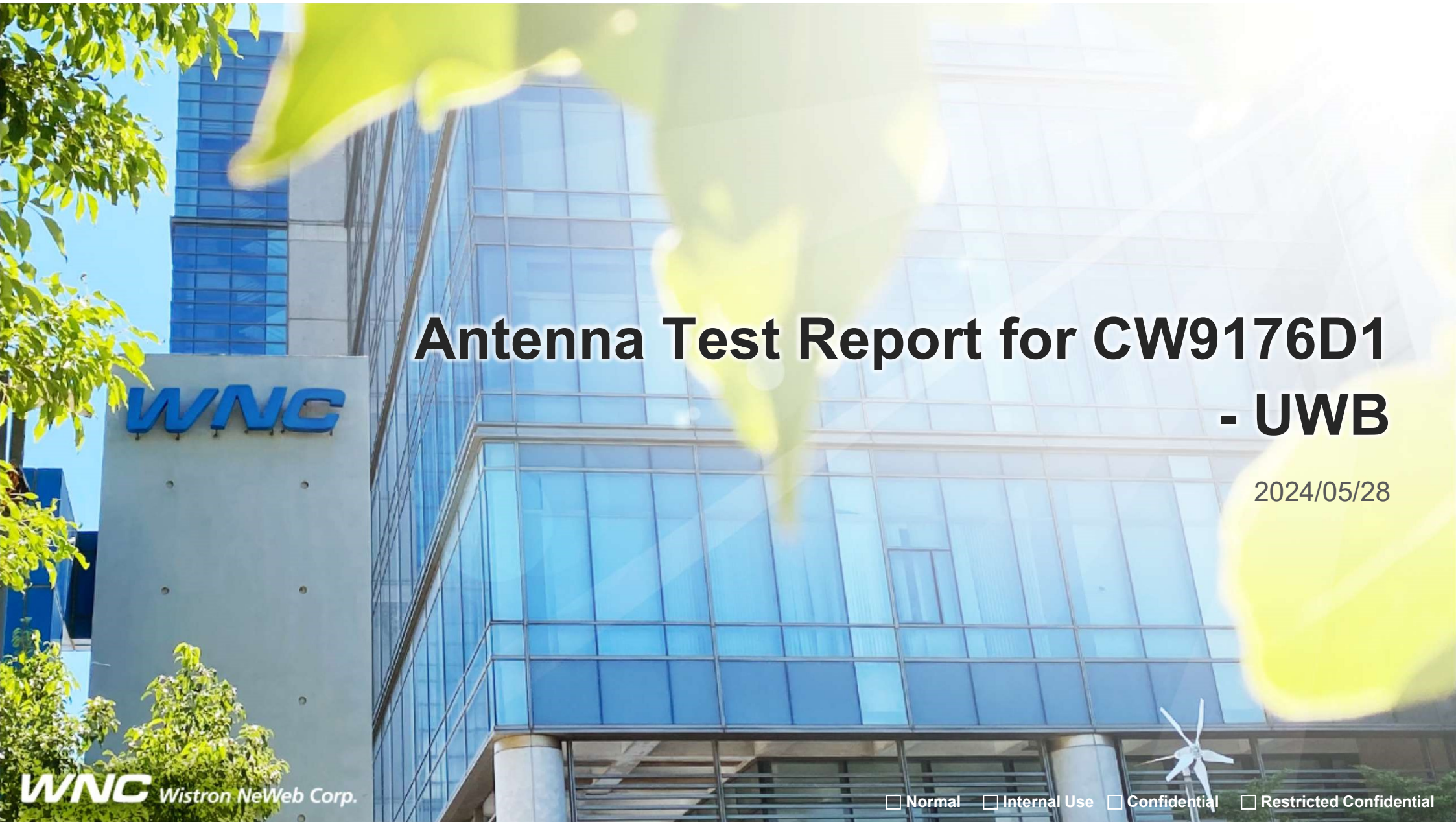


Antenna Test Report for CW9176D1 - UWB

2024/05/28

WNC Wistron NeWeb Corp.

