phi and theta , including efficiency , peak gain , 2D and 3D radiation pattern .
5. This is near field test for antenna verification .
6. This procedure only for passive mode .



Theta : 0 to 180 degrees

Phi : 0 to 360 degrees

DVT Antenna Measurement Summary

Base on the placement as EVT , DVT measurement result similar with EVT result , as result table show .

Result of antenna including cable loss .

Radio	Frequency (GHz)	VSWR	Efficiency (%)	Peak Gain (dBi)	Max Compositd Gain (dBi)	Isolation (within radio)	Isolation (Among radio)
BLE / 802.15.4	2.4-2.5	< 2.0	~62%	5.5 dBi	NA	21 dB	GPS to other radio : 29 dB @ L5 ; 22 dB @ L1 23 dB @ 2GHz ; 23 dB @ 5-7GHz
GPS	1.16-1.19 1.56-1.59	< 2.0	~59% ~56%	3.1 dBi 4.0 dBi	NA	NA	

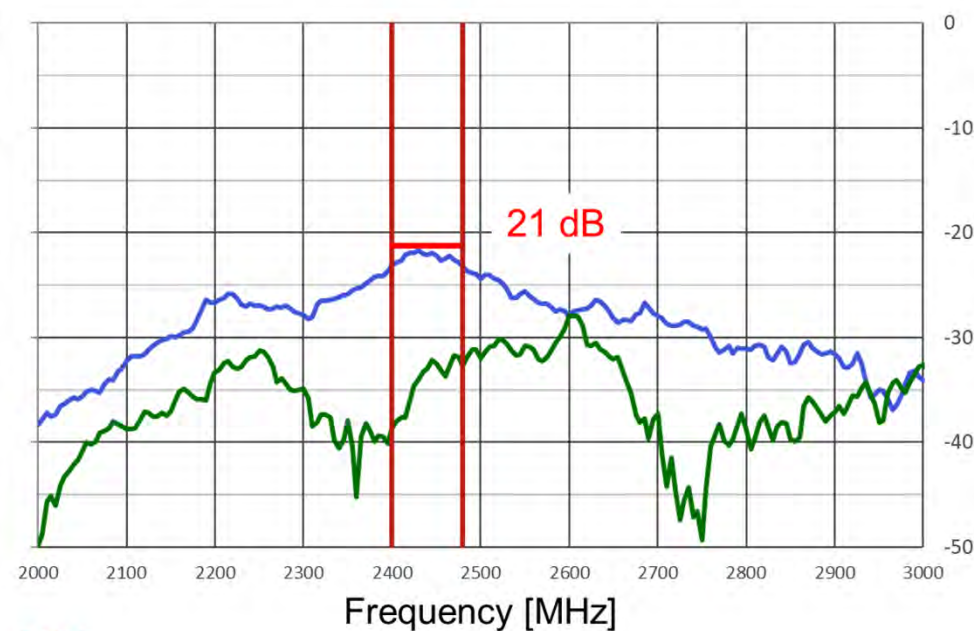
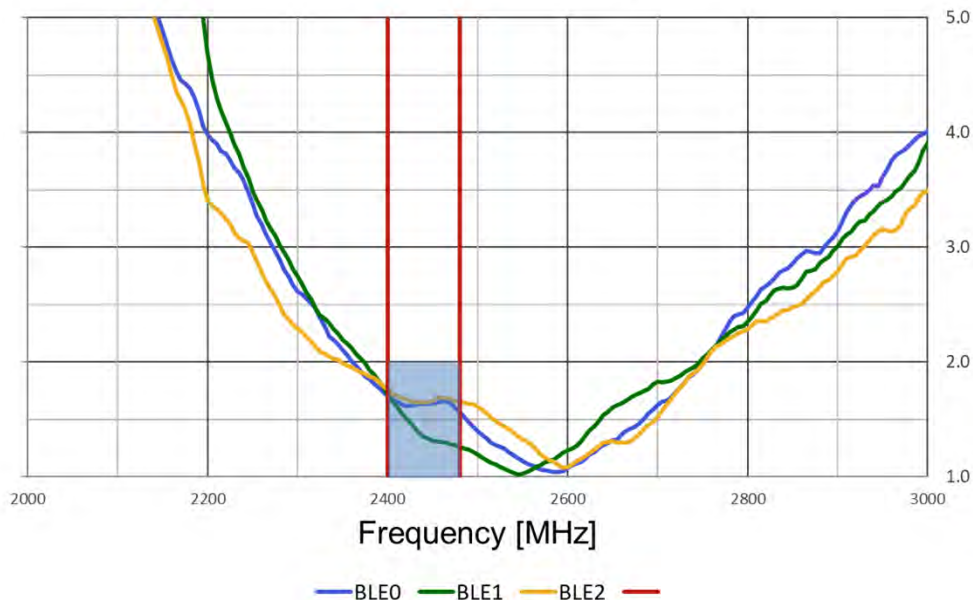
BLE / 802.15.4

