

TEST REPORT

Applicant: Homer Tech Inc.
Address: 405, Caihuang Complex Building, Caihuang Industrial Park, No. 6, Qinghu Guanning Road, Longhua Street, Shenzhen
Equipment Type: PCB antenna
Model Name: Mini Meander Line antenna
Brand Name: HomerTech
Test Standard: ANSI/IEEE Std 149-1979
Test Date: Oct. 10, 2022
Date of Issue: Oct. 13, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Mai Jintian

Checked by: Tolan Tu

Approved by: Liao Jianming
(Technical Director)

Mai Jintian

Tolan Tu

Liao Jianming

| Revision History | | |
|-------------------------|----------------------|----------------------|
| Version | Issue Date | Revisions |
| <u>Rev. 01</u> | <u>Oct. 13, 2022</u> | <u>Initial Issue</u> |

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1 GENERAL INFORMATION

1.1 Test Laboratory

| | |
|--------------|--|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

1.2 Test Location

| | |
|----------|---|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Location | <input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| | <input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China |

2 PRODUCT INFORMATION

2.1 Applicant Information

| | |
|------------------|---|
| Applicant | Homer Tech Inc. |
| Address | 405, Caihuang Complex Building, Caihuang Industrial Park, No. 6, Qinghu Guanning Road, Longhua Street, Shenzhen |
| Contact Person | Hongguang Li |
| Telephone Number | 13798456159 |
| E-mail Address | Hugo_lee28@126.com |

2.2 Manufacturer Information

| | |
|--------------|---|
| Manufacturer | Homer Tech Inc. |
| Address | 405, Caihuang Complex Building, Caihuang Industrial Park, No. 6, Qinghu Guanning Road, Longhua Street, Shenzhen |

2.3 Factory Information

| | |
|---------|-----|
| Factory | N/A |
| Address | N/A |

2.4 General Description for Equipment under Test (EUT)

| | |
|-----------------------|---------------------------|
| EUT Name | PCB antenna |
| Model Name Under Test | Mini Meander Line antenna |
| Antenna Type | PCB Antenna |
| Dimensions | 12.5*5 mm |

2.5 Ancillary Equipment

Note: Not applicable.

2.6 Technical Information

| | |
|------------------|---|
| Frequency Range | 2400MHz ~ 2500MHz |
| Test Frequencies | 2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz |

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

| No. | Identity | Document Title |
|-----|------------------------|--|
| 1 | ANSI/IEEE Std 149-1979 | IEEE Standard Test Procedures for Antennas |

3.2 Test Verdict

| Report Section | Description | Remark |
|----------------|---------------------|--------|
| ANNEX A.1 | Gain and Efficiency | -- |
| ANNEX B | Radiation Pattern | -- |

3.3 Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

| Item | Uncertainty |
|-----------|---------------------|
| VSWR(S11) | ± 0.61 |
| Gain | $\pm 1.92\text{dB}$ |

4 GENERAL TEST CONFIGURATIONS

4.1 Test Condition

| Environment Parameter | Selected Values During Tests | | | |
|---|------------------------------|-----------------|---------|-----------------------|
| | Ambient Pressure(KPa) | Temperature(°C) | Voltage | Relative Humidity (%) |
| Normal Temperature, Normal Voltage (NTNV) | 101 | 25 | N/A | 50 |

4.2 Test Equipment List

| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|---|--------------|--------|--------------|------------|------------|
| SG24 Multi-probe Antenna Measurement System | SATIMO | SG24-L | 1101855-0001 | 2021.11.12 | 2024.11.11 |
| Vector Network Analyzer | Agilent | E5071B | MY42404001 | 2022.04.02 | 2023.04.01 |
| Description | Manufacturer | Name | | Version | |
| Test Software | MVG | SPM | | V 1.8 | |