☐ Normal ☐ Internal Use ☐ Confidential ☐ Restricted Confidential

Contents

General Information

- **Antenna Information:**

  - Brand: WNC

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

- **Antenna Type:**

  – **UWB PDOA : Patch (95XPAD15.G37)**

Ant.	Brand Name	Model Name	Antenna Type	Connector
UWB-1,2	WNC	95XPAD15.G37	Patch	IPEX

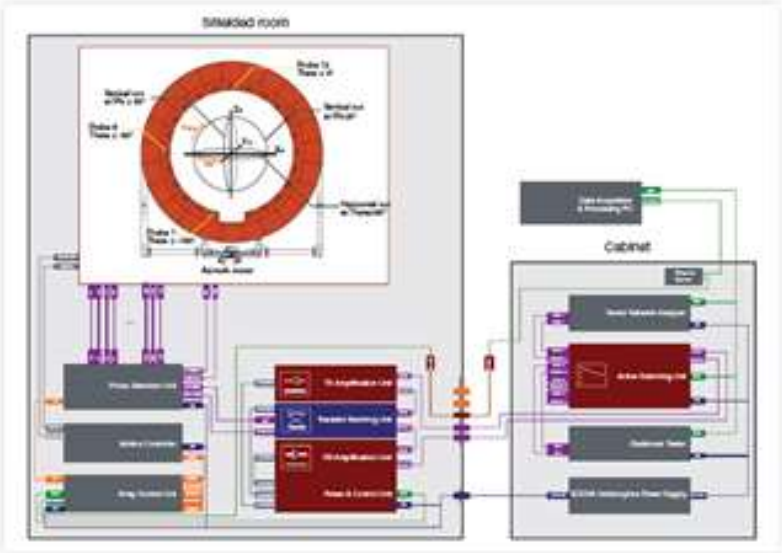
