

Measurement Report

Antenna Radiation Pattern

Table of Content

	Page
Cover Page	1
Table of Content	3
Product Information	3
Client Declaration.....	3
Applied Reference Documents	3
Test Conditions	3
Test Conditions	3
Remarks	3
Test Equipment List	4
Test Results	5
Gain	5
 Appendix 1 – Test setup	
Appendix 2 – Figures	
Appendix 3 – EUT Photos	

Product Information

Client Declaration

Product Name	NETRIS3
Wireless Type	LoRa
Frequency	902MHz, 914MHz, 928MHz
Antenna Type	PCB antenna
Product HW Version	r7.v243
Product SW Version	N/A
IMEI	N/A
Sample No.	A003826751-001

Applied Reference Documents

Leading reference documents for testing.

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Recommended Practice for Antenna Measurements

Test Conditions

Relative Humidity (%)	: 25-75
Temperature(°C)	: 10 - 30

Test Conditions

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO. When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% Confidence intervals.

Remarks

N/A

Test Equipment List

Shenzhen Morlab Communications Technology Co., Ltd.

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Network Analyzer	MY46110140	E5071C	Agilent	2024.05.30	2025.05.29
OTA Chamber	TJ2235-Q1793	AMS-8923 -150	ETS	2022.11.30	2025.11.29

Software Name	Serial No.	Version	Manufacturer
Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS

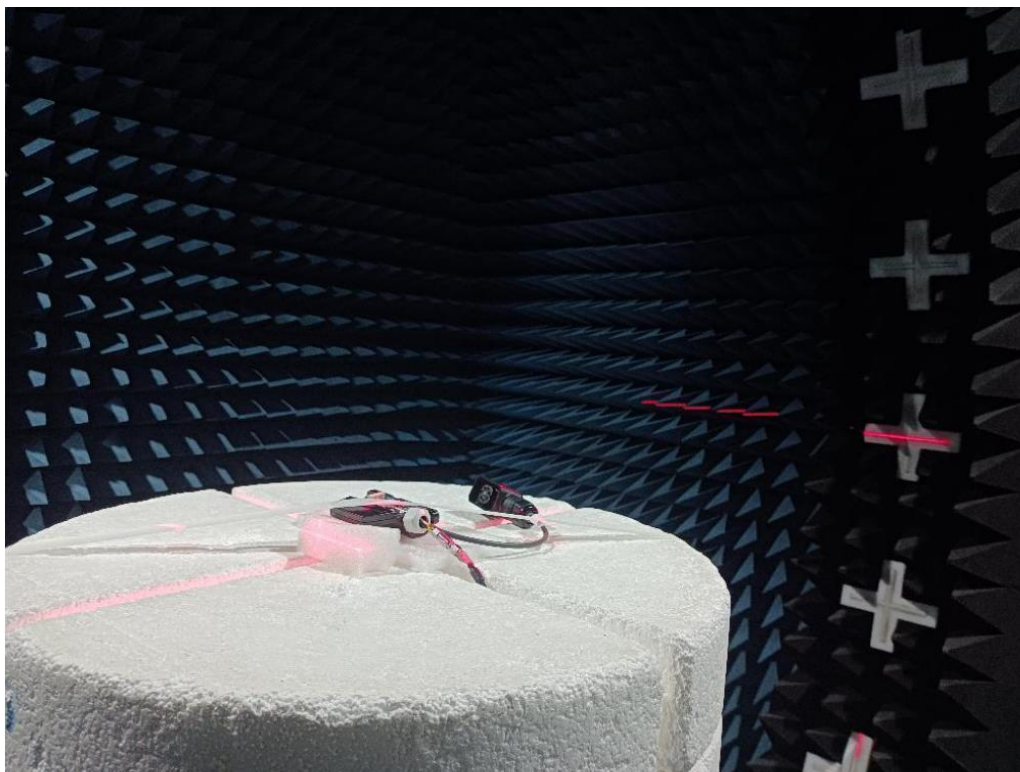
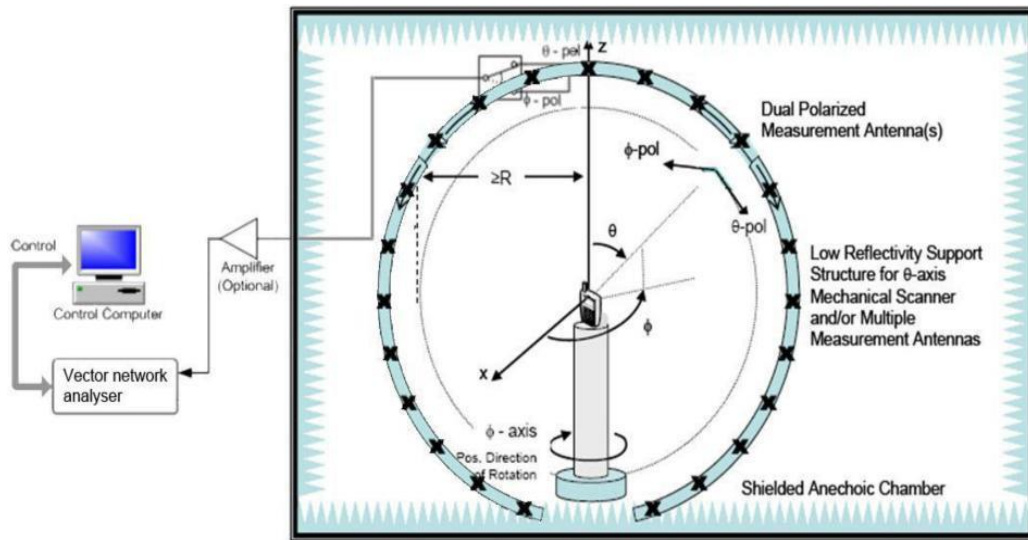
Test Results