Ant	Brand	WNC Part Number	Type
BLE0	WNC	95XPAM15.G15	Metal PIFA
BLE1	WNC	95XPAM15.G16	Metal PIFA
BLE2	WNC	95XPAM15.G17	Metal PIFA

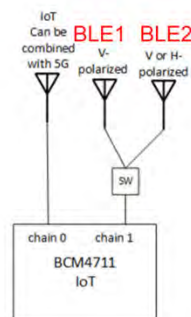
- VSWR
- Average Efficiency
- Peak Gain
- Radiation Pattern
- Isolation (Within Radio)



VSWR & Isolation @ BLE / 802.15.4



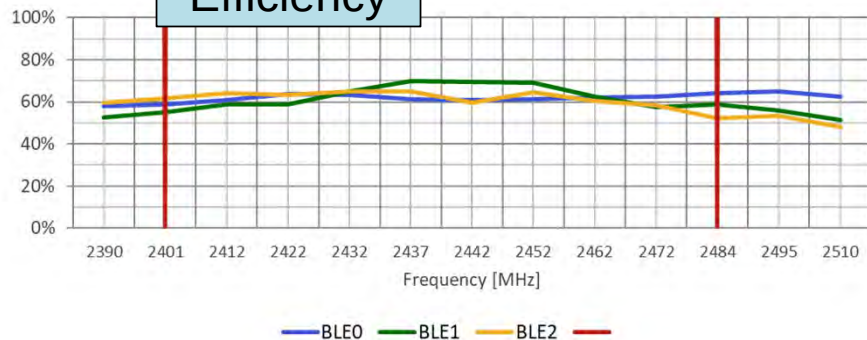
BLE0



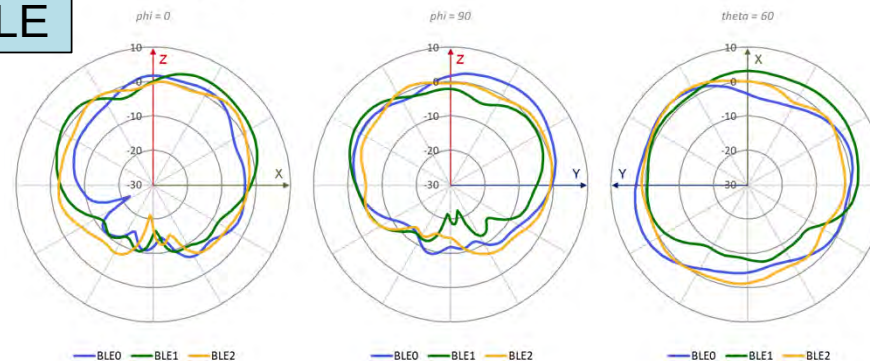
Base on BCM4711 chain 1 setting , BLE1 and BLE2 will not operate in same time by switch controlled .

Efficiency & Peak Gain & Radiation @ BLE / 802.15.4

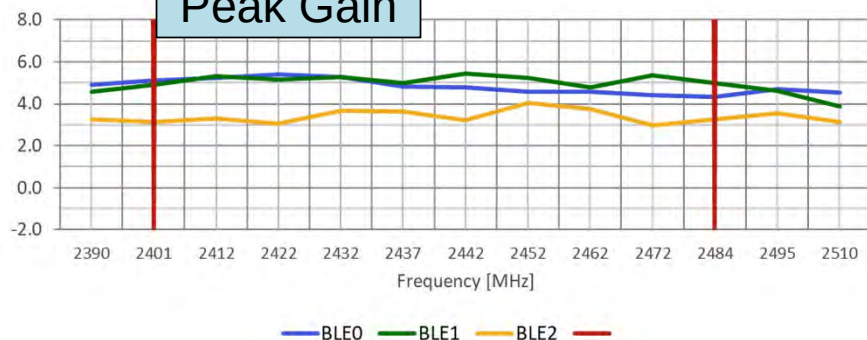
Efficiency



BLE



Peak Gain



2.4GHz	Max	Mean	Min
BLE0	5.4 dBi	4.9 dBi	4.3 dBi
BLE1	5.5 dBi	5.1 dBi	4.8 dBi
BLE2	4.0 dBi	3.4 dBi	3.0 dBi
Summary	5.5 dBi	4.5 dBi	3.0 dBi

