**Shenzhen CTA Testing Technology Co., Ltd.**

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

# FCC PART 15 SUBPART C TEST REPORT

## FCC PART 15.231

| | |
|---|---|
| **Report Reference No.** ..... : | **CTA22112400201** |
| **FCC ID.** ..... : | **2ATEO-DT310** |
| Compiled by ( position+printed name+signature)..: | File administrators Zoey Cao |
| Supervised by ( position+printed name+signature)..: | Project Engineer Amy Wen |
| Approved by ( position+printed name+signature)..: | RF Manager Eric Wang |
| Date of issue ..... : | Dec. 02, 2022 |
| **Testing Laboratory Name** ..... : | **Shenzhen CTA Testing Technology Co., Ltd.** |
| Address ..... : | Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China |
| **Applicant's name** ..... : | **Dongguan Dogreat Electronic Technology Co., Ltd** |
| Address ..... : | 2nd Floor, Building B, Chongji Industrial Park, No.121, Fusheng Road, Dalang Town, Dongguan City, Guangdong Province, China |
| **Test specification** ..... : | |
| Standard ..... : | **FCC Part 15.231** |



| | |
|---|---|
| **Test item description** ..... : | **remote dog training collar** |
| Trade Mark ..... : | N/A |
| Manufacturer ..... : | Dongguan Dogreat Electronic Technology Co., Ltd |
| Model/Type reference ..... : | DT310 |
| Listed Models ..... : | DT320, DT510, DT520, DT530, DT540, DT740, DT750, DT760, AT868 |
| Modulation ..... : | ASK |
| Frequency ..... | 433.92MHz |
| Ratings ..... : | DC 3.7V From Battery and DC 5.0V From external circuit |
| Result ..... : | **PASS** |

# TEST REPORT

| | | |
|---|---|---|
| Equipment under Test | : | remote dog training collar |
| Model /Type | : | DT310 |
| Listed Models | : | DT320, DT510, DT520, DT530, DT540, DT740, DT750, DT760, AT868 |
| Model Declaration | : | PCB board, structure and internal of these model(s) are the same, So no additional models were tested. |
| Applicant | : | Dongguan Dogreat Electronic Technology Co., Ltd |
| Address | : | 2nd Floor, Building B, Chongji Industrial Park, No.121, Fusheng Road, Dalang Town, Dongguan City, Guangdong Province, China |
| Manufacturer | : | Dongguan Dogreat Electronic Technology Co., Ltd |
| Address | : | 2nd Floor, Building B, Chongji Industrial Park, No.121, Fusheng Road, Dalang Town, Dongguan City, Guangdong Province, China |

| **Test Result**: | **PASS** |
|---|---|

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

# Contents

# 1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.231:Periodic operation in the band 40.66-40.70 MHz and above 70 MHz.
ANSI C63.10:2013 : American National Standard for Testing Unlicensed Wireless Devices

# 2 SUMMARY

## 2.1 General Remarks

| | | |
|---|---|---|
| Date of receipt of test sample | : | Nov. 24, 2022 |
| | | |
| Testing commenced on | : | Nov. 24, 2022 |
| | | |
| Testing concluded on | : | Dec. 02, 2022 |

## 2.2 Product Description

| | |
|---|---|
| Product Name: | remote dog training collar |
| Model/Type reference: | DT310 |
| Testing sample ID： | CTA221124002-1# (Engineer sample),<br>CTA221124002-2#(Normal sample) |
| Power supply: | DC 3.7V From Battery and DC 5.0V From external circuit |
| Adapter information<br>(Auxiliary test supplied by test Lab）： | Model: EP-TA20CBC<br>Input: AC 100-240V 50/60Hz<br>Output: DC 5V 2A |
| Modulation: | ASK |
| Operation frequency: | 433.92MHz |
| Channel number: | 1 |
| Antenna type: | Built-in spring antenna |
| Antenna gain: | 0 dBi |

## 2.3 Equipment Under Test

### Power supply system utilised

| | | | | | |
|---|---|---|---|---|---|
| Power supply voltage | : | ○ | 230V / 50 Hz | ○ | 120V / 60Hz |
| | | ○ | 12 V DC | ○ | 24 V DC |
| | | ● | Other (specified in blank below) | | |

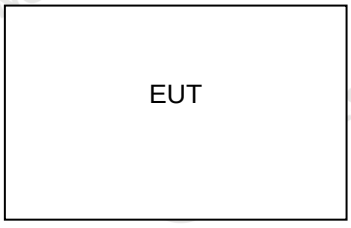
DC 3.7V From Battery and DC 5.0V From external circuit

## 2.4 Short description of the Equipment under Test (EUT)

This is a remote dog training collar.

For more details, refer to the user's manual of the EUT.

## 2.5 Block Diagram of Test Setup




## 2.6 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

| Description | Manufacturer | Model | Technical Parameters | Certificate | Provided by |
|---|---|---|---|---|---|
| / | / | / | / | / | / |
| / | / | / | / | / | / |

## 2.7 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for the device filing to comply with Section 15.231 of the FCC Part 15, Subpart C Rules.

## 2.8 Modifications

No modifications were implemented to meet testing criteria.