- **Test Date and Member**

  Date: 2024/ 04/18

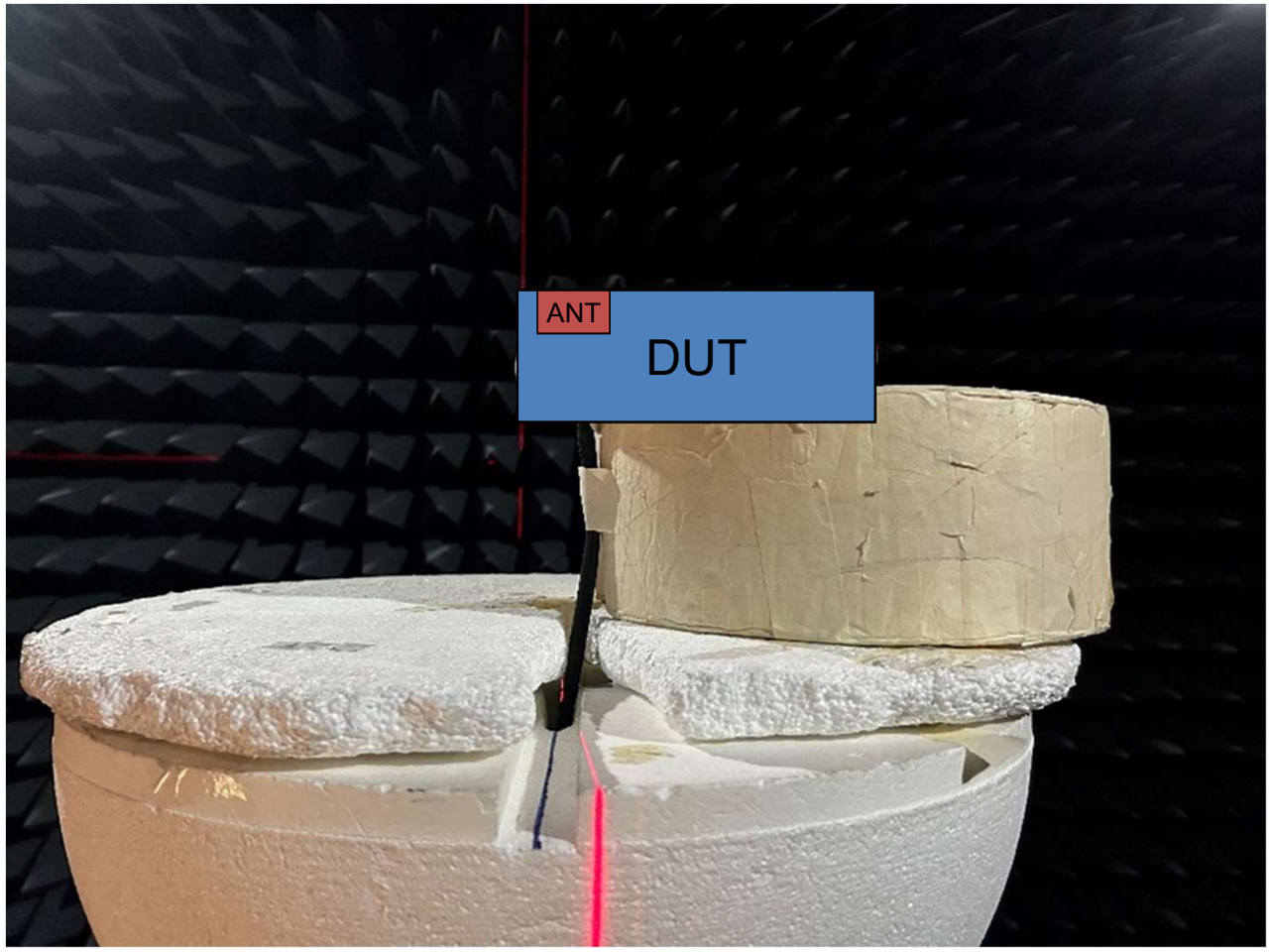
  Member: Alvin Hsu

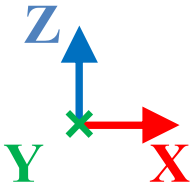
Test Information

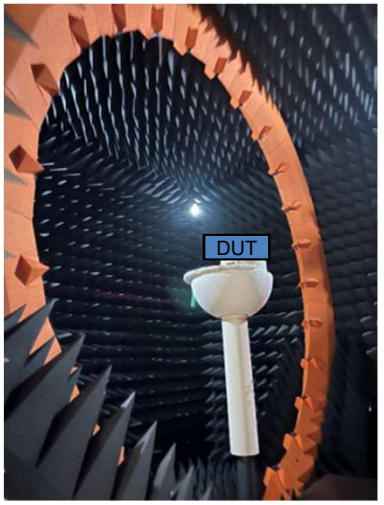
- Antenna Vendor : WNC
- Test Date : 20240418
- Test Engineer : Alvin Hsu
- Measurement System : SATIMO SG24-L
- Software Name : Wave Studio
- Software Version : 22.5.6