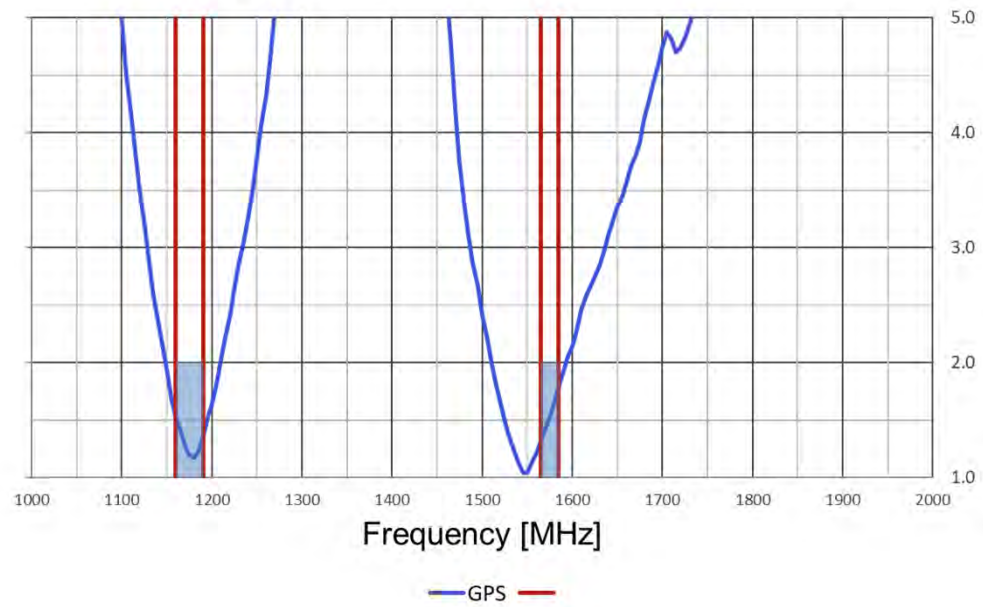
GPS

Ant	Brand	WNC Part Number	Type
GPS	WNC	95XPAM15.G18	Metal PIFA

- VSWR
- Average Efficiency
- Peak Gain
- Radiation Pattern

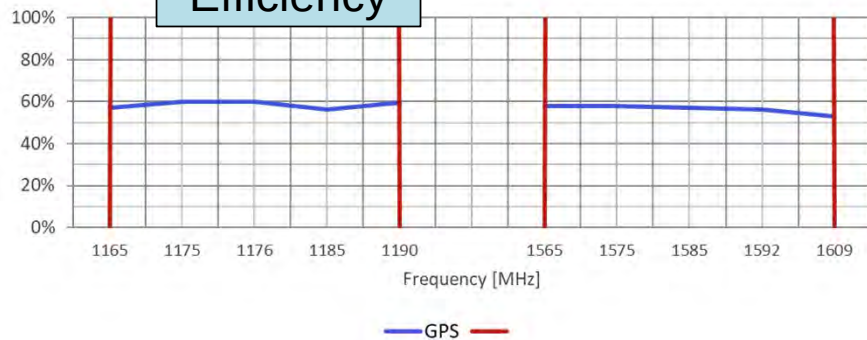


VSWR @ GPS

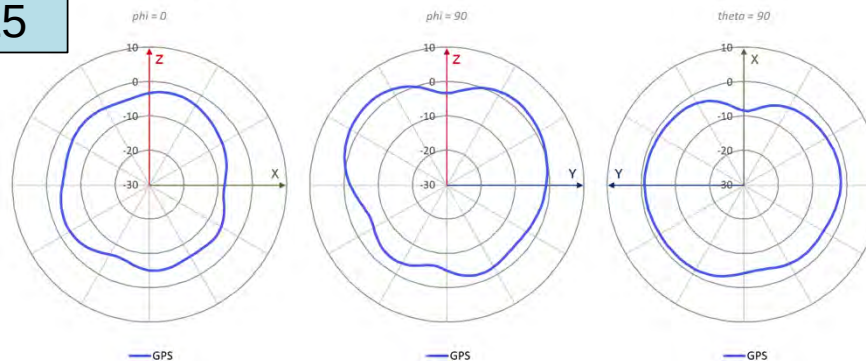


Efficiency & Peak Gain & Radiation @ GPS

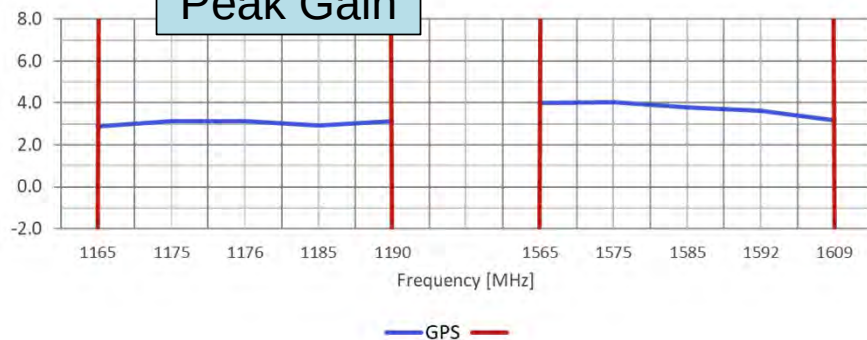
Efficiency



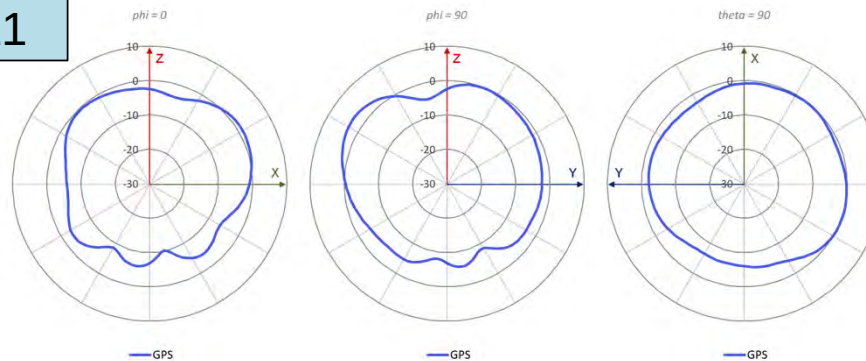
L5



Peak Gain



L1



Isolation (Among Radio)