# 3 TEST ENVIRONMENT

## 3.1 Address of the test laboratory

**Shenzhen CTA Testing Technology Co., Ltd.**
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao‘an District, Shenzhen, China

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## 3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

**FCC-Registration No.: 517856 Designation Number: CN1318**
Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**Industry Canada Registration Number. Is: 27890 CAB identifier: CN0127**
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

**A2LA-Lab Cert. No.: 6534.01**
Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

## 3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

| | |
|---|---|
| Temperature: | 25 ° C |
| | |
| Humidity: | 45 % |
| | |
| Atmospheric pressure: | 950-1050mbar |

Conducted testing：

| | |
|---|---|
| Temperature: | 25 ° C |
| | |
| Humidity: | 44 % |
| | |
| Atmospheric pressure: | 950-1050mbar |

## 3.4 Summary of measurement results

| FCC and IC Requirements | | |
|---|---|---|
| FCC Part 15.207 | Conducted Emission | PASS |
| FCC Part 15.231(a)(2) | Automatically Deactivate | PASS |
| FCC Part 15.231(b) | Electric Field Strength of Fundamental Emission | PASS |
| FCC Part 15.205 &15.209& 15.231(b) | Electric Field Strength of Spurious Emission | PASS |
| FCC Part 15.231(c) | -20dB bandwidth | PASS |

Remark: The measurement uncertainty is not included in the test result.

## 3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

| Test | Range | Measurement Uncertainty | Notes |
|---|---|---|---|
| Radiated Emission | 30~1000MHz | 4.10 dB | (1) |
| Radiated Emission | 1~18GHz | 4.32 dB | (1) |
| Radiated Emission | 18-40GHz | 5.54 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 3.12 dB | (1) |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

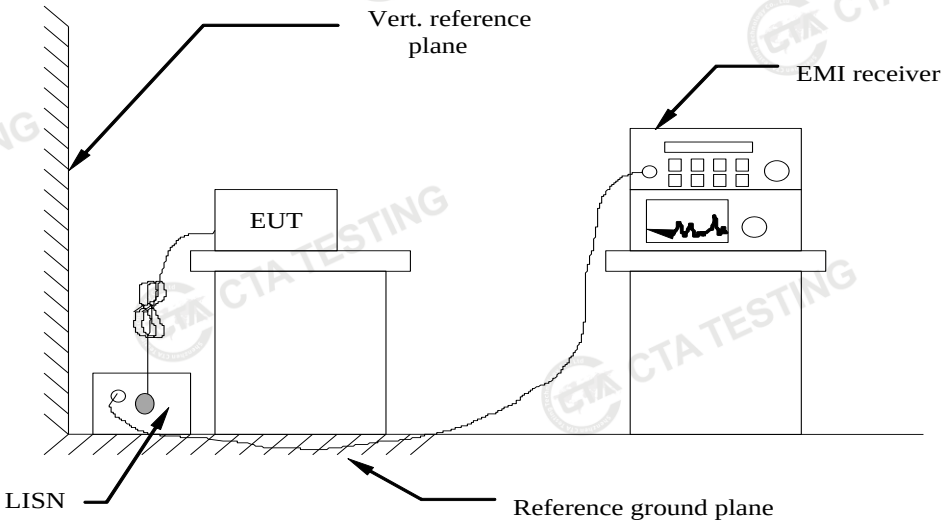
## 3.6 Equipments Used during the Test

| Test Equipment | Manufacturer | Model No. | Equipment No. | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| LISN | R&S | ENV216 | CTA-308 | 2022/08/03 | 2023/08/02 |
| LISN | R&S | ENV216 | CTA-314 | 2022/08/03 | 2023/08/02 |
| EMI Test Receiver | R&S | ESPI | CTA-307 | 2022/08/03 | 2023/08/02 |
| EMI Test Receiver | R&S | ESCI | CTA-306 | 2022/08/03 | 2023/08/02 |
| Spectrum Analyzer | Agilent | N9020A | CTA-301 | 2022/08/03 | 2023/08/02 |
| Spectrum Analyzer | R&S | FSP | CTA-337 | 2022/08/03 | 2023/08/02 |
| Vector Signal generator | Agilent | N5182A | CTA-305 | 2022/08/03 | 2023/08/02 |
| Analog Signal Generator | R&S | SML03 | CTA-304 | 2022/08/03 | 2023/08/02 |
| Universal Radio Communication | CMW500 | R&S | CTA-302 | 2022/08/03 | 2023/08/02 |
| Temperature and humidity meter | Chigo | ZG-7020 | CTA-326 | 2022/08/03 | 2023/08/02 |
| Ultra-Broadband Antenna | Schwarzbeck | VULB9163 | CTA-310 | 2021/08/07 | 2024/08/06 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | CTA-309 | 2021/08/07 | 2024/08/06 |
| Loop Antenna | Zhinan | ZN30900C | CTA-311 | 2021/08/07 | 2024/08/06 |
| Horn Antenna | Beijing Hangwei Dayang | OBH100400 | CTA-336 | 2021/08/07 | 2024/08/06 |
| Amplifier | Schwarzbeck | BBV 9745 | CTA-312 | 2022/08/03 | 2023/08/02 |
| Amplifier | Taiwan chengyi | EMC051845B | CTA-313 | 2022/08/03 | 2023/08/02 |
| Directional coupler | NARDA | 4226-10 | CTA-303 | 2022/08/03 | 2023/08/02 |
| High-Pass Filter | XingBo | XBLBQ-GTA18 | CTA-402 | 2022/08/03 | 2023/08/02 |
| High-Pass Filter | XingBo | XBLBQ-GTA27 | CTA-403 | 2022/08/03 | 2023/08/02 |
| Automated filter bank | Tonscend | JS0806-F | CTA-404 | 2022/08/03 | 2023/08/02 |
| Power Sensor | Agilent | U2021XA | CTA-405 | 2022/08/03 | 2023/08/02 |
| Amplifier | Schwarzbeck | BBV9719 | CTA-406 | 2022/08/03 | 2023/08/02 |