Setup Picture





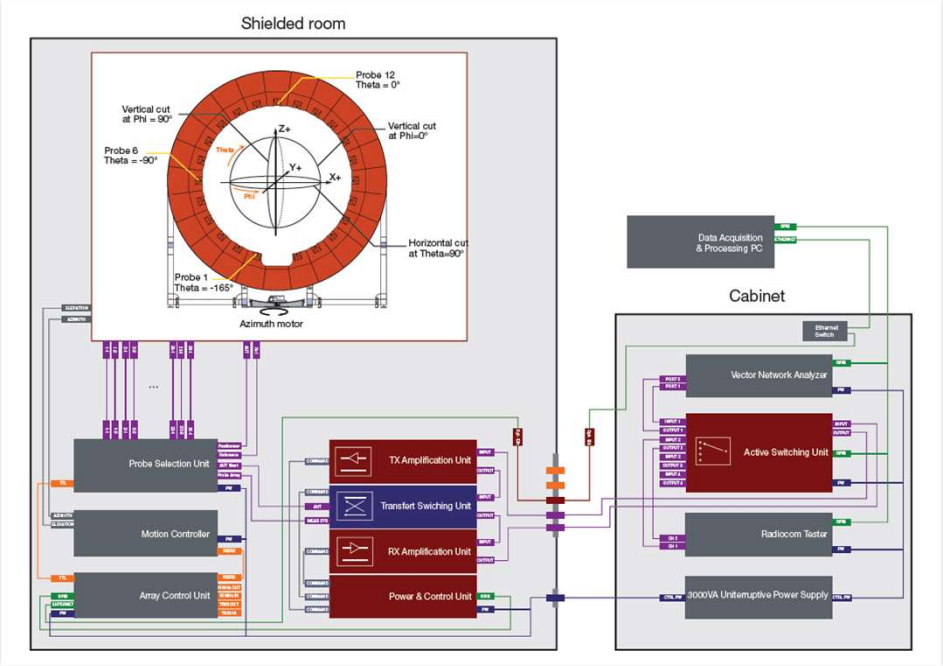


Test Equipment

- 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

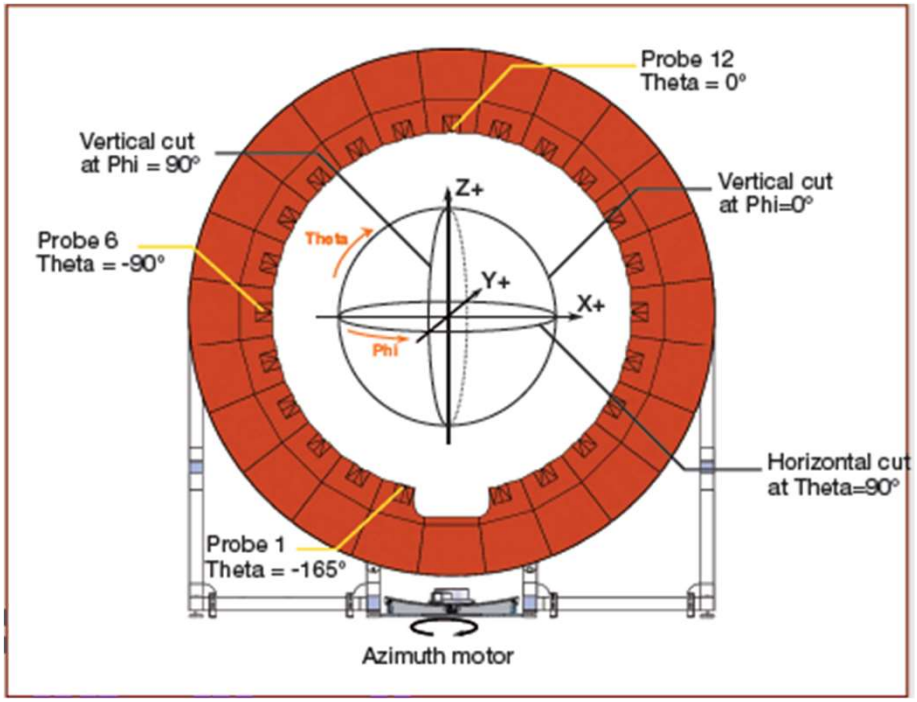


- Calibration Information

Device	Type / Model	Serial #	Manufacture	Cal. Date	Cal. Until
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2023-06-05	2024-06-03
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2023-06-05	2024-06-03

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.

