

# TEST REPORT

**Reference No.**..... : WTX25X02037957W  
**Applicant**..... : Hangzhou Qingchuan Technology Co.,Ltd.  
**Address**..... : 4th Floor, Building 1, No.4, xianxing Road, Xianlin Industrial Park, Yuhang District, Hangzhou, Zhejiang Province  
**Manufacturer**..... : The same as Applicant  
**Address**..... : The same as Applicant  
**Product Name**..... : ANT\_BLUETOOTH  
**Model No.**..... : ANT\_2.4G  
**Standards**..... : ANSI/ IEEE 149-2021  
**Date of Receipt sample**..... : 2025-02-25  
**Date of Test**..... : 2025-02-25 to 2025-03-20  
**Date of Issue**..... : 2025-03-20  
**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.

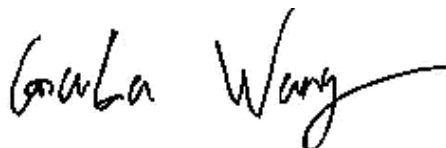
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Tested by:



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Gala Wang/Project Engineer

Approved by:



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Jason Su

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Report version

| Version No. | Date of issue | Description |
|-------------|---------------|-------------|
| Rev.00      | 2025-03-20    | Original    |
| /           | /             | /           |

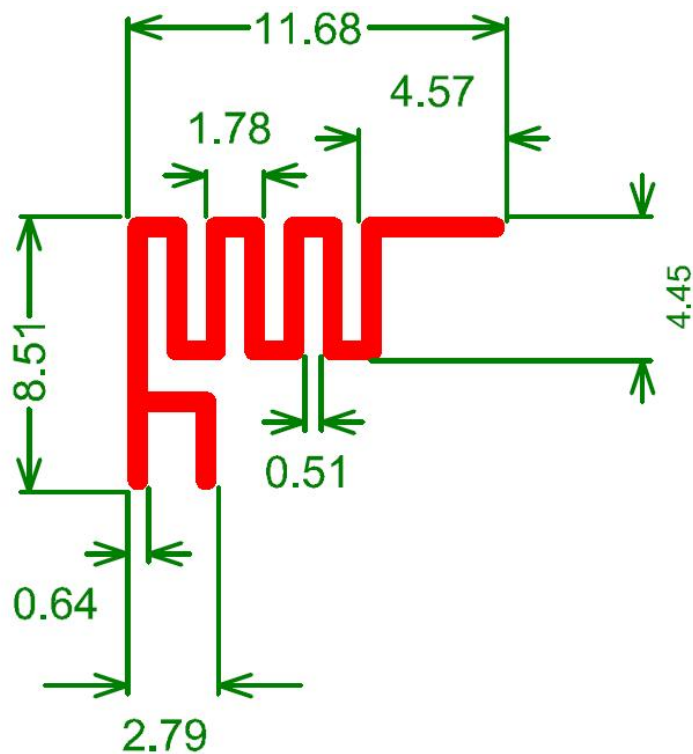
1.GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

| General Description of EUT                                                              |               |
|-----------------------------------------------------------------------------------------|---------------|
| Product Name:                                                                           | ANT_BLUETOOTH |
| Trade Name:                                                                             | /             |
| Model No.:                                                                              | ANT_2.4G      |
| Adding Model(s):                                                                        | /             |
| Note: The test data is gathered from a production sample, provided by the manufacturer. |               |

| Technical Characteristics of EUT |                |
|----------------------------------|----------------|
| Frequency Range:                 | 2400-6000MHz   |
| Gain of Antenna:                 | 0.26dBi (Max.) |
| Type of Antenna:                 | PCB Antenna    |

Dimension:(unit: mm)



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:    | Sushi TOWE Wireless Testing(Shenzhen)Co., Ltd.                                                            |
| Address: | F 401/101, Building E, Hongwei Industrial Zone, No. 6, Liuxian 3rd Road, Bao'an District, Shenzhen,518133 |

