

TEST REPORT

Reference No...... : WTH24X07168982W
Applicant..... : Shenzhen TuoZhu Technology Co., Ltd
Address..... : Room 201, Building A, No. 1 First Qianwan Road, Qianhai Shengang
Cooperation Zone, Shenzhen
Manufacturer..... : The same as Applicant
Address..... : The same as Applicant
Product Name..... : 2.4G WIFI / Bluetooth Antenna
Model No...... : B-XA003-A
Standards..... : ANSI/ IEEE 149-2021
Date of Receipt sample..... : 2024-07-18
Date of Test..... : 2024-07-18 to 2024-08-12
Date of Issue..... : 2024-08-12
Test Report Form No...... : WTX_IEEE 149
Test Result..... : **Pass**

Remarks:

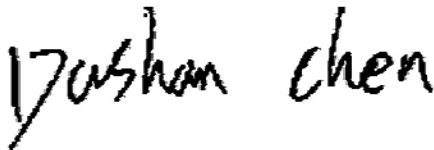
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

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Approved by:



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Report version

| Version No. | Date of issue | Description |
|-------------|---------------|-------------|
| Rev.00 | 2024-08-12 | Original |
| / | / | / |

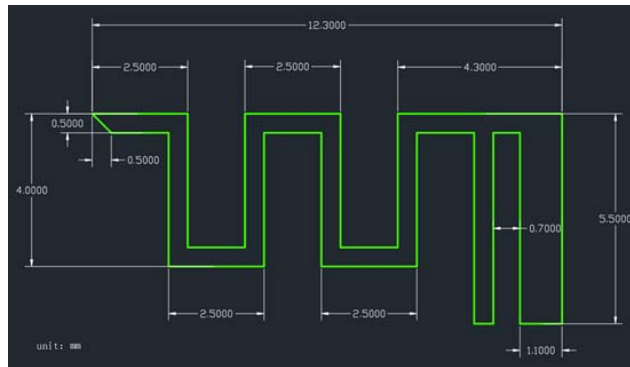
1.GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

| General Description of EUT | |
|--|-------------------------------|
| Product Name: | 2.4G WIFI / Bluetooth Antenna |
| Trade Name: | / |
| Model No.: | B-XA003-A |
| Adding Model(s): | / |
| <i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i> | |

| Technical Characteristics of EUT | |
|----------------------------------|----------------|
| Frequency Range: | 2400-2500MHz |
| Gain of Antenna: | 3.64dBi (Max.) |
| Type of Antenna: | PCB Antenna |

Dimension:



2. SUMMARY OF TEST RESULTS

| Standards | Description of Test Item | Result |
|---------------------|--|-----------|
| ANSI/ IEEE 149-2021 | IEEE Recommended Practice for Antenna Measurements | Compliant |

N/A: not applicable

3. Antenna Test Configurations

3.1 Test 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 |

3.2 Test Environments

| Environments Parameter | Temperature | Voltage | Humidit |
|------------------------|-------------|---------|---------|
| NTNV | 25° C | -- | 50% |

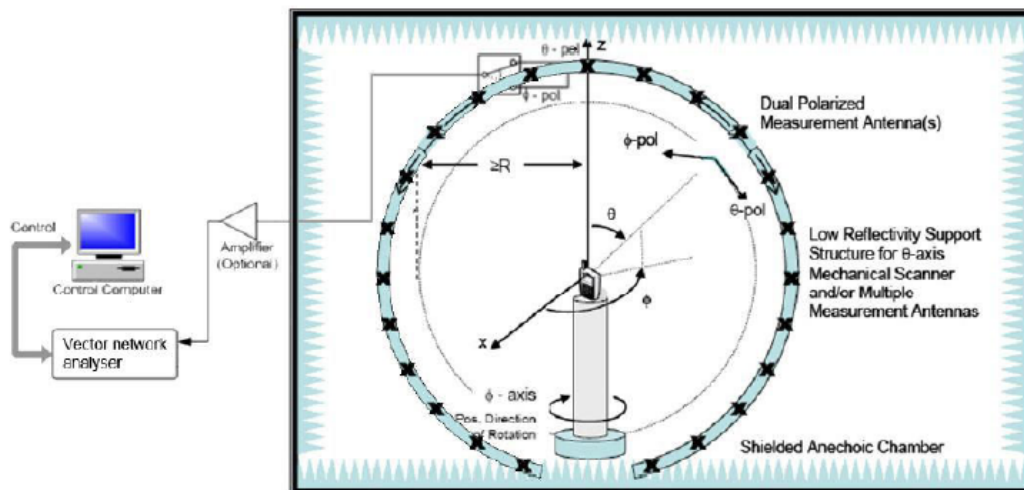
3.3 Test Equipment List

| Description | Manufacturer | Model | Serial Number | Cal. Date | Due. Date |
|----------------------------|--------------|-----------------------------------|---------------|------------|------------|
| Network Analyzer | Agilent | E5071C | MY46110140 | 2023-06-21 | 2024-06-20 |
| OTA Chamber | ETS | AMS-8923-150 | TJ2235-Q1793 | 2022-11-30 | 2025-11-29 |
| Antenna Measurement System | ETS | EMQuest EMQ-100 V1.13 Build 21267 | 1685 | N/A | N/A |

3.4 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.