4.3 Test Setup

4.3.1 Antenna gain, efficiency and radiation pattern test setup



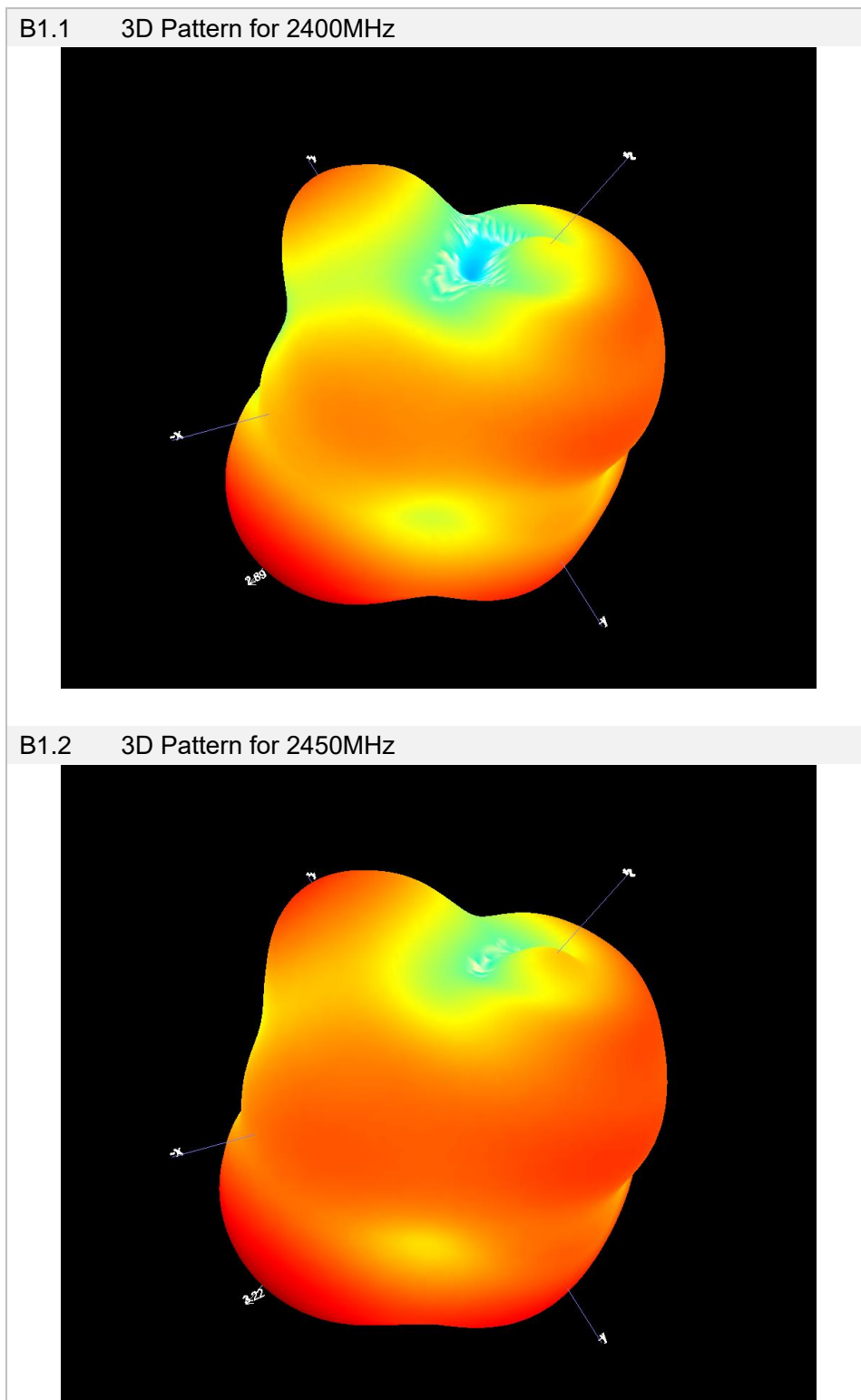
ANNEX A TEST RESULTS

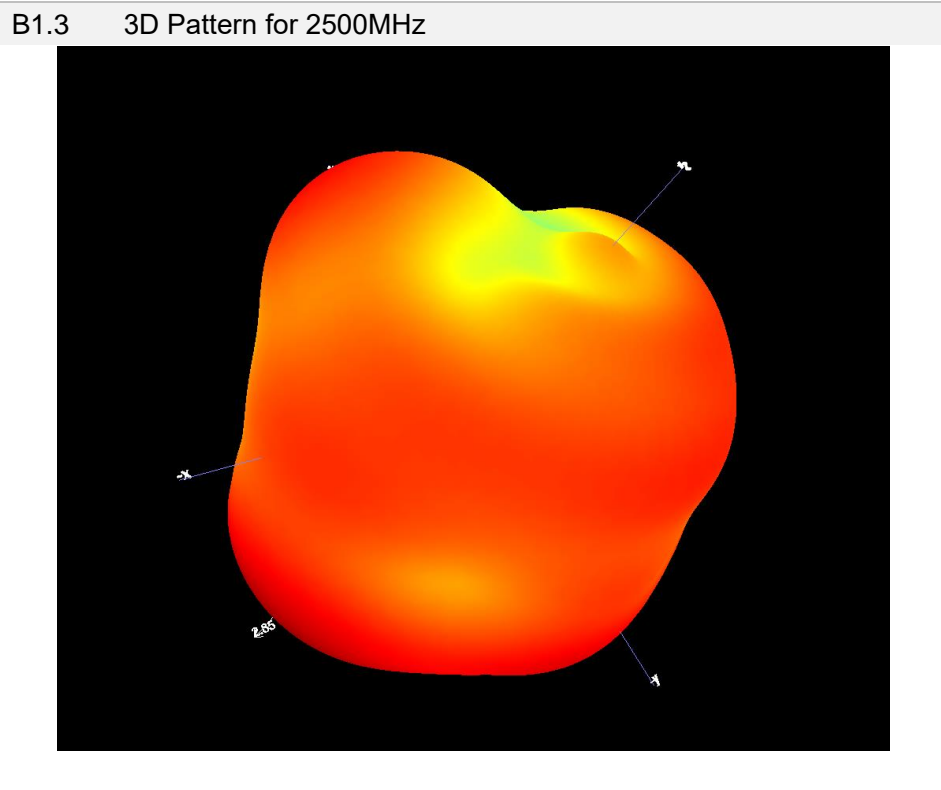
A.1 Gain and Efficiency

| Frequency | Gain (dBi) | Efficiency (%) |
|-----------|-------------|----------------|
| 2400MHz | 2.89 | 52 |
| 2410MHz | 2.83 | 52 |
| 2420MHz | 2.90 | 52 |
| 2430MHz | 3.17 | 52 |
| 2440MHz | 3.12 | 51 |
| 2450MHz | 3.22 | 51 |
| 2460MHz | 3.06 | 51 |
| 2470MHz | 2.94 | 51 |
| 2480MHz | 3.11 | 51 |
| 2490MHz | 3.16 | 51 |
| 2500MHz | 2.85 | 50 |