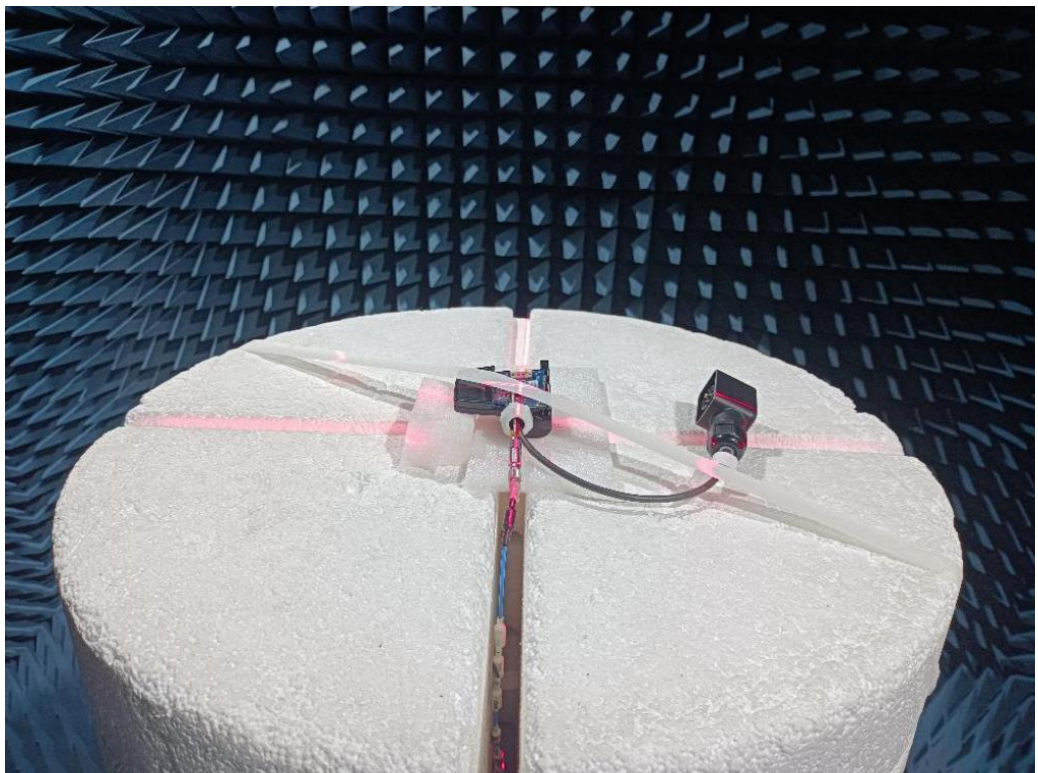
Gain

Frequency (MHz)	Gain (dBi)
902	1.91
914	2.16
928	2.13

Appendix 1

Test setup



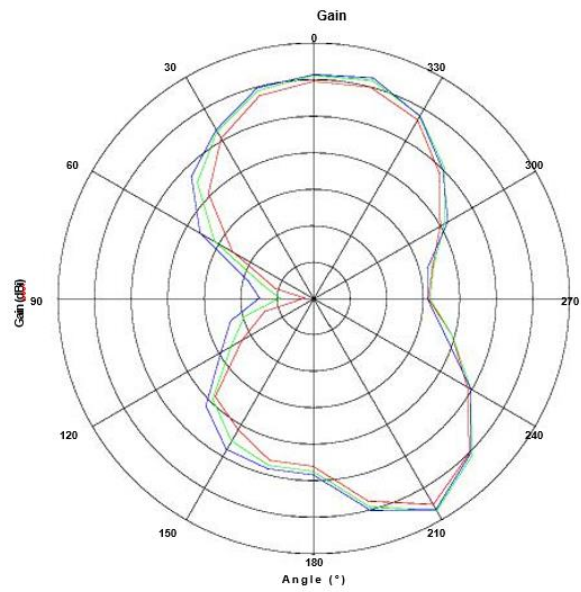


