TEST REPORT

APPLICANT	:	Nanjing Magewell Electronics CO., Ltd.
PRODUCT NAME	:	nRF52840-Dongle
MODLE NUMBER	:	nRF52840-Dongle
TRADE NAME	:	N/A
BRAND NAME	:	N/A
STANDARD(S)	:	ANSI/IEEE Std 149-2008
RECEIPT DATE	:	2023-01-13
TEST DATE	:	2023-01-13
ISSUE DATE	:	2023-01-16

Edited by: Fang Jinshan(Rapporteur)

Approved by: Chi Shide(supervisor)

MORLAB
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DIRECTORY

Change History		
Version	Date	Reason for change
1.0	2023-01-13	First edition

1. Technical Information

Note: Provide by manufacturer

1.1. Applicant and Manufacturer Information

Name:	Nanjing Magewell Electronics CO., Ltd.
Address:	14th Floor, Building 3, No.89 Shengli Road, Jiangning Economic and Technological Development Zone, Nanjing, China.

1.2. Equipment Under Test (EUT) Description

Wireless Type:	Bluetooth
Test frequency band:	N/A
IMEI:	N/A
Sample number:	1#

2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

2.2. Test Conditions

Test Environment Conditions：

Relative Humidity:	25 ... 75 %
Temperature:	+10 °C to +30 °C

2.3. Measurement Uncertainty

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.

Item	Measurement Uncertainty(dB)
Gain	±0.5
VSWR	±0.2
Measurement Uncertainty(95% Confidence Interva	

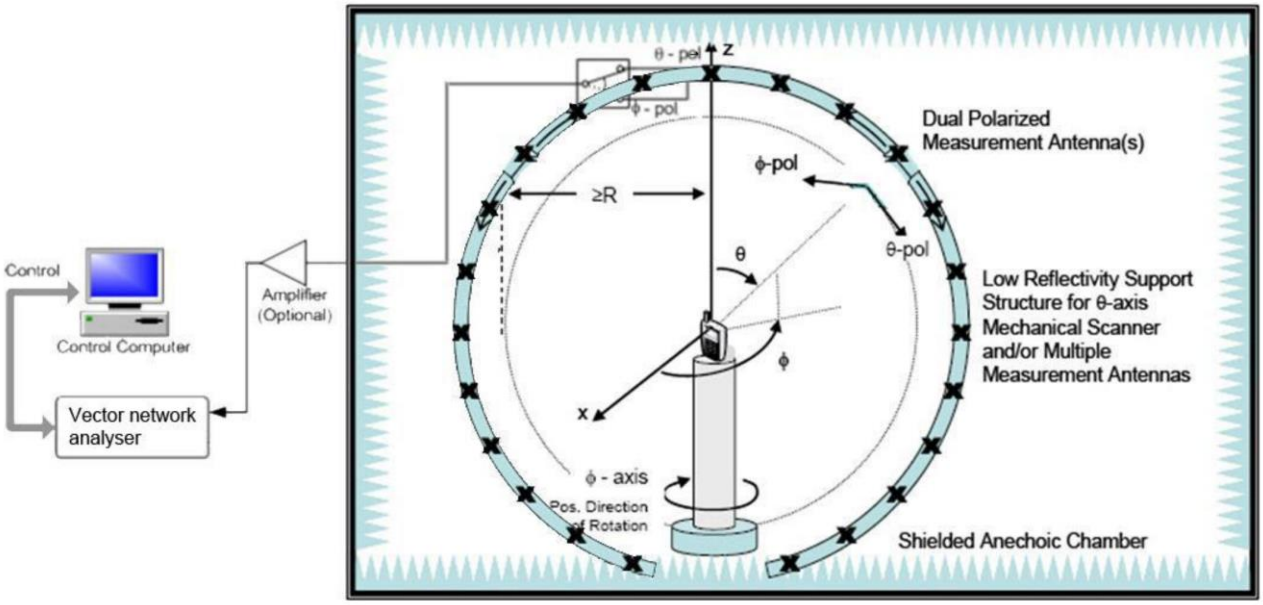
2.4. Test Results lists

2.4.1. Gain

Frequency	Gain(dBi)
2400MHz	1.06
2410MHz	1.41
2420MHz	1.62
2430MHz	1.68
2440MHz	1.83
2450MHz	1.85
2460MHz	1.62
2470MHz	1.12
2480MHz	.048
2490MHz	0.43
2500MHz	0.32