ANNEX B RADIATION PATTERN

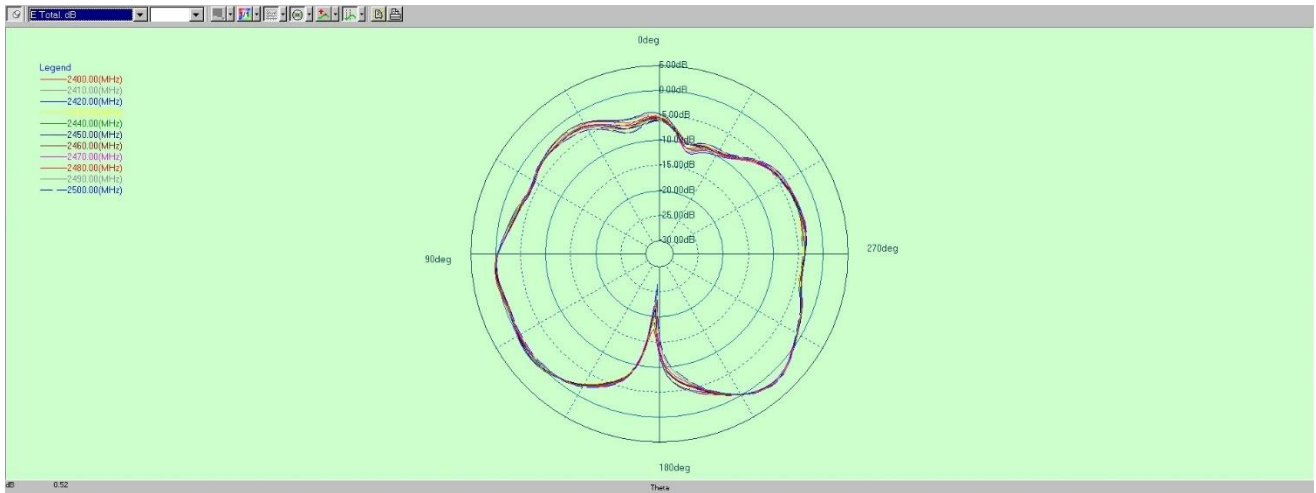
B.1 3D Pattern



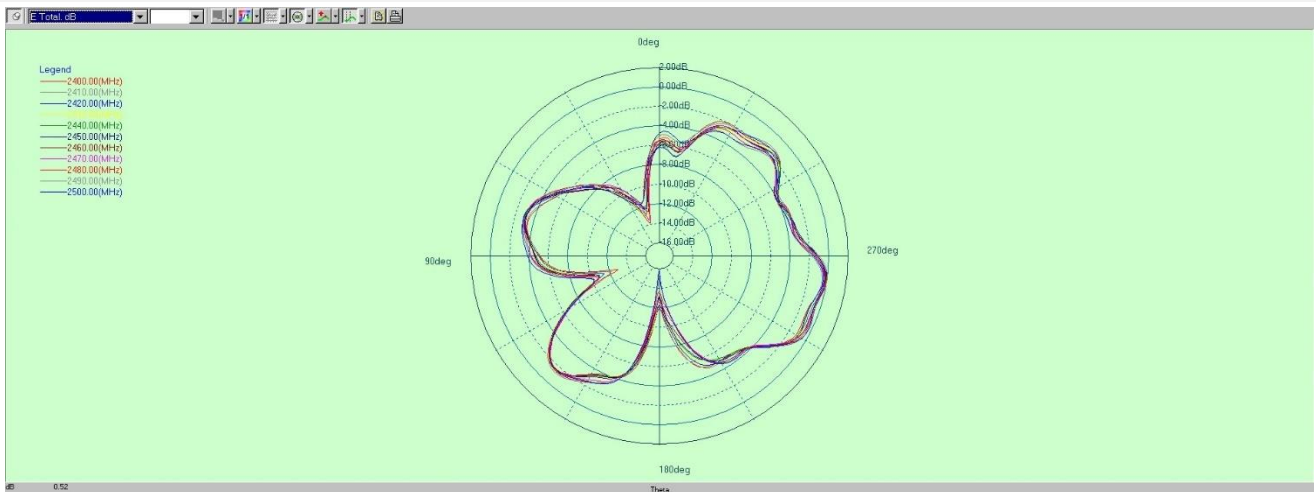


B.2 1D Radiation Pattern