■ WiFi

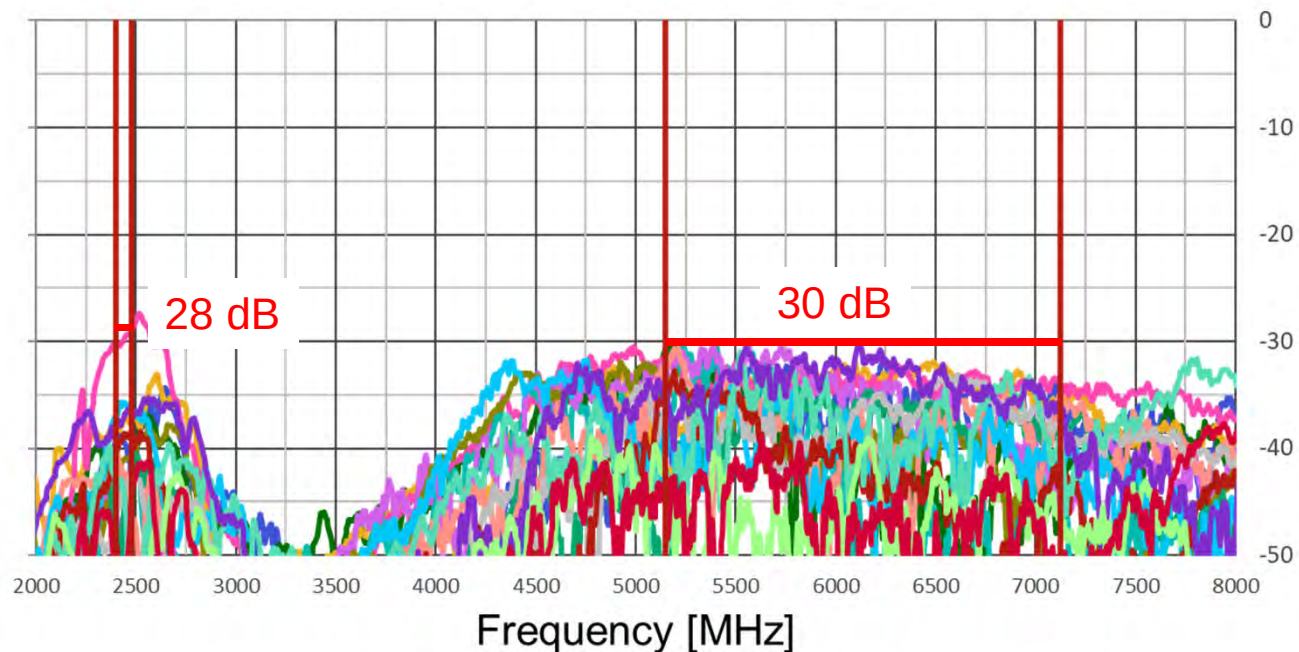
- 25G to 56G
- 56G to 6G
- 25G to 6G

■ GPS

- GPS to other radio