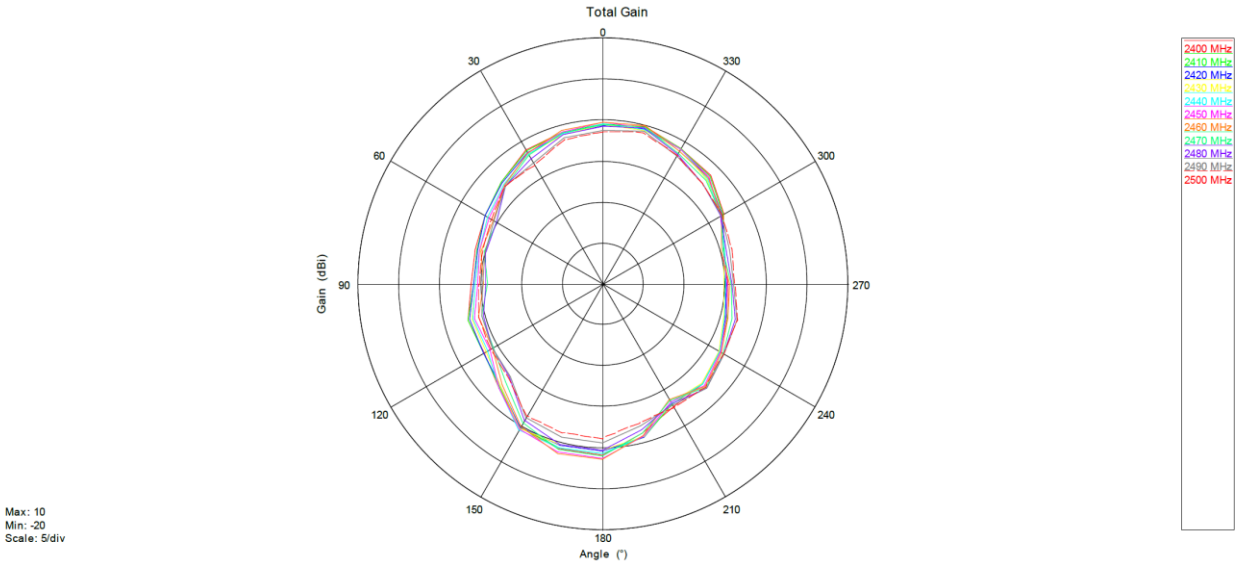
Annex A. Photographs

1. Test Setup

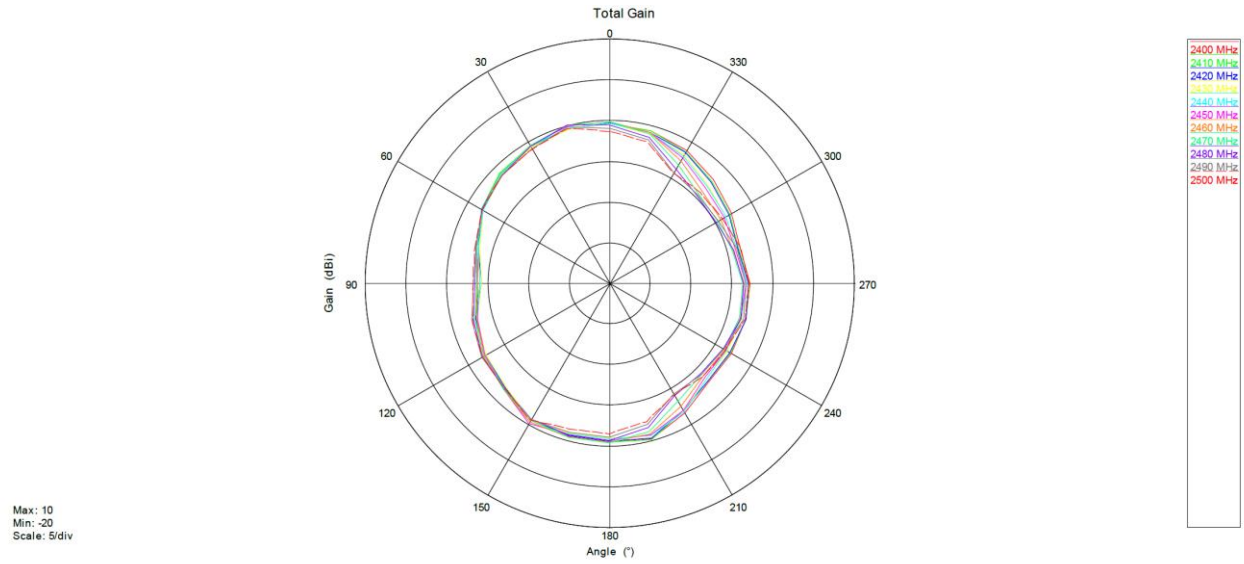


Annex B. Figures

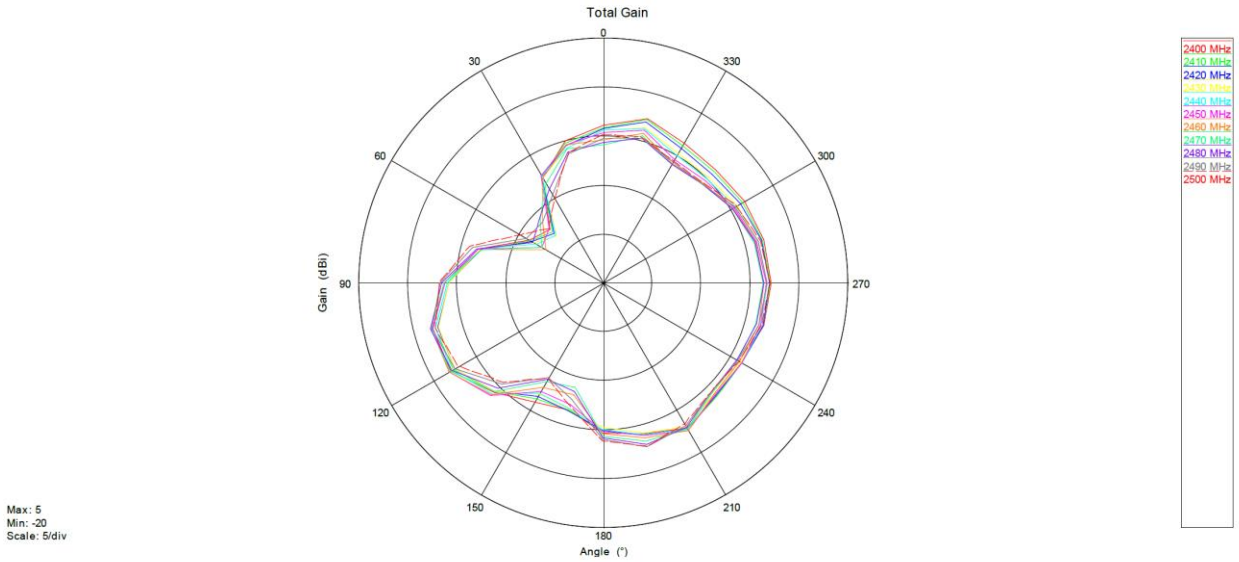
1. 2D Radiation Pattern



Phi=0°