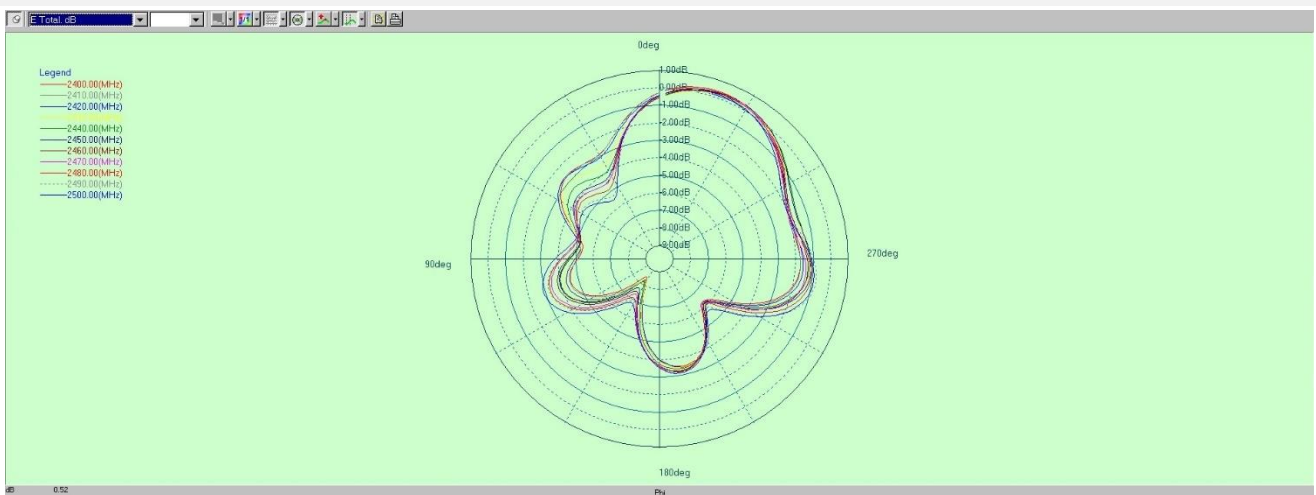
B2.1 PHI=0



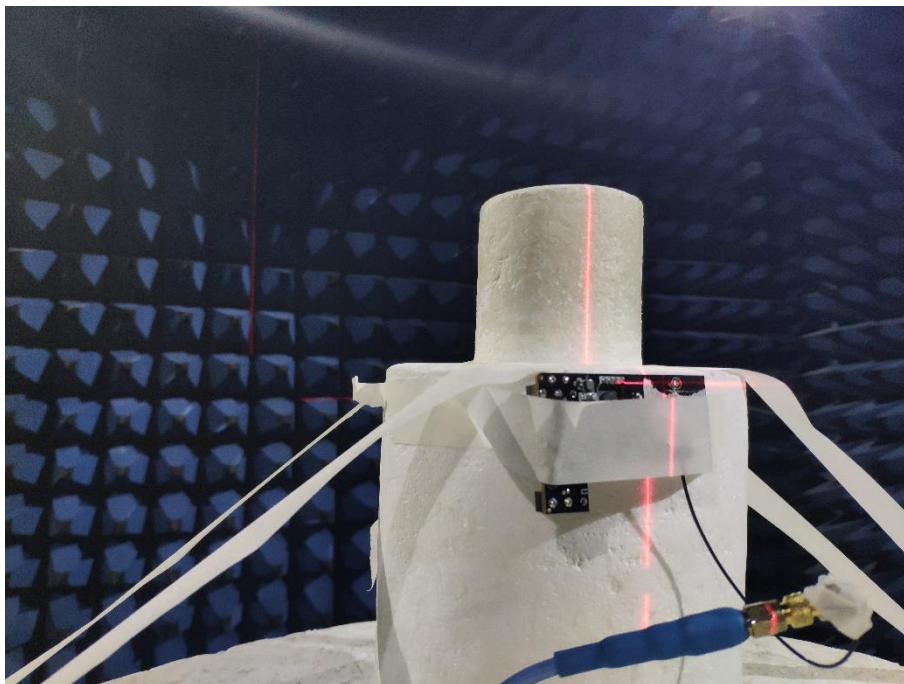
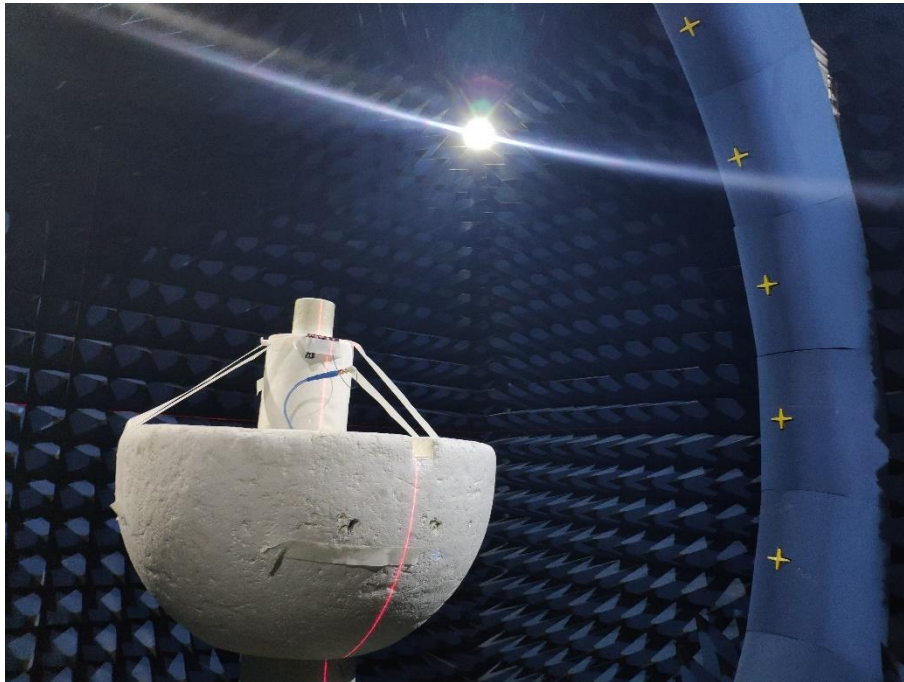
B2.2 PHI=90