# 4 TEST CONDITIONS AND RESULTS

## 4.1 AC Power Conducted Emission

**TEST CONFIGURATION**




**TEST PROCEDURE**

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received DC 12V power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT.The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

**AC Power Conducted Emission Limit**

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

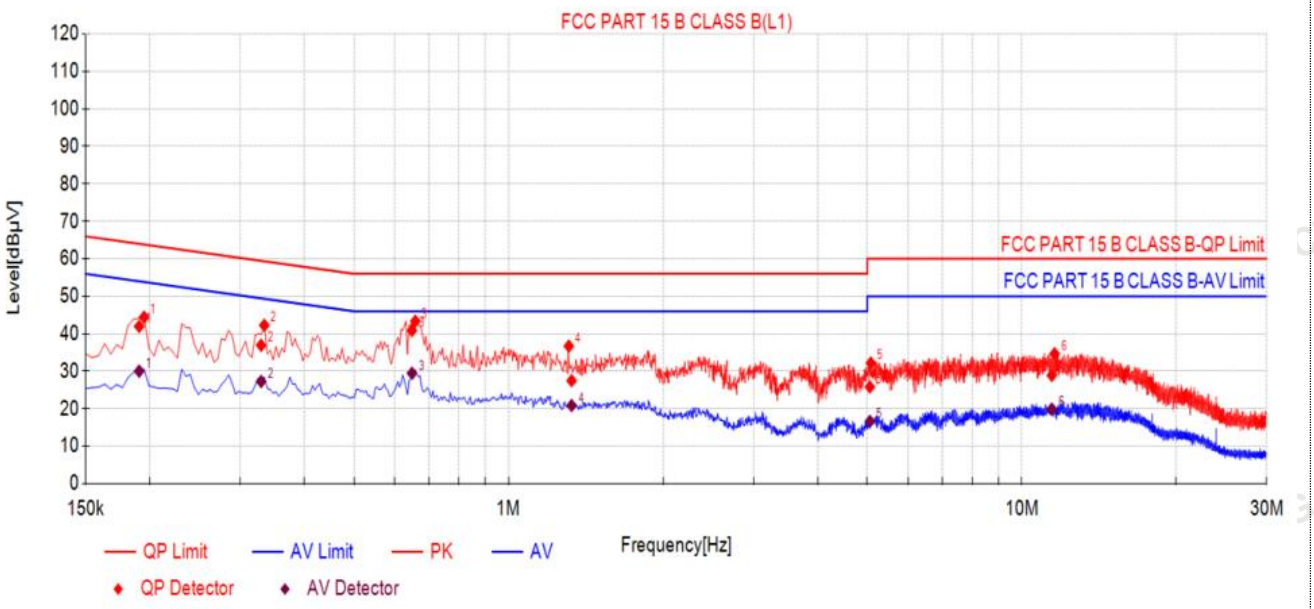
| Frequency range (MHz) | Limit (dBuV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| * Decreases with the logarithm of the frequency. | | |

**TEST RESULTS**

**Passed**

Please refer to the below test data:

| Power supply: | DC 5V from Adapter AC 120V/60Hz | Polarization | L |
|---|---|---|---|