3.2 Test Environments

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

3.3 Test Equipment List

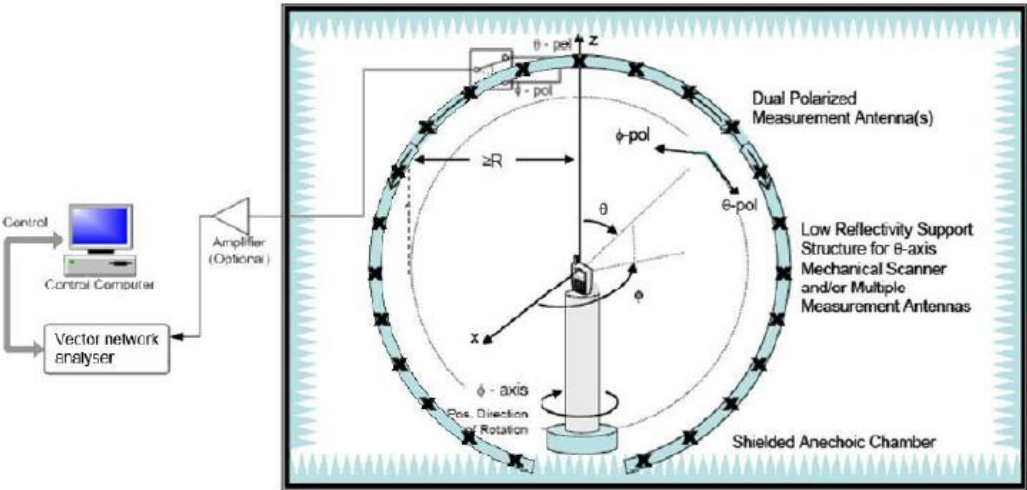
| Description                | Manufacturer | Model                             | Serial Number | Cal. Date  | Due. Date  |
|----------------------------|--------------|-----------------------------------|---------------|------------|------------|
| Network Analyzer           | Agilent      | E5071C                            | MY46110140    | 2024-05-30 | 2025-05-29 |
| 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        |

| Description             | Manufacturer | Model    | Serial Number | Cal. Date  | Due. Date  |
|-------------------------|--------------|----------|---------------|------------|------------|
| Anechoic Chamber        | ETS          | AMS8923  | Q2225         | 2023-06-09 | 2028-06-08 |
| RF Switch               | ETS          | EMCenter | 251211        | /          | /          |
| Vector network analyzer | R&S          | ZNB8     | 101413        | 2024-07-17 | 2025-07-16 |

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

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### 4.1 Gain and Efficiency

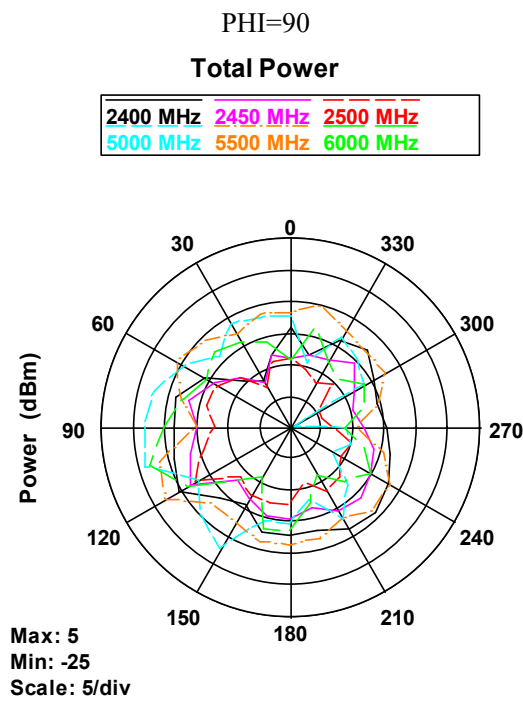
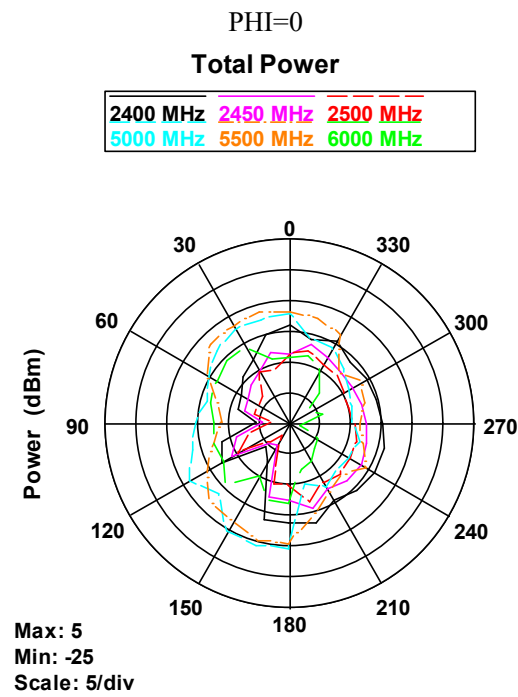
| Frequency(MHz) | Gain(dBi) | Efficiency (%) |
|----------------|-----------|----------------|
| 2400           | -3.78     | 9.75           |
| 2410           | -4.47     | 8.42           |
| 2420           | -4.91     | 7.74           |
| 2430           | -5.35     | 6.99           |
| 2440           | -6.05     | 6.18           |
| 2450           | -6.37     | 5.34           |
| 2460           | -6.84     | 4.66           |
| 2470           | -7.22     | 4.15           |
| 2480           | -7.40     | 3.77           |
| 2490           | -7.88     | 3.42           |
| 2500           | -7.91     | 3.22           |
| 5000           | -1.29     | 11.73          |
| 5020           | -0.98     | 11.73          |
| 5040           | -1.10     | 11.50          |
| 5060           | -0.97     | 12.12          |
| 5080           | -0.70     | 12.73          |
| 5100           | -1.10     | 11.98          |
| 5120           | -0.94     | 12.20          |
| 5140           | -0.62     | 13.56          |
| 5160           | -0.65     | 13.45          |
| 5180           | -0.51     | 14.40          |
| 5200           | -0.21     | 14.61          |
| 5220           | -0.34     | 14.22          |
| 5240           | -0.30     | 14.13          |
| 5260           | -0.59     | 13.50          |
| 5280           | -0.97     | 12.43          |
| 5300           | -1.35     | 11.66          |
| 5320           | -1.75     | 10.58          |
| 5340           | -1.57     | 10.79          |
| 5360           | -2.02     | 10.03          |
| 5380           | -2.62     | 9.57           |
| 5400           | -3.26     | 9.38           |
| 5420           | -3.23     | 9.55           |