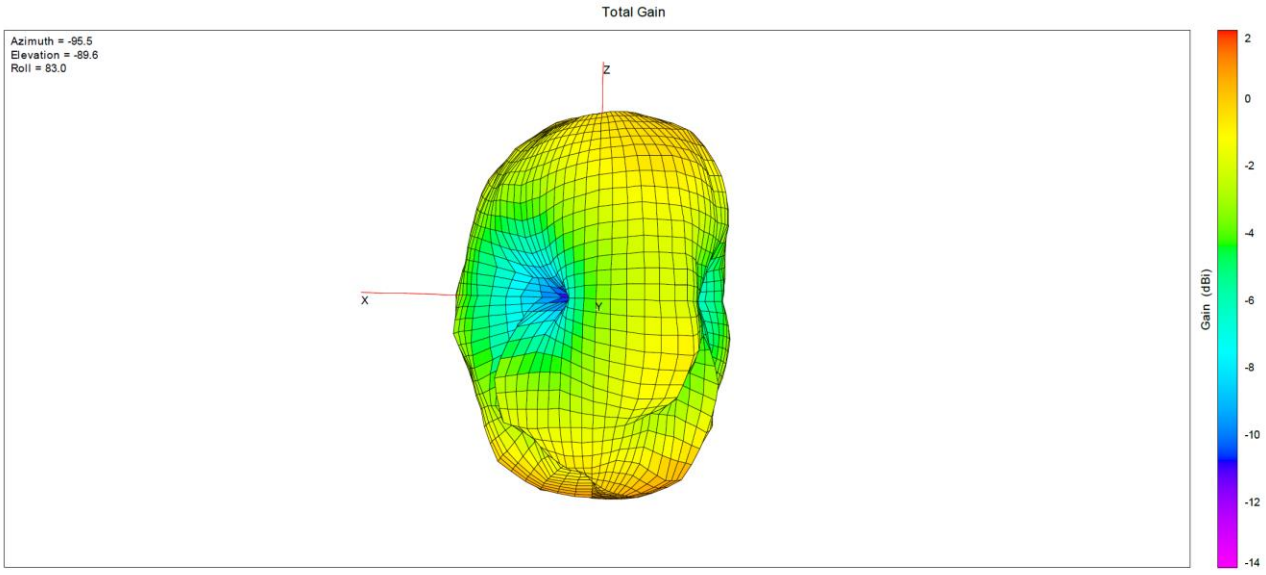


Phi=90°

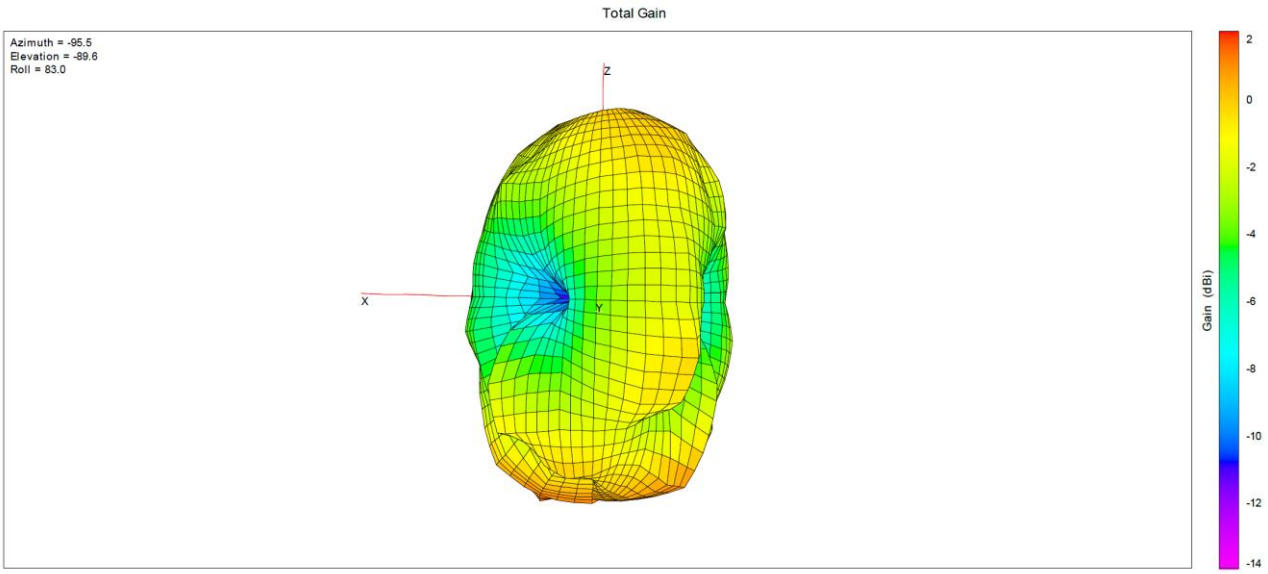


Theta=90°

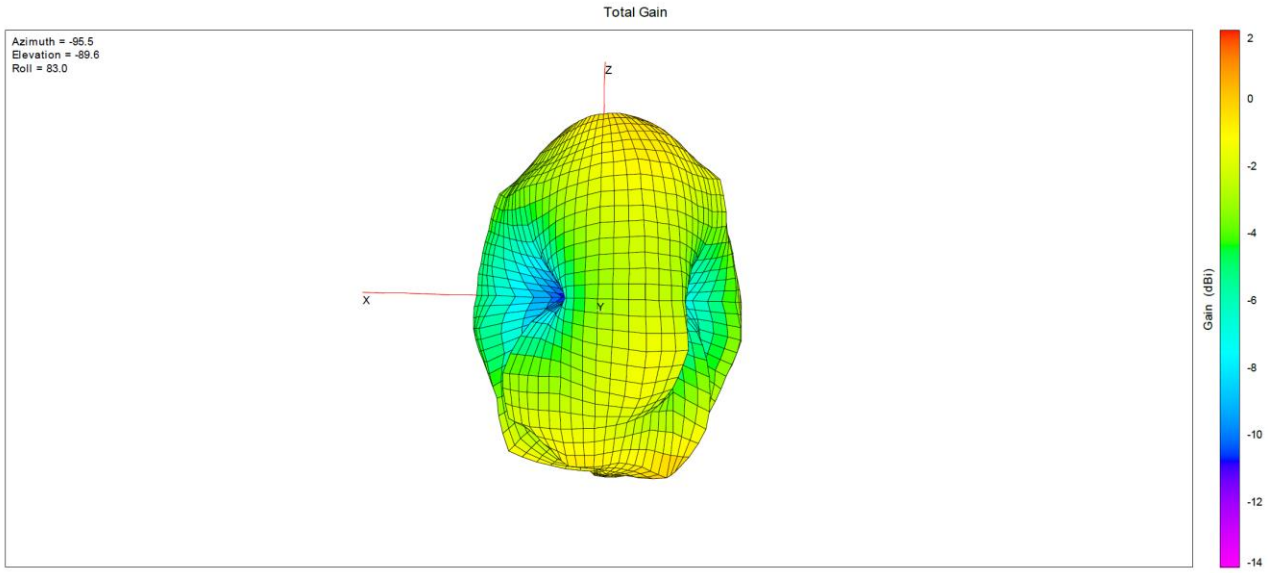
2. 3D Radiation Pattern



2400MHz



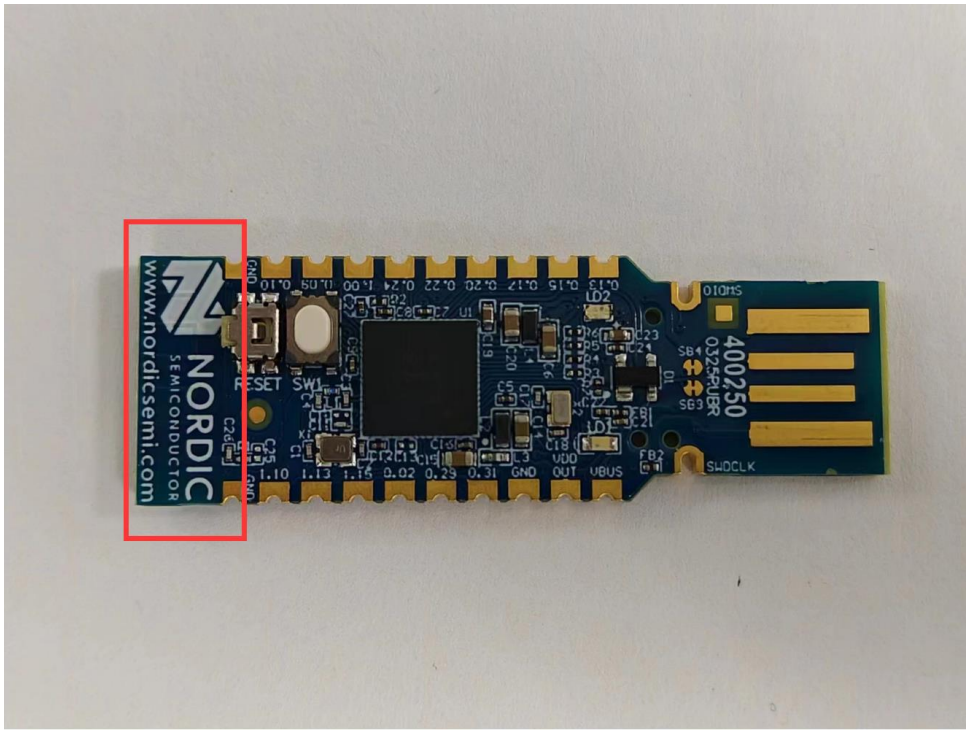
2450MHz



2500MHz

Annex C. Photographs

1. EUT



Annex D General Information

1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

1.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

1.3 Test Equipments Utilized

No.	Equipement Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2022.07.04	2023.07.03
2	OTA Chamber	TJ2235-Q1793	AMS-8923-150	ETS	2022.11.30	2025.11.29
3	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS	N/A	N/A

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