Appendix 2

Radiation Pattern

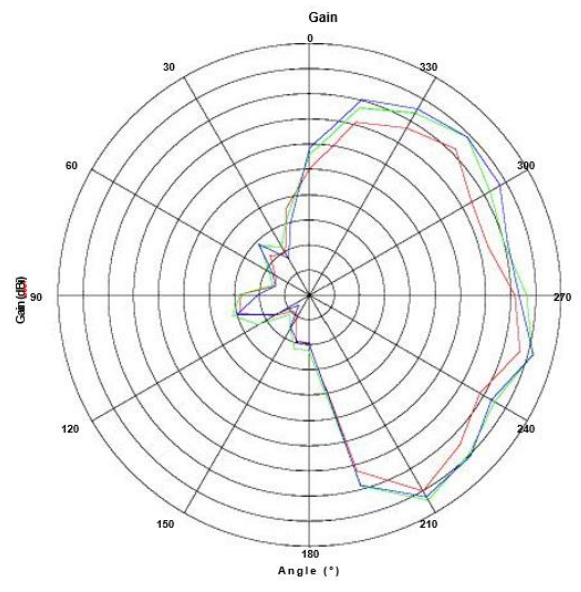
2D Radiation Pattern

Max: 2
Min: -12
Scale: 2/div



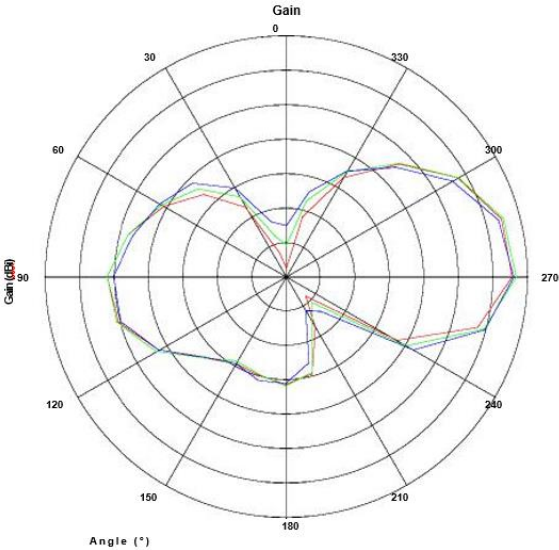