## Final Data List

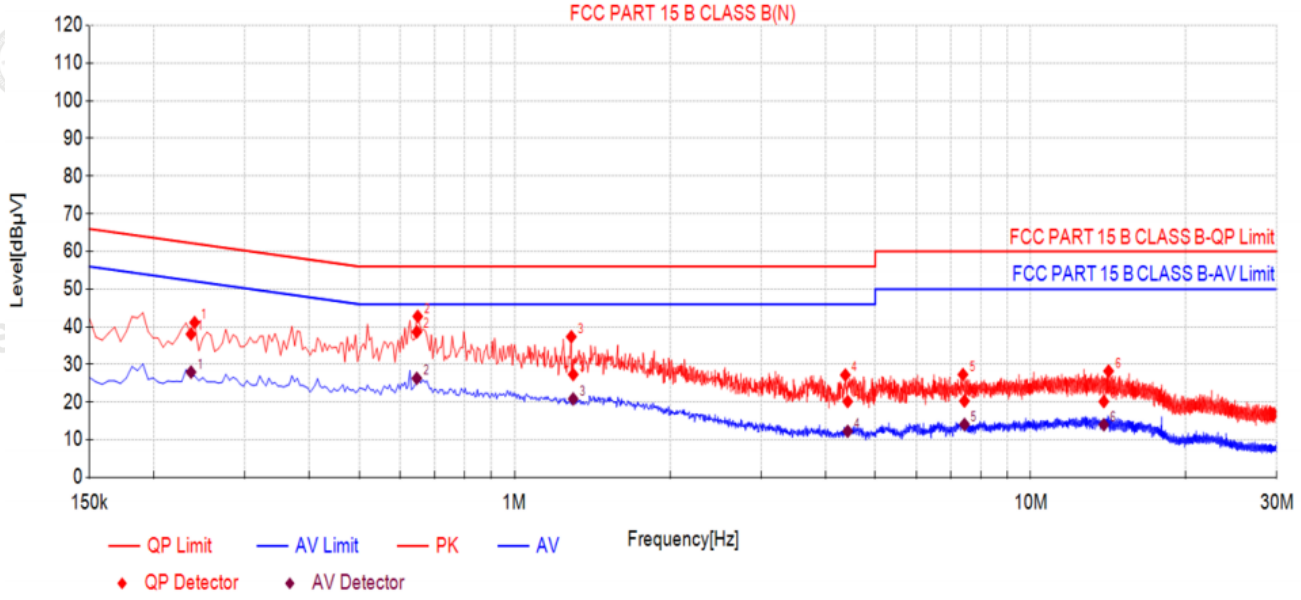
| NO. | Freq. [MHz] | Factor [dB] | QP Reading[dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1908 | 10.50 | 31.47 | 41.97 | 64.00 | 22.03 | 19.52 | 30.02 | 54.00 | 23.98 | PASS |
| 2 | 0.3297 | 10.50 | 26.44 | 36.94 | 59.46 | 22.52 | 16.77 | 27.27 | 49.46 | 22.19 | PASS |
| 3 | 0.6487 | 10.50 | 30.38 | 40.88 | 56.00 | 15.12 | 18.97 | 29.47 | 46.00 | 16.53 | PASS |
| 4 | 1.3275 | 10.50 | 16.99 | 27.49 | 56.00 | 28.51 | 10.38 | 20.88 | 46.00 | 25.12 | PASS |
| 5 | 5.0586 | 10.50 | 15.30 | 25.80 | 60.00 | 34.20 | 6.12 | 16.62 | 50.00 | 33.38 | PASS |
| 6 | 11.4441 | 10.50 | 18.39 | 28.89 | 60.00 | 31.11 | 9.38 | 19.88 | 50.00 | 30.12 | PASS |

Note:1).Level (dBµV)= Reading (dBµV)+ Factor (dB)

2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)

3). Margin(dB) = Limit (dBµV) - Level (dBµV)

| Power supply: | DC 5V from Adapter AC 120V/60Hz | Polarization | N |
|---|---|---|---|




## Final Data List

| NO. | Freq. [MHz] | Factor [dB] | QP Reading[dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2362 | 10.50 | 27.56 | 38.06 | 62.23 | 24.17 | 17.47 | 27.97 | 52.23 | 24.26 | PASS |
| 2 | 0.6468 | 10.50 | 28.15 | 38.65 | 56.00 | 17.35 | 15.81 | 26.31 | 46.00 | 19.69 | PASS |
| 3 | 1.2995 | 10.50 | 16.84 | 27.34 | 56.00 | 28.66 | 10.35 | 20.85 | 46.00 | 25.15 | PASS |
| 4 | 4.4219 | 10.50 | 9.66 | 20.16 | 56.00 | 35.84 | 1.75 | 12.25 | 46.00 | 33.75 | PASS |
| 5 | 7.4460 | 10.50 | 9.80 | 20.30 | 60.00 | 39.70 | 3.58 | 14.08 | 50.00 | 35.92 | PASS |
| 6 | 13.8642 | 10.50 | 9.65 | 20.15 | 60.00 | 39.85 | 3.49 | 13.99 | 50.00 | 36.01 | PASS |

Note:1).Level (dBµV)= Reading (dBµV)+ Factor (dB)

2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)

3). Margin(dB) = Limit (dBµV) - Level (dBµV)

## 4.2 Radiated Emission

**Limit**

For intentional device, according to 15.209(a) the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table.

| Frequency (MHz) | Distance (Meters) | Radiated (dBμV/m) | Radiated (μV/m) |
|---|---|---|---|
| 0.009-0.49 | 3 | 20log(2400/F(KHz))+40log(300/3) | 2400/F(KHz) |
| 0.49-1.705 | 3 | 20log(24000/F(KHz))+ 40log(30/3) | 24000/F(KHz) |
| 1.705-30 | 3 | 20log(30)+ 40log(30/3) | 30 |
| 30-88 | 3 | 40.0 | 100 |
| 88-216 | 3 | 43.5 | 150 |
| 216-960 | 3 | 46.0 | 200 |
| Above 960 | 3 | 54.0 | 500 |

In addition to the provisions of 15.231(b), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