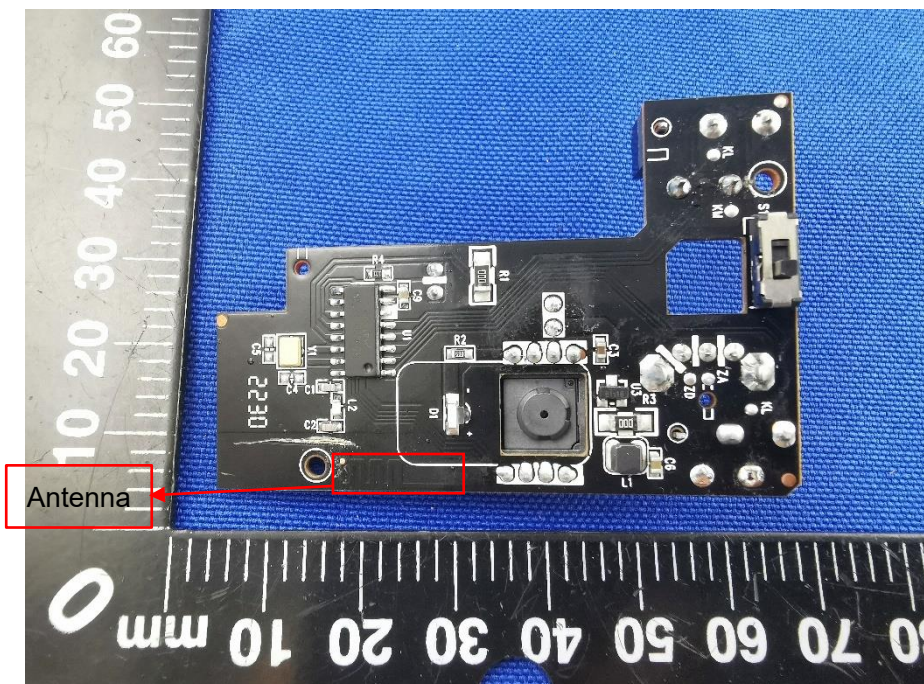
B2.3 THETA=90



ANNEX C TEST SETUP PHOTO



ANNEX D EUT PHOTO



Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
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--END OF REPORT--