$\Phi = 0^\circ$

Max: 2
Min: -3
Scale: 0.5/div



$\Phi = 90^\circ$

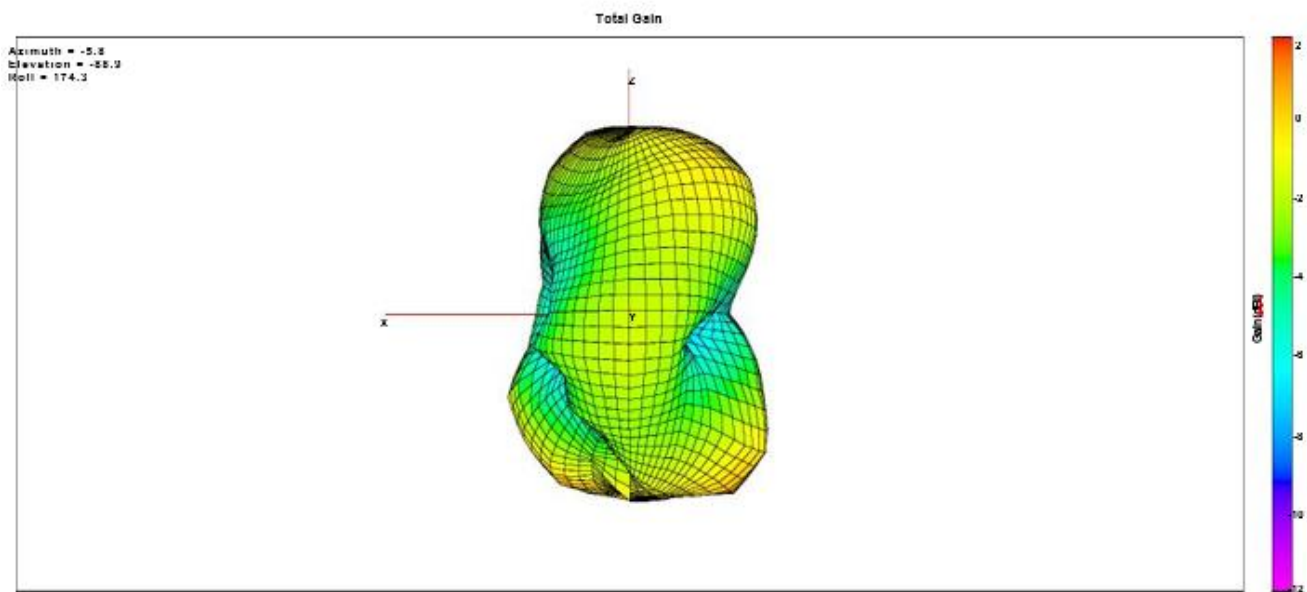
Max: 2
Min: -12
Scale: 2/div