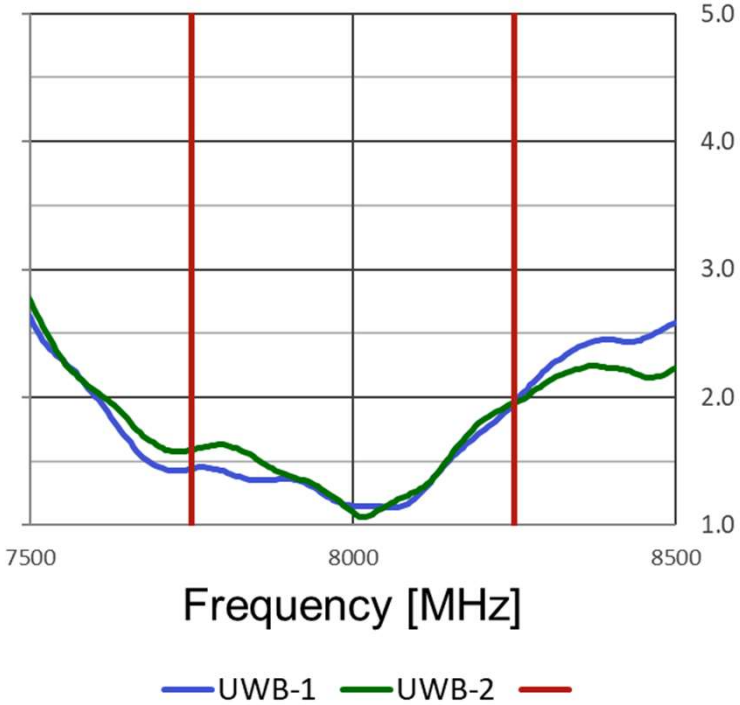


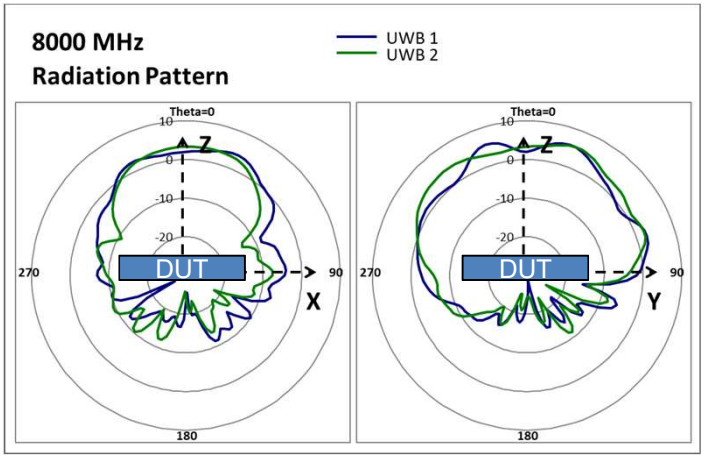
Summary

Radio	Frequency (GHz)	VSWR	Peak Gain	Efficiency	Beam-width of Elevation	Beam-width of Azimuth	Position (θ, ϕ) of peak gain
PDOA UWB-1	7.725-8.25	< 2.0	6.5 dBi @8GHz	~63 %	72° @8GHz	33° @8GHz	(θ = 21 , ϕ = 69)
PDOA UWB-2	7.725-8.25	< 2.0	7.0 dBi @8GHz	~63 %	66° @8GHz	108° @8GHz	(θ = 27 , ϕ = 66)

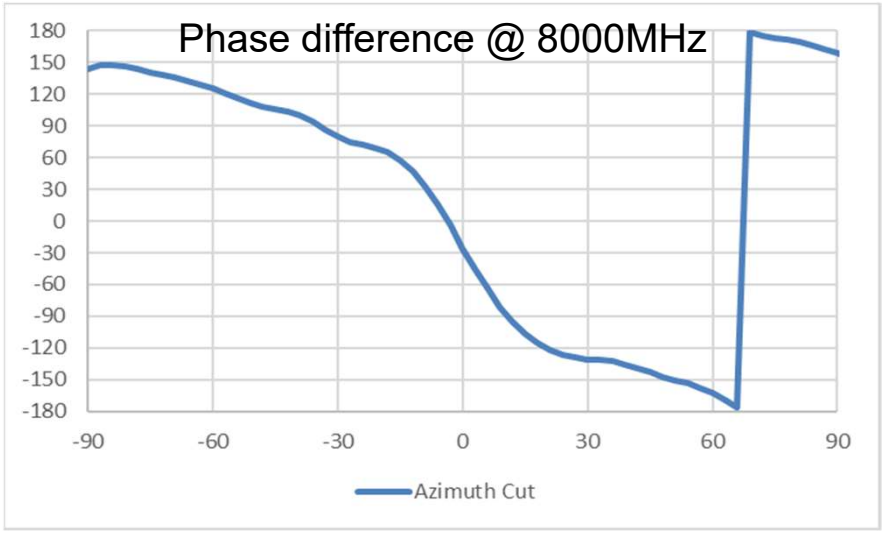
Measure Result of UWB Antennas

VSWR, Radiation pattern, Phase difference





Elevation Azimuth



WNC

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