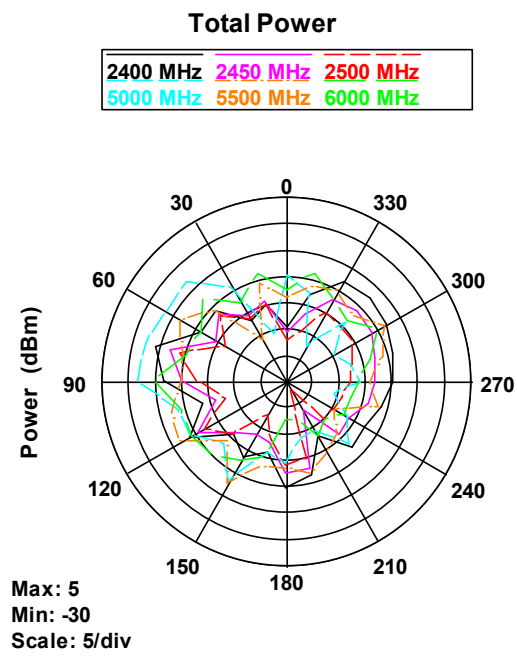
|      |       |       |
|------|-------|-------|
| 5440 | -3.63 | 10.25 |
| 5460 | -4.09 | 10.93 |
| 5480 | -3.51 | 12.33 |
| 5500 | -2.43 | 14.18 |
| 5520 | -1.69 | 16.44 |
| 5540 | -0.77 | 18.44 |
| 5560 | -0.42 | 19.79 |
| 5580 | -0.12 | 21.69 |
| 5600 | 0.26  | 22.34 |
| 5620 | 0.04  | 21.32 |
| 5640 | -0.27 | 20.70 |
| 5660 | -0.29 | 20.82 |
| 5680 | -0.81 | 19.03 |
| 5700 | -1.46 | 16.85 |
| 5720 | -0.96 | 15.92 |
| 5740 | -0.84 | 15.79 |
| 5760 | -0.95 | 14.14 |
| 5780 | -1.68 | 12.65 |
| 5800 | -1.63 | 11.47 |
| 5820 | -1.99 | 10.73 |
| 5840 | -1.78 | 10.12 |
| 5860 | -2.20 | 9.15  |
| 5880 | -2.42 | 8.81  |
| 5900 | -2.67 | 8.33  |
| 5920 | -2.54 | 8.09  |
| 5940 | -2.62 | 8.06  |
| 5960 | -2.69 | 7.75  |
| 5980 | -2.80 | 7.94  |
| 6000 | -2.16 | 8.22  |