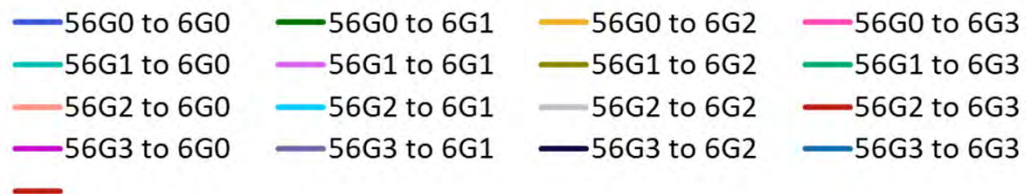
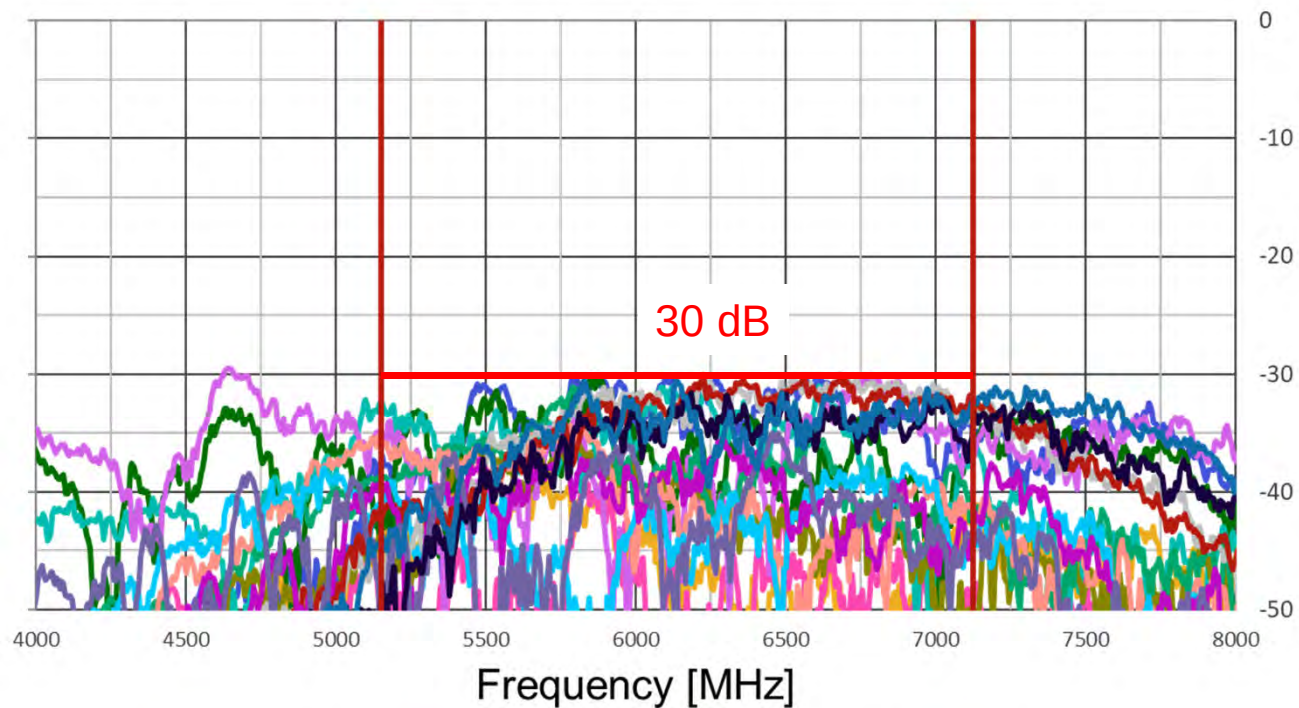
Isolation (Among Radio) @ WiFi 25G to 56G