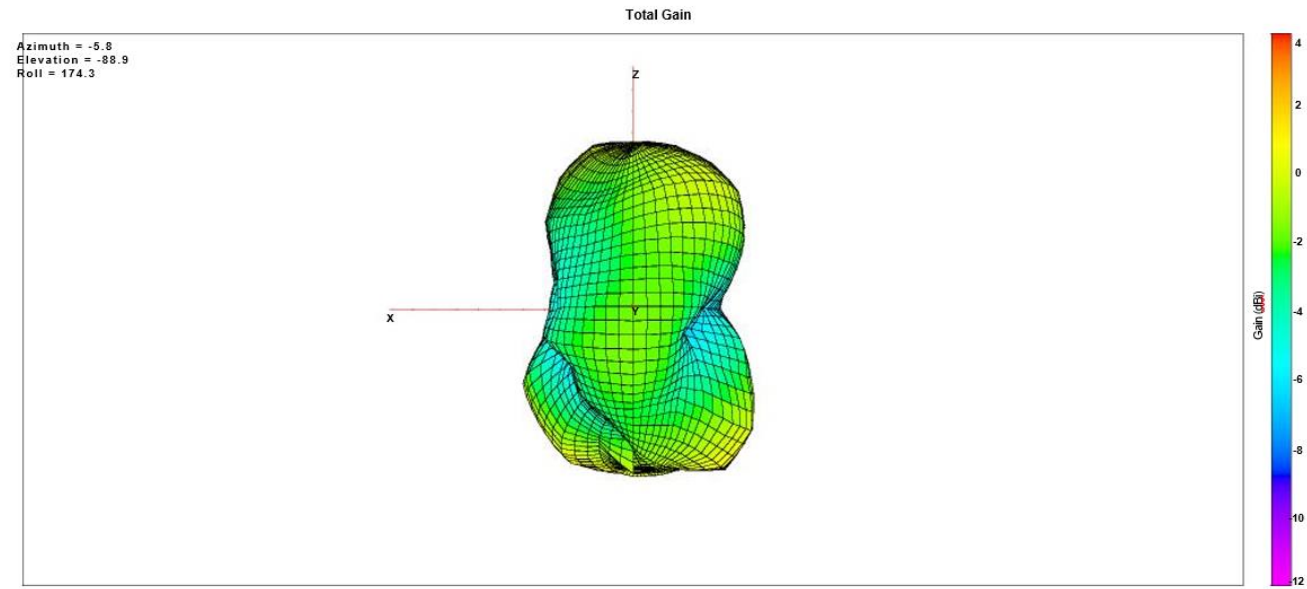
Theta=90°



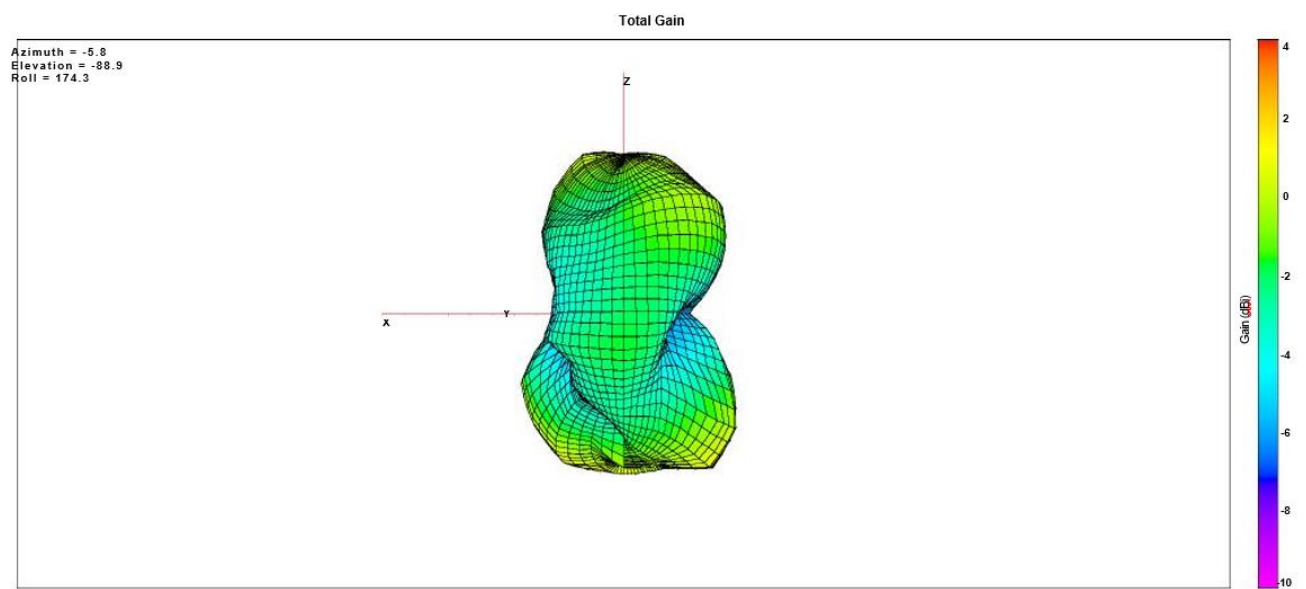
3D Radiation Pattern



902MHz



914MHz



Appendix 3

EUT Photos