4.2 Radiation Pattern 2D View

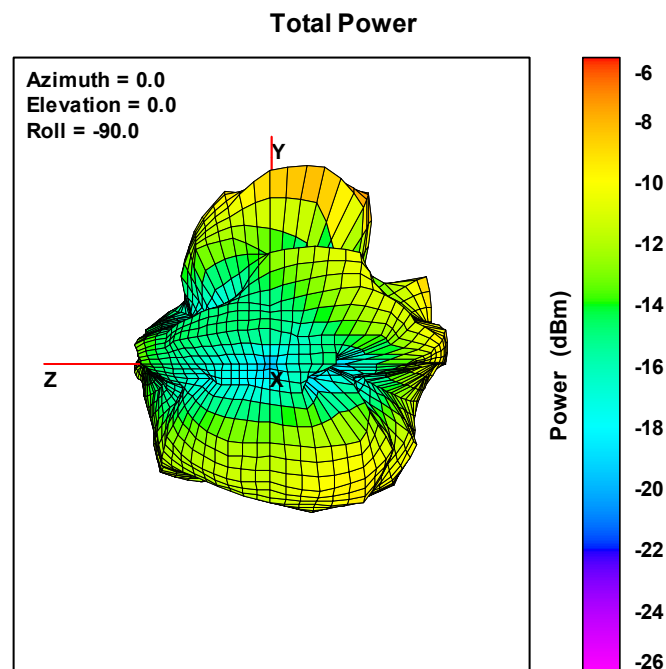
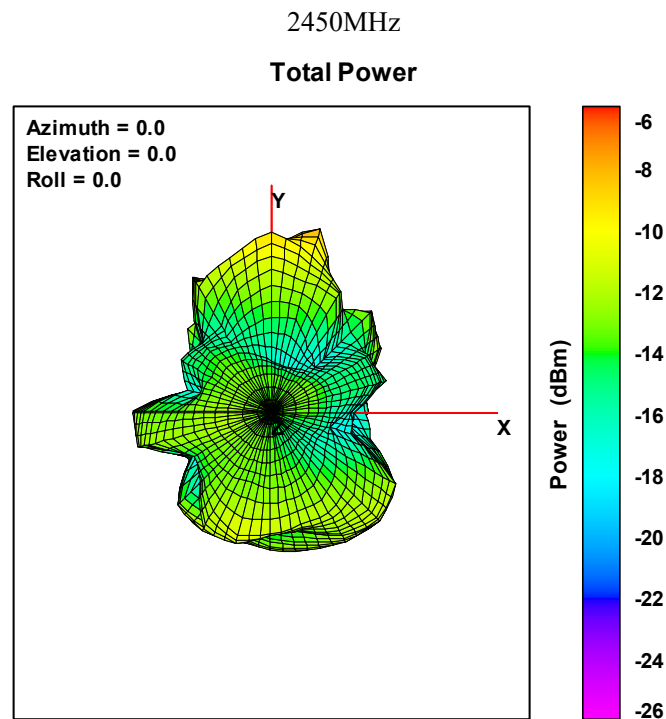
EUT #1:

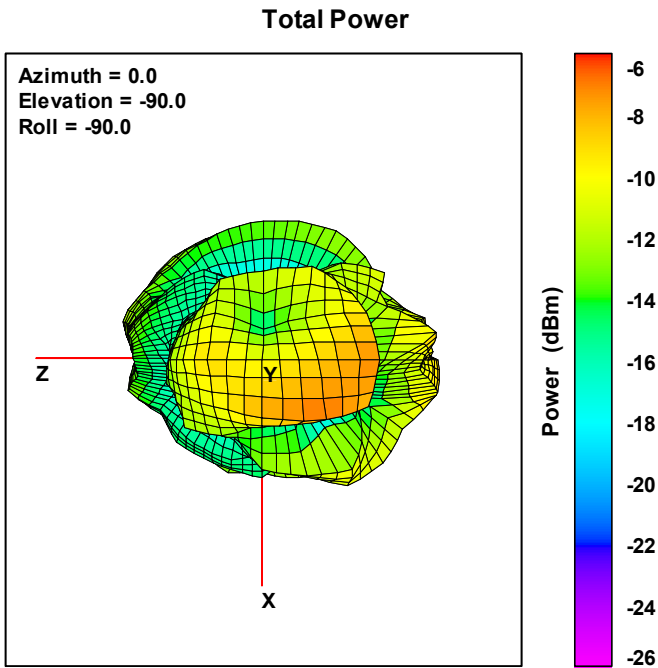


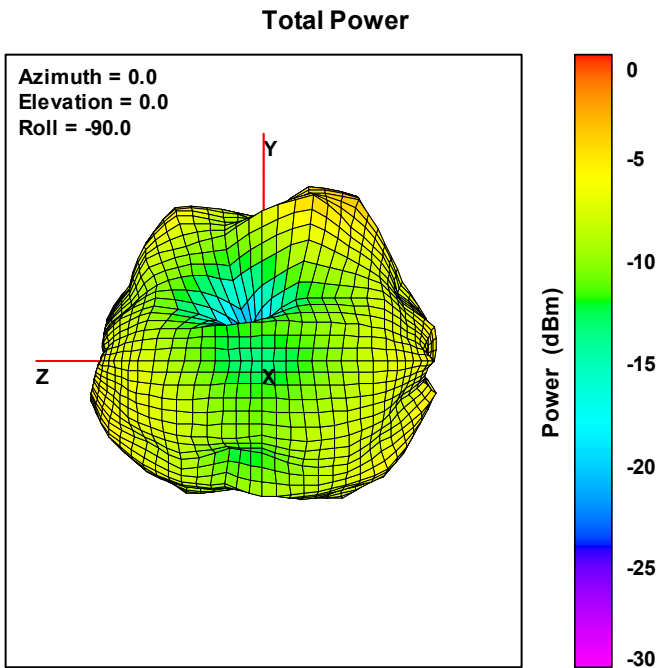
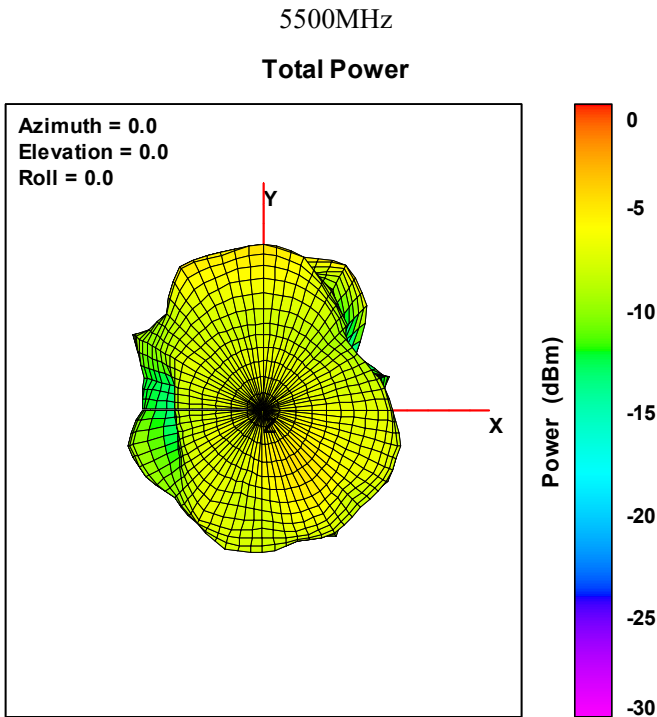
THETA=90