3.5 Test Setup



4. Antenna Test Result

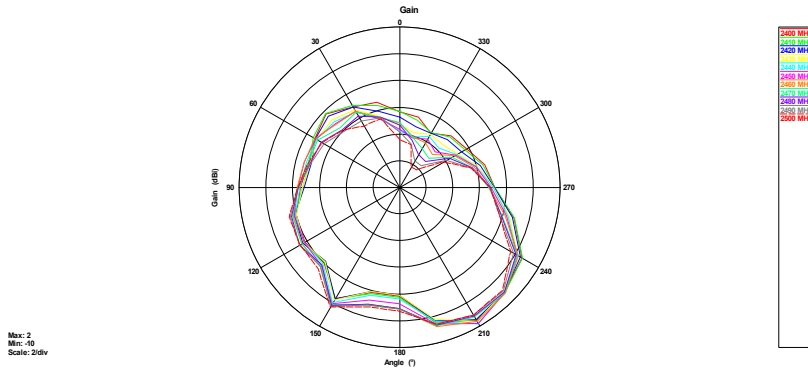
4.1 Gain and Efficiency

| Frequency(MHz) | Gain(dBi) | Efficiency (%) |
|----------------|-----------|----------------|
| 2400 | 3.30 | 52.39 |
| 2410 | 3.55 | 52.01 |
| 2420 | 3.63 | 50.19 |
| 2430 | 3.64 | 48.91 |
| 2440 | 3.59 | 49.02 |
| 2450 | 3.55 | 49.20 |
| 2460 | 3.41 | 49.05 |
| 2470 | 3.18 | 47.26 |
| 2480 | 2.90 | 46.27 |
| 2490 | 2.47 | 44.83 |
| 2500 | 2.23 | 44.47 |

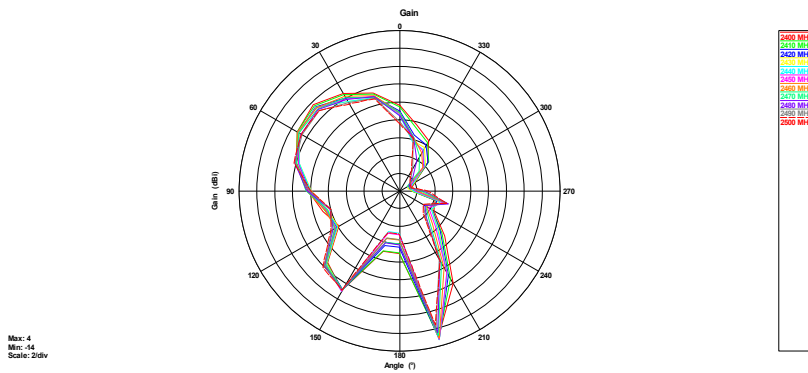
4.2 Radiation Pattern 2D View

EUT #1:

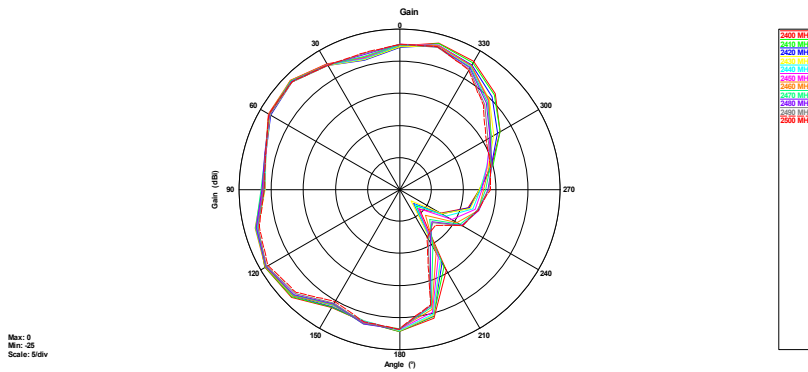
PHI=0



PHI=90

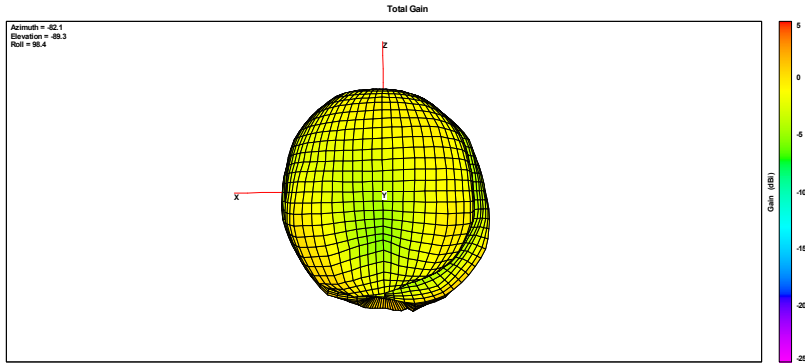


THETA=90

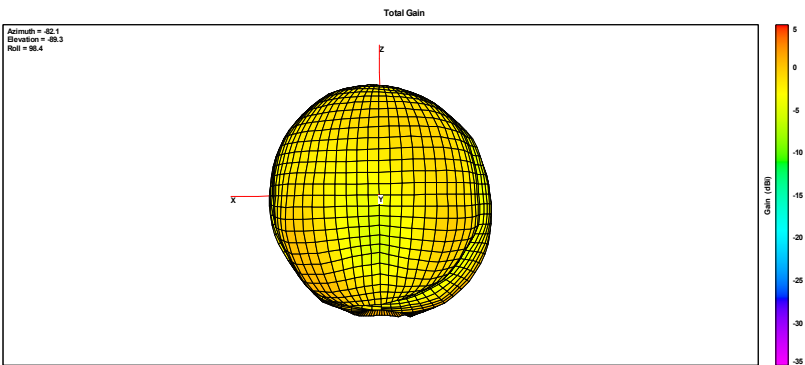


4.3 Radiation Pattern 3D View

2400MHz



2450MHz



2500MHz

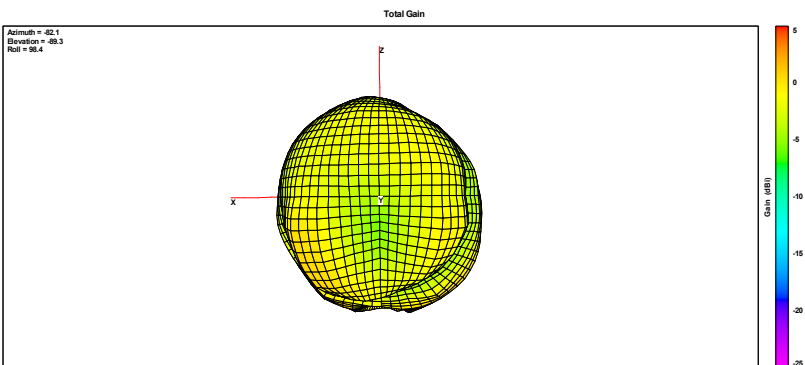