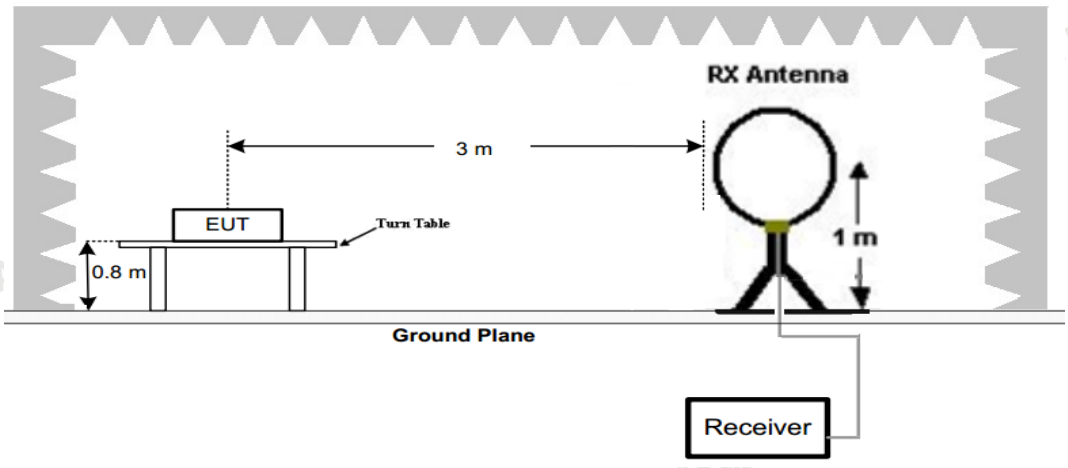
| Fundamental frequency (MHz) | Field strength of fundamental (microvolts/meter) | Field strength of spurious emissions (microvolts/meter) |
|---|---|---|
| 40.66–40.70. | 2,250 | 225 |
| 70–130 | 1,250 | 125 |
| 130–174 | [1] 1,250 to 3,750 | [1] 125 to 375 |
| 174–260 | 3,750 | 375 |
| 260–470 | [1] 3,750 to 12,500 | [1] 375 to 1,250 |
| Above 470 | 12,500 | 1,250 |

[1] Linear interpolations.

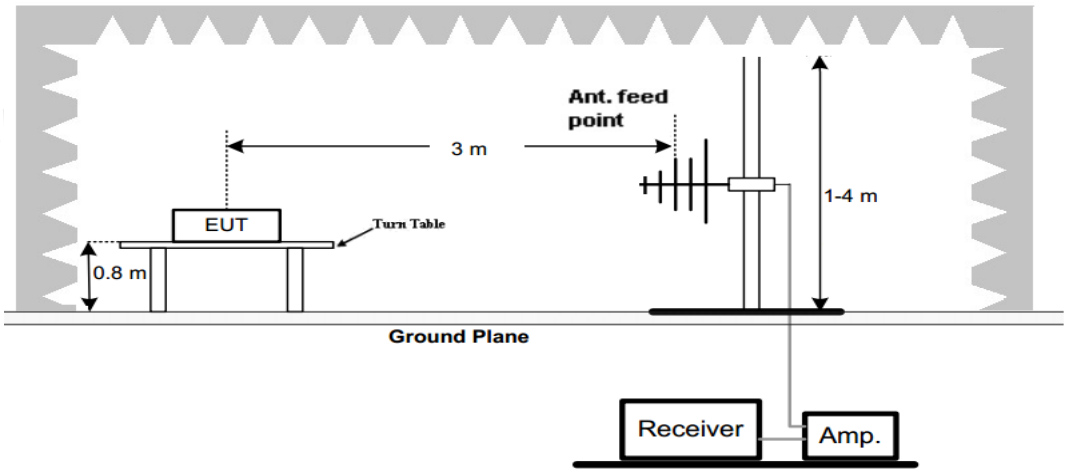
[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 260-470 MHz, 20*log(41.6667*433.890-7083.3333)=80.82dBuV/m The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

**TEST CONFIGURATION**

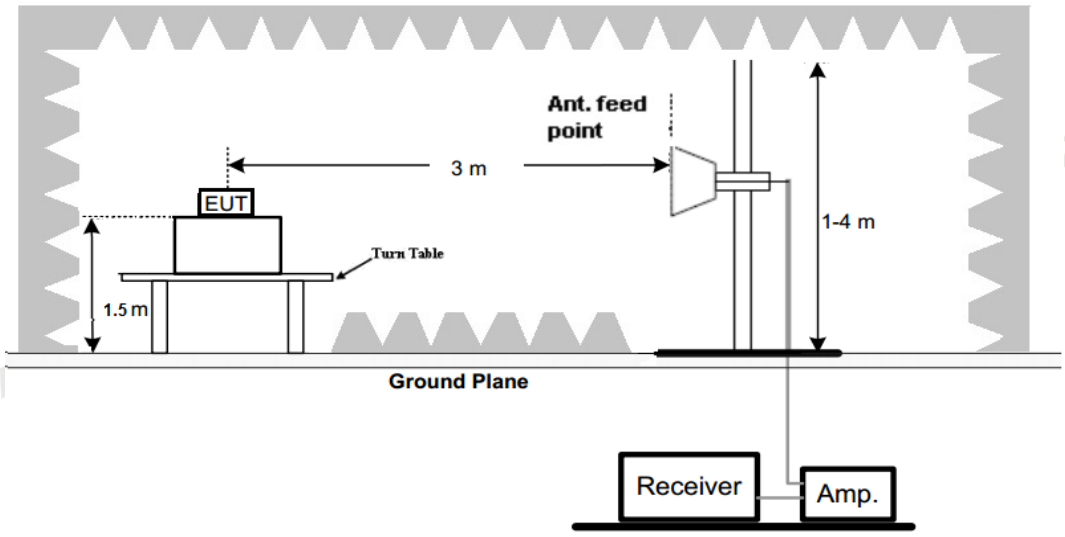
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz




(B) Radiated Emission Test Set-Up, Frequency below 1000MHz




(C) Radiated Emission Test Set-Up, Frequency above 1000MHz




**Test Procedure**

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.