- 25G0 to 56G0 — 25G0 to 56G1 — 25G0 to 56G2 — 25G0 to 56G3
- 25G1 to 56G0 — 25G1 to 56G1 — 25G1 to 56G2 — 25G1 to 56G3
- 25G2 to 56G0 — 25G2 to 56G1 — 25G2 to 56G2 — 25G2 to 56G3
- 25G3 to 56G0 — 25G3 to 56G1 — 25G3 to 56G2 — 25G3 to 56G3

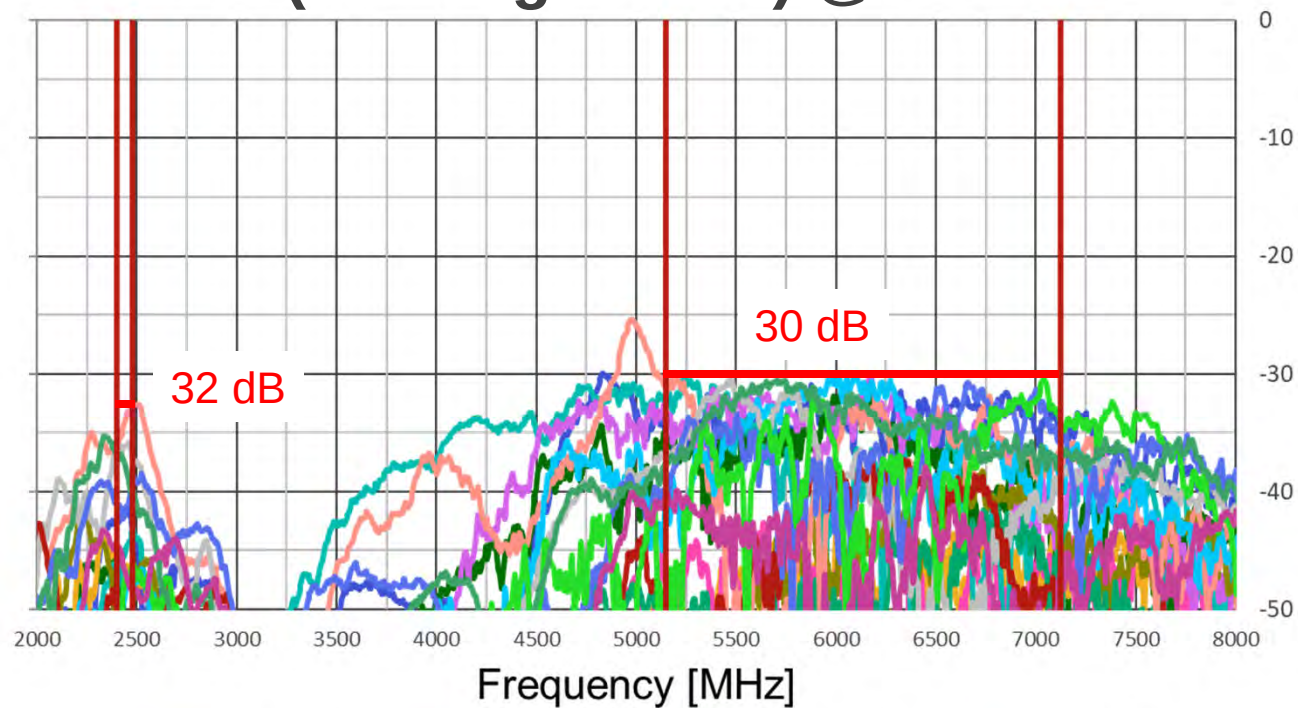
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Isolation (Among Radio) @ WiFi 56G to 6G