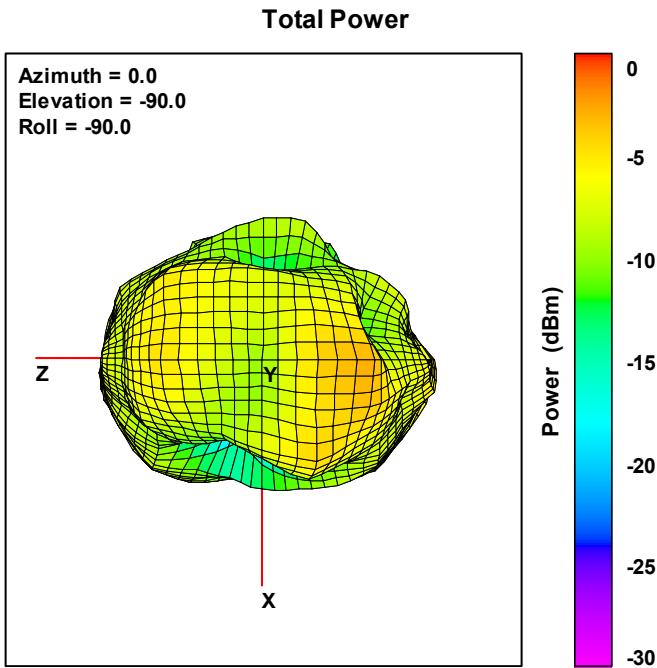


4.3 Radiation Pattern 3D View





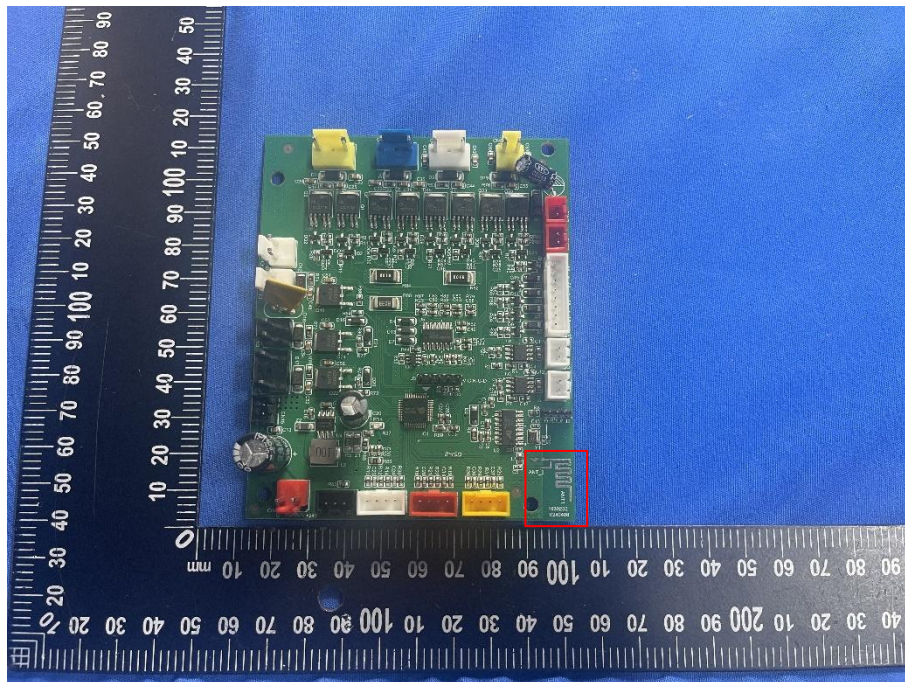




## EXHIBIT 1 - EUT PHOTOGRAPHS

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EUT View 1

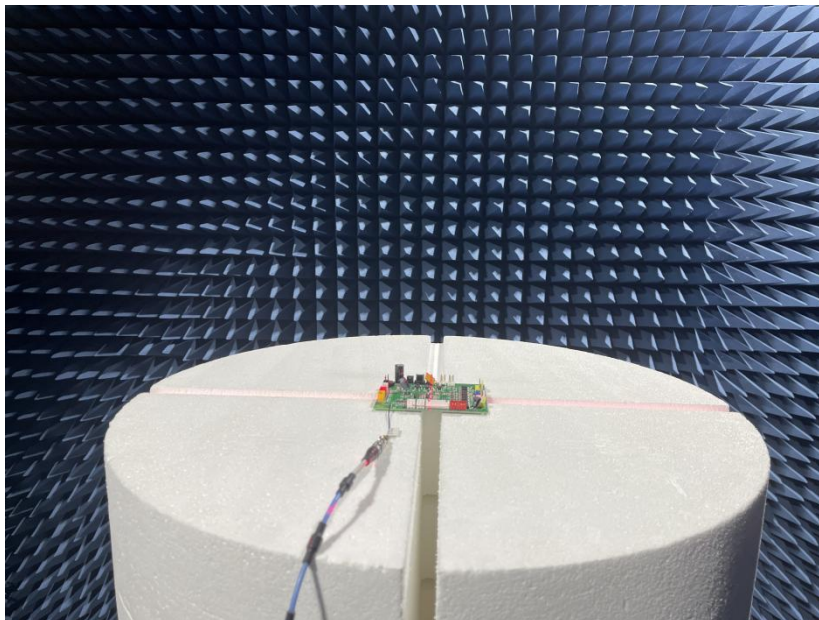




## EXHIBIT 2 - TEST SETUP PHOTOGRAPHS

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OTA Test View 1:



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