REPORT No.: SZ23110013E01

TEST REPORT

APPLICANT	:	Xiamen Hanin Electronic Technology Co.,Ltd.
PRODUCT NAME	:	WIFI Antenna
MODEL NAME	:	WIFI 2.4G
TRADE NAME	:	N/A
BRAND NAME	:	N/A
STANDARD(S)	:	IEEE Std 149-2021
RECEIPT DATE	:	2023-11-02
TEST DATE	:	2023-11-02
ISSUE DATE	:	2023-11-08

Edited by: Fang Jinshan(Rapporteur)

Approved by: Chi Shide(Supervisor)

NOTE: This document is issued by Shenzhen Morlab Communications Technology Co., Ltd., the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

DIRECTORY

Change History		
Version	Date	Reason for change
1.0	2023-11-08	First edition

1.Technical Information

Note: Provide by applicant.

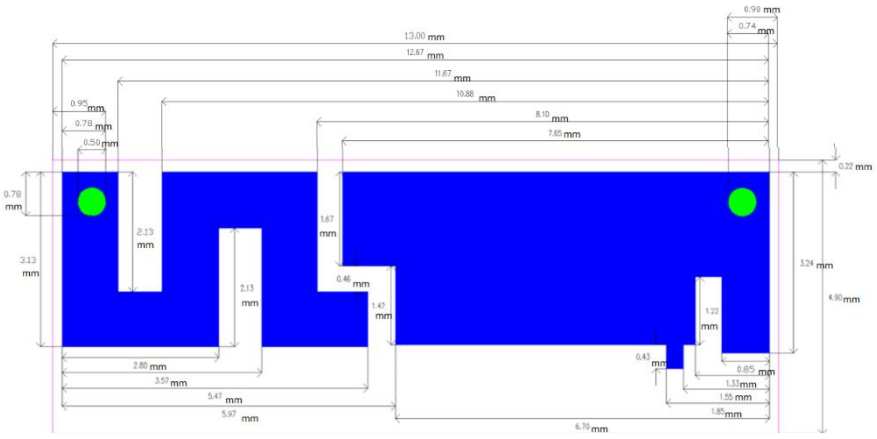
1.1. Applicant and Manufacturer Information

Applicant:	Xiamen Hanin Electronic Technology Co.,Ltd.
Applicant Address:	Room 305A, Angye Building, Pioneering Park,Torch High-tech,Zone,Xiamen,China
Manufacturer:	N/A
Manufacturer Address:	N/A

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Frequency	2400MHz-2500MHz
IMEI	N/A
Sample No.	1#

Dimension:



2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

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

2.2. Test Conditions

Test Environment Conditions：

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

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.

2.4. Test Results lists

2.4.1.Gain

Frequency (MHz)	Gain(dBi)
2400	1.99
2410	1.69
2420	1.31
2430	0.88
2440	0.74
2450	0.53
2460	0.28
2470	-0.03
2480	-0.23
2490	-0.42
2500	-0.57

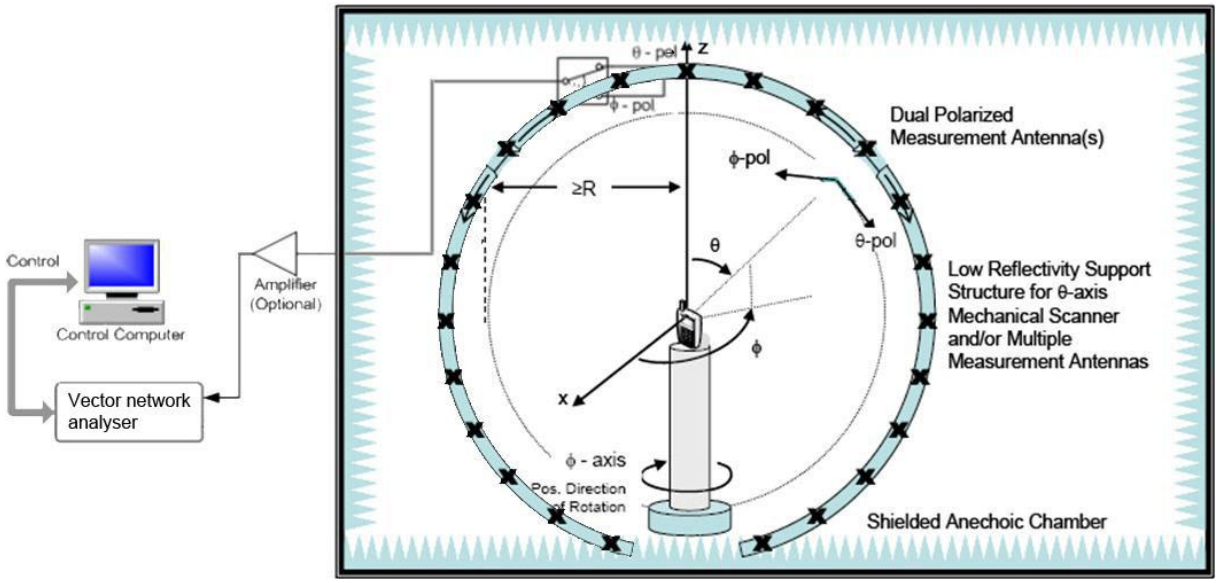
2.4.2.VSWR

Frequency (MHz)	VSWR
2400	2.91
2450	4.43
2500	6.05

2.4.3.Return Loss

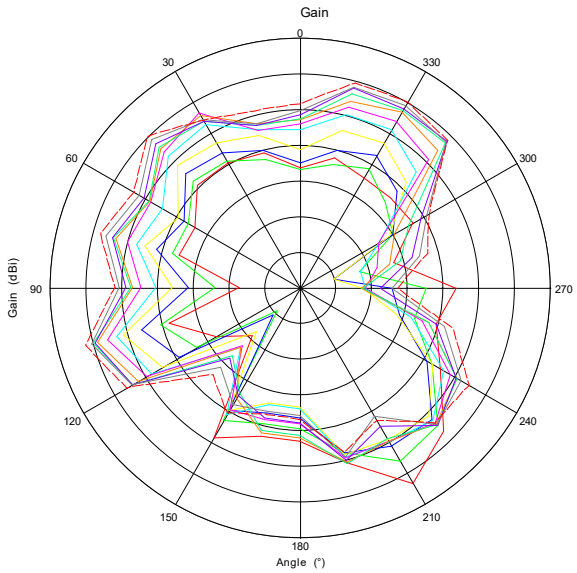
Frequency (MHz)	Return Loss (dB)
2400	-6.20
2450	-3.98
2500	-2.89

Annex A Test Setup Photos



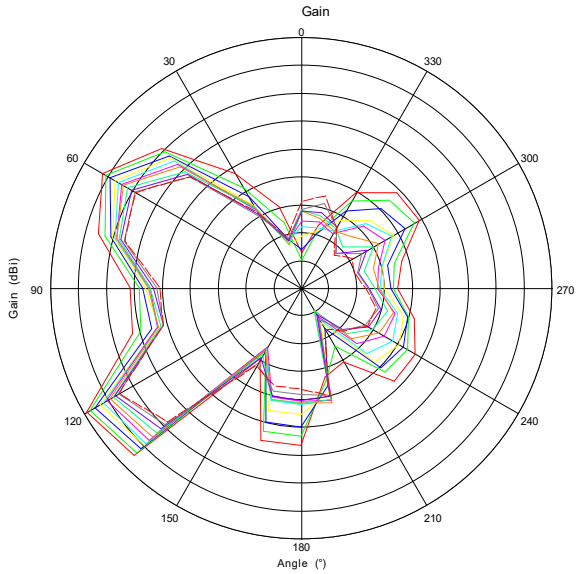
Annex B Figures

1. 2D Radiation Pattern



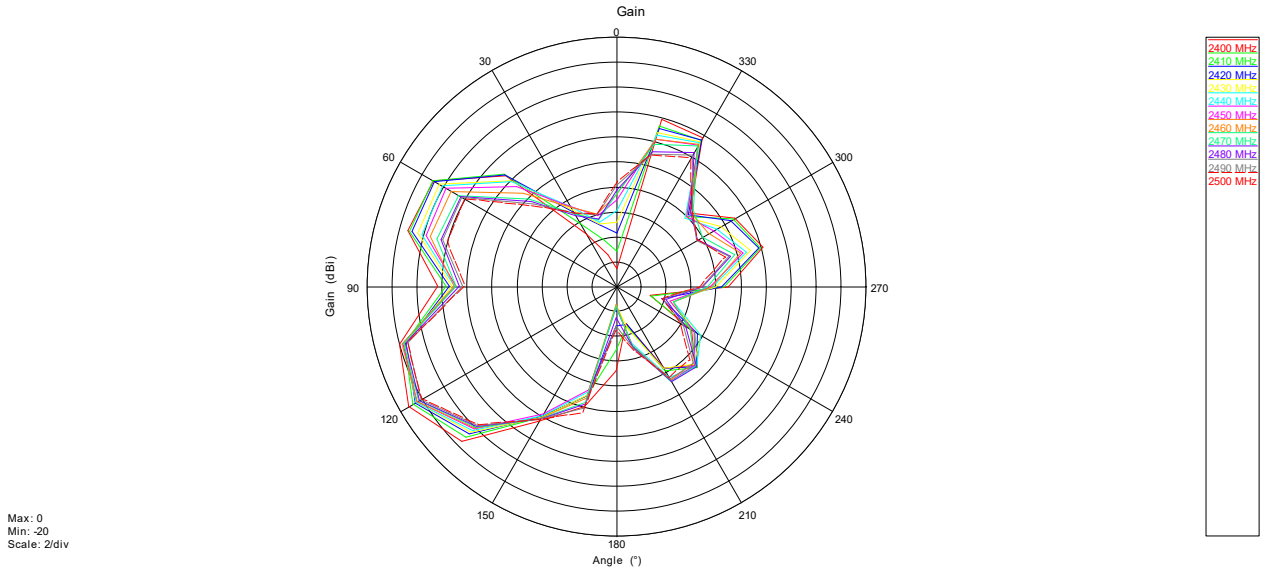
Max: -8
Min: -22
Scale: 2/div

Phi=0°



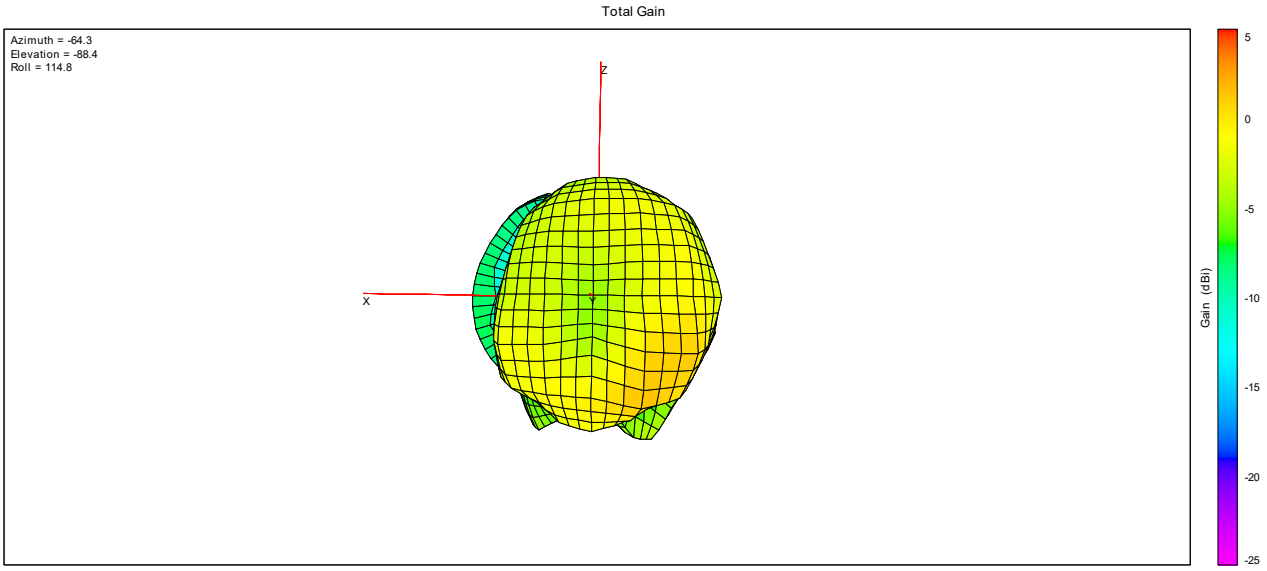
Max: 0
Min: -18
Scale: 2/div

Phi=90°

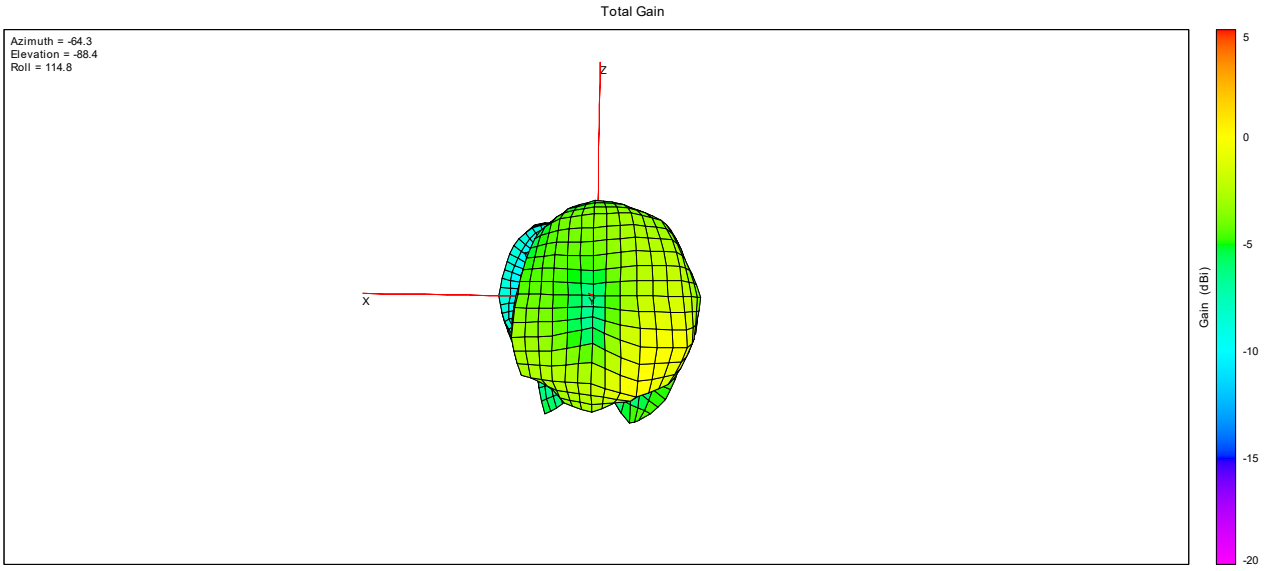


Theta=90°

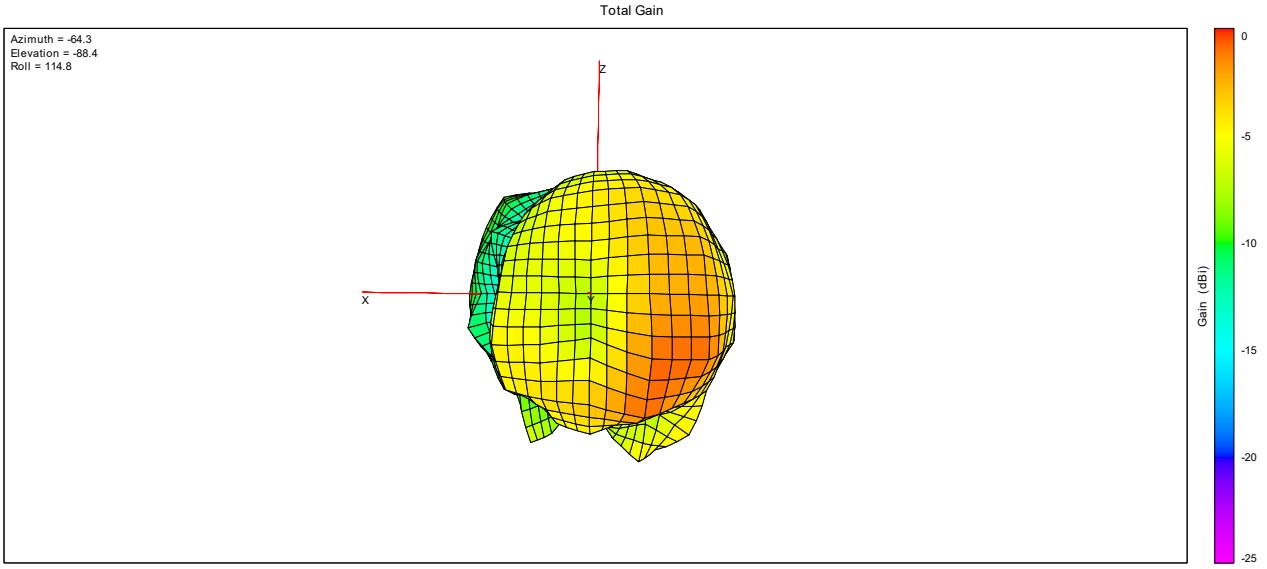
2. 3D Radiation Pattern



2400MHz



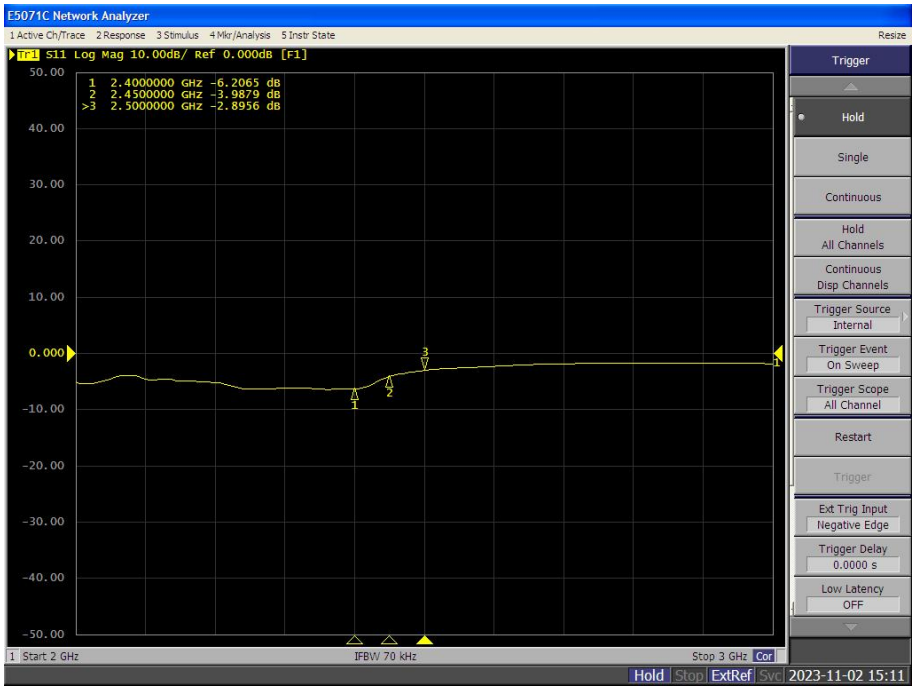
2450MHz



2500MHz

3. VSWR

4. Return Loss



Annex C General Information

1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, 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:	FL.1-3, 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	2023.06.21	2024.06.20
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

Note: The Main report is end here and the other Annex D will be submitted separately.

——— END OF REPORT ———