Normal

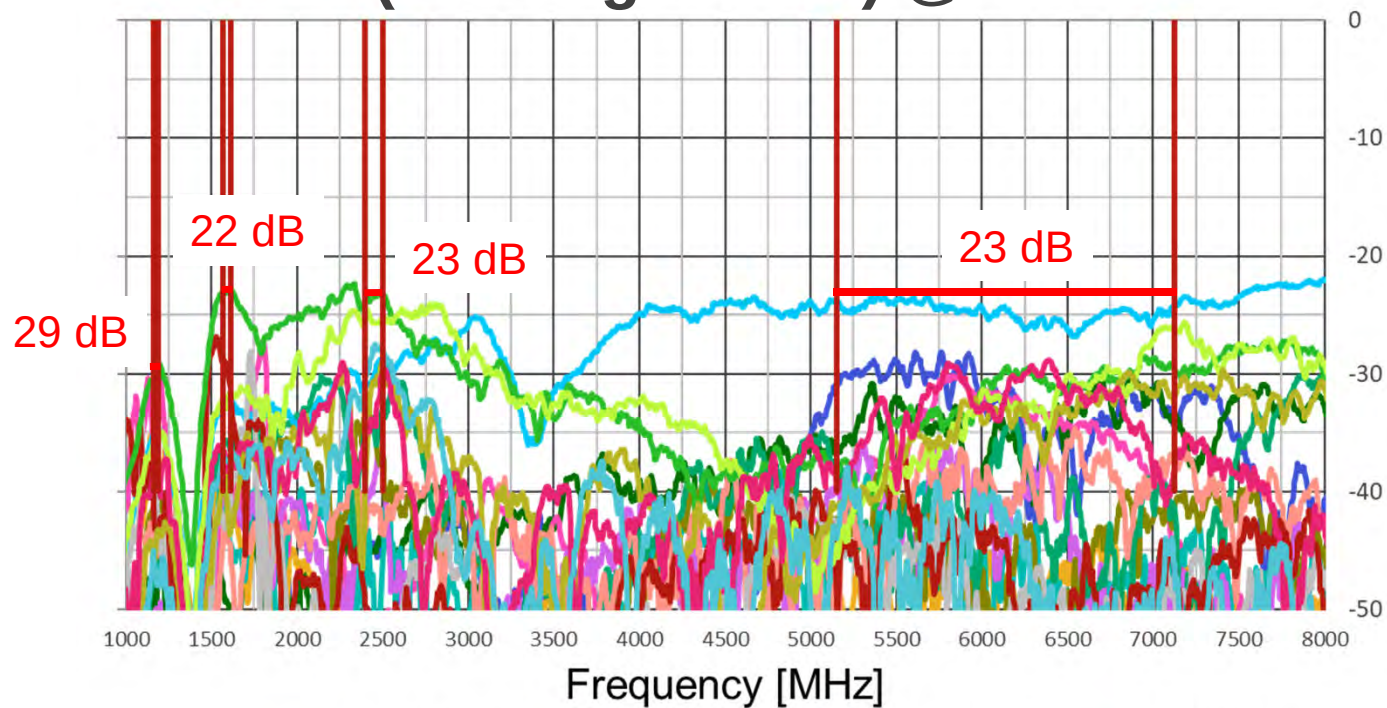
Isolation (Among Radio) @ WiFi 25G to 6G



- | | | | |
|-------------|-------------|-------------|-------------|
| 25G0 to 6G0 | 25G0 to 6G1 | 25G0 to 6G2 | 25G0 to 6G3 |
| 25G1 to 6G0 | 25G1 to 6G1 | 25G1 to 6G2 | 25G1 to 6G3 |
| 25G2 to 6G0 | 25G2 to 6G1 | 25G2 to 6G2 | 25G2 to 6G3 |
| 25G3 to 6G0 | 25G3 to 6G1 | 25G3 to 6G2 | 25G3 to 6G3 |

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Isolation (Among Radio) @ GPS



- GPS to 6G0
- GPS to 25G0
- GPS to 56G0
- GPS to BLE0
- GPS to SC1
- GPS to 6G1
- GPS to 25G1
- GPS to 56G1
- GPS to BLE1
- GPS to 6G2
- GPS to 25G2
- GPS to 56G2
- GPS to BLE2
- GPS to 6G3
- GPS to 25G3
- GPS to 56G3
- GPS to SC0

Isolation radio	Max
L5	29 dB
L1	22 dB
2GHz	23 dB
5-7GHz	23 dB

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.