EXHIBIT 1 - EUT PHOTOGRAPHS

EUT View 1

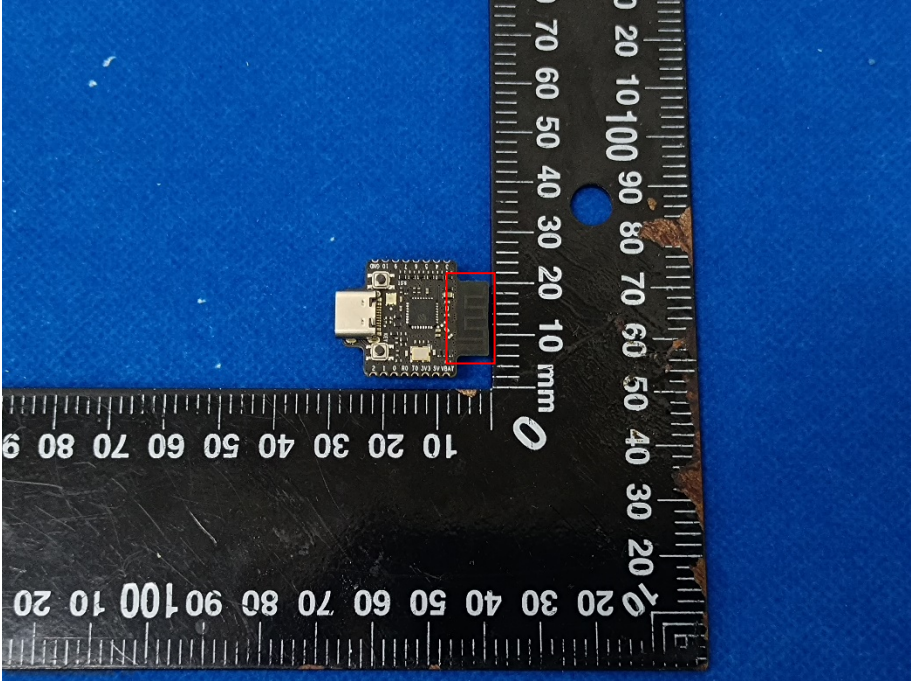
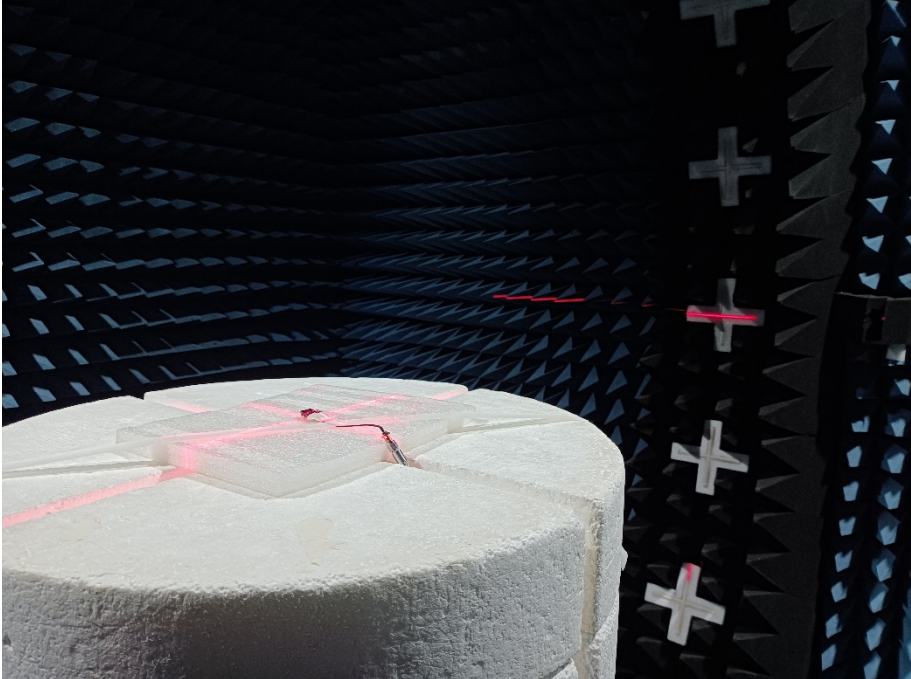
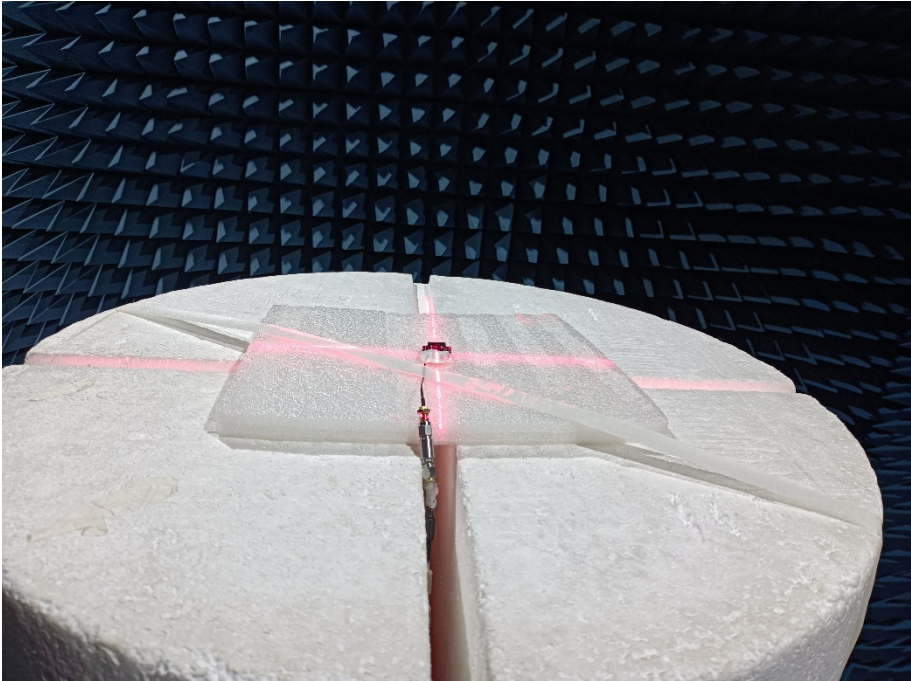


EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

OTA Test View 1:



OTA Test View 2:



***** END OF REPORT *****