**TEST RESULTS**

The emissions from 30MHz to 5GHz are measured peak and average level, below 1 GHz measured QP level, detailed test data please see below. Besides, we tested 3 directions and recorded the worst data.

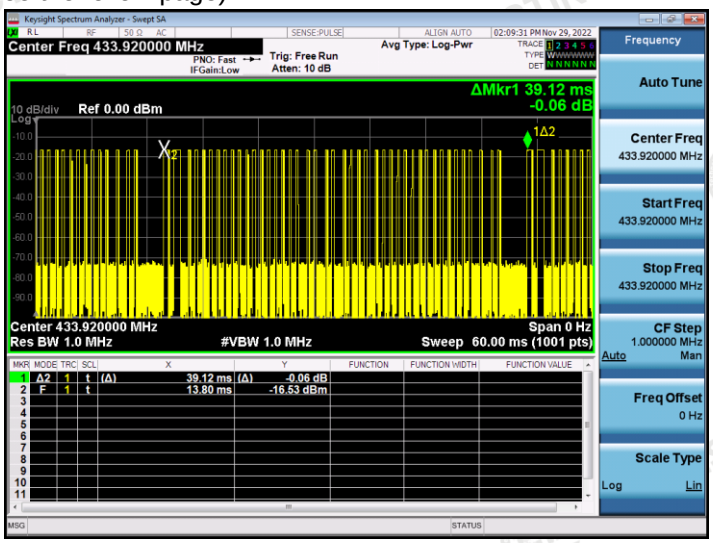
| Emission Styles | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Direction (H/V) |
|---|---|---|---|---|---|---|---|---|
| Fundamental | 433.92 | 98.02 | -11.26 | 86.76 | 100.83 | 14.07 | PK | H |
| Spurious | 480.12 | 47.46 | -12.49 | 34.97 | 46 | 11.03 | PK | H |
| Harmonics | 867.84 | 75.57 | -17.69 | 57.88 | 80.83 | 22.95 | PK | H |
| Harmonics | 1301.76 | 50.21 | 5.29 | 55.50 | 74 | 18.50 | PK | H |
| -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fundamental | 433.92 | 96.18 | -11.26 | 84.92 | 100.83 | 15.91 | PK | V |
| Spurious | 480.12 | 47.27 | -12.49 | 34.78 | 46 | 11.22 | PK | V |
| Harmonics | 867.84 | 74.45 | -17.69 | 56.76 | 80.83 | 24.07 | PK | V |
| Harmonics | 1301.76 | 49.95 | 5.29 | 55.24 | 74 | 18.76 | PK | V |
| -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Emission Styles | Frequency (MHz) | PK Level (dBuV/m) | AV Factor (dB/m) | AV Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Direction (H/V) |
|---|---|---|---|---|---|---|---|
| Fundamental | 433.92 | 86.76 | -12.30 | 74.46 | 80.83 | 6.37 | H |
| Harmonics | 867.84 | 57.88 | -12.30 | 45.58 | 60.83 | 15.25 | H |
| Harmonics | 1301.76 | 55.50 | -12.30 | 43.20 | 54 | 10.80 | H |
| -- | -- | -- | -- | -- | -- | -- | -- |
| Fundamental | 433.92 | 84.92 | -12.30 | 72.62 | 80.83 | 8.21 | V |
| Harmonics | 867.84 | 56.76 | -12.30 | 44.46 | 60.83 | 16.37 | V |
| Harmonics | 1301.76 | 55.24 | -12.30 | 42.94 | 54 | 11.06 | V |
| -- | -- | -- | -- | -- | -- | -- | -- |

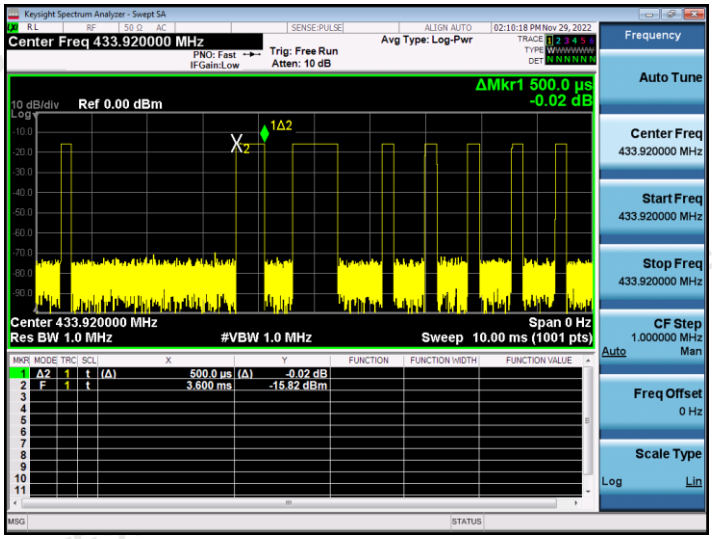
Note:

1. Level (dBuV/m)= Reading (dBuV)+Factor(dB/m)
2. AV Level (dBuV/m)= PK Level (dBuV/m)+ AV Factor(dB)
3. In a transmit cycle 100ms period found burst 25pcs, the Duty Cycle can calculate as below:
   Duty Cycle= (0.500*1+0.800*1+0.200*41)/39.12=(0.500+0.800+8.2)/39.12=0.2428
   AV Factor=20*log(Duty Cycle)=20*log(0.2428)=-12.30

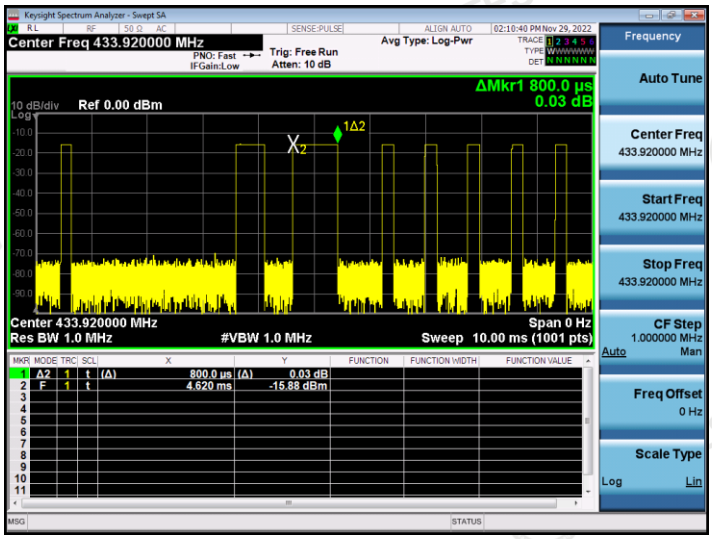
(The plot of Duty Cycle See the follow page)



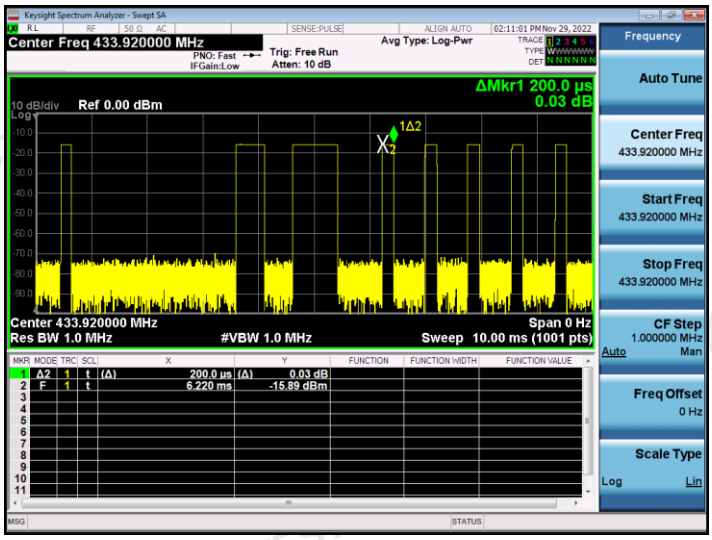

(Transmit cycle 39.12ms)




(Time per burst: 0.500ms*1pcs)




(Time per burst: 0.800ms*1pcs)



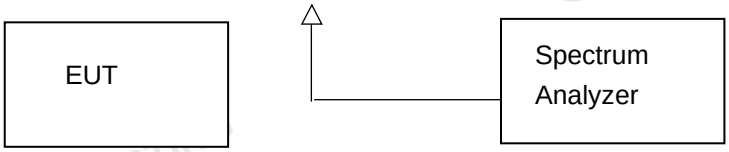

(Time per burst: 0.200ms*41pcs)

## 4.3 20dB Bandwidth

**Limit**

According to 47 CFR 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the centre frequency for devices operating above 70MHz and below 900MHz. Bandwidth is determined at the points 20dB down from the modulated carrier.

**Test Configuration**




**Test Procedure**

The 20dB bandwidth and 99% bandwidth is measured with a spectrum analyzer connected via a receive antenna placed near the EUT while the EUT is operating in transmission mode.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

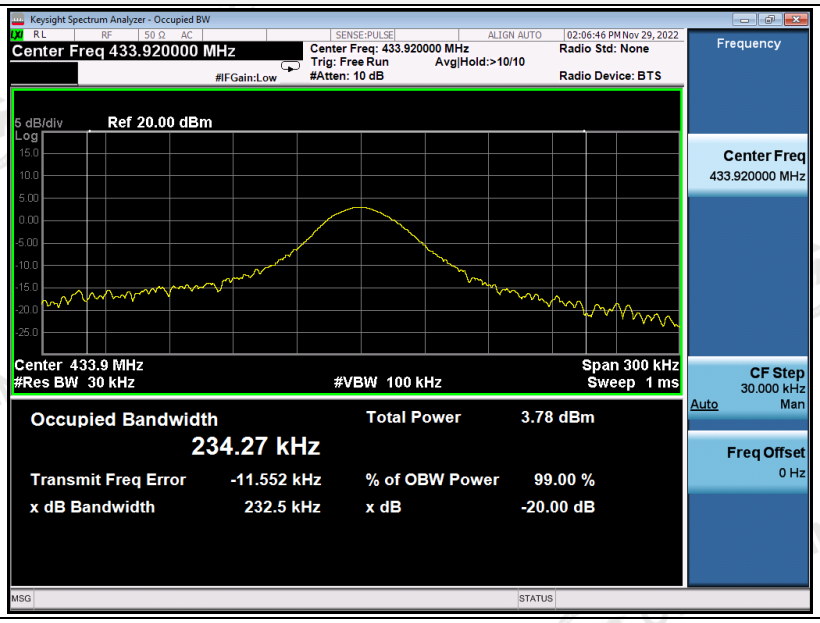
The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

**Test Results**

| Modulation | Channel Frequency (MHz) | 99% OBW (KHz) | 20dB bandwidth (KHz) | Limit (KHz) | Result |
|---|---|---|---|---|---|
| ASK | 433.92 | 234.27 | 232.50 | 0.25%*433.92=1084.8 | Pass |

**Test plot as follows:**

*ASK Modulation*

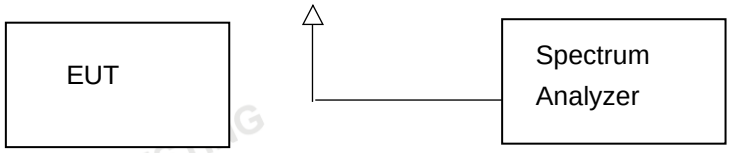


## 4.4 Deactivation Time

**Limit**

According to FCC §15.231(a)(2), A transmitter activated automatically shall cease transmission within 5 seconds after activation.

**Test Configuration**



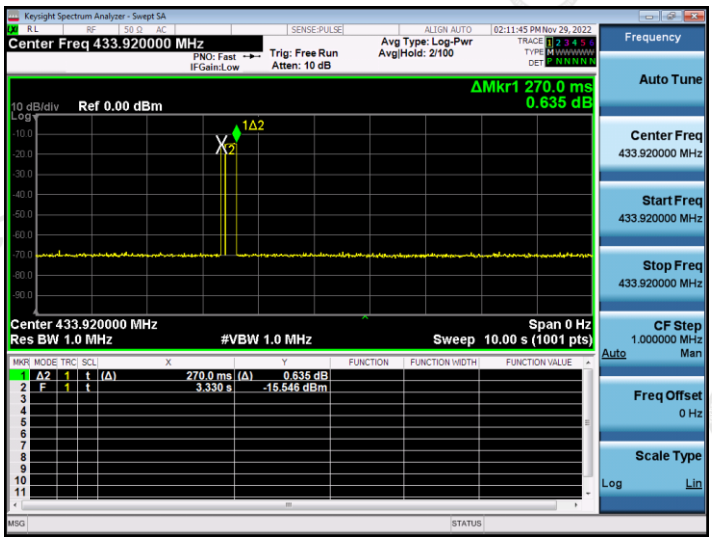

**Test Procedure**

1. The EUT was placed on a wooded table which is 0.8m height and close to receiver antenna of spectrum analyzer.
2. The spectrum analyzer resolution bandwidth was set to 1 MHz and video bandwidth was set to 1 MHz to encompass all significant spectral components during the test. The spectrum analyzer was operated in linear scale and zero span mode after tuning to the transmitter carrier frequency.

**TEST RESULTS**

Note: The transmitter was automatically activated, and the carrier frequency 433.8828MHz:

| Frequency (MHz) | One transmission time (S) | Limit(S) | Result |
|---|---|---|---|
| 433.92 | 0.270 | 5 | Pass |



## 4.5 Antenna Requirement

**Standard Applicable**

According to FCC Part 15C 15.203

a) An intentional radiator shall be de-signed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

b) The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

**Refer to statement below for compliance.**

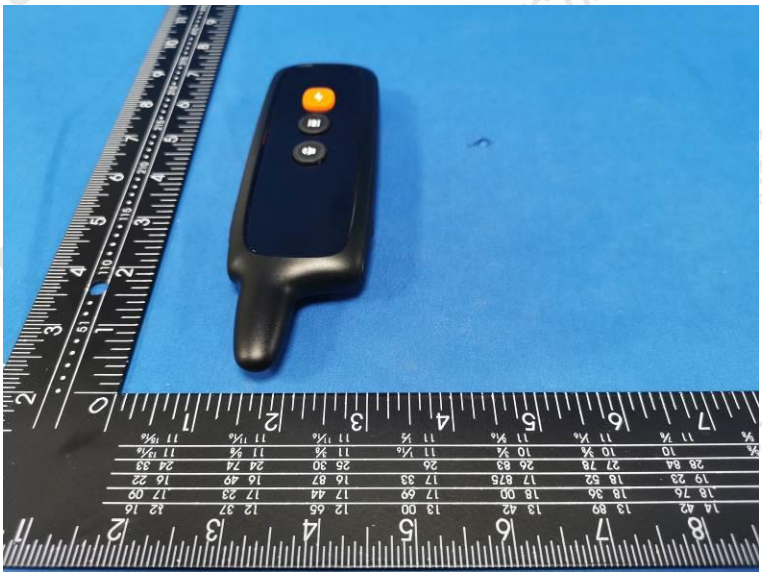
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

**Antenna Connected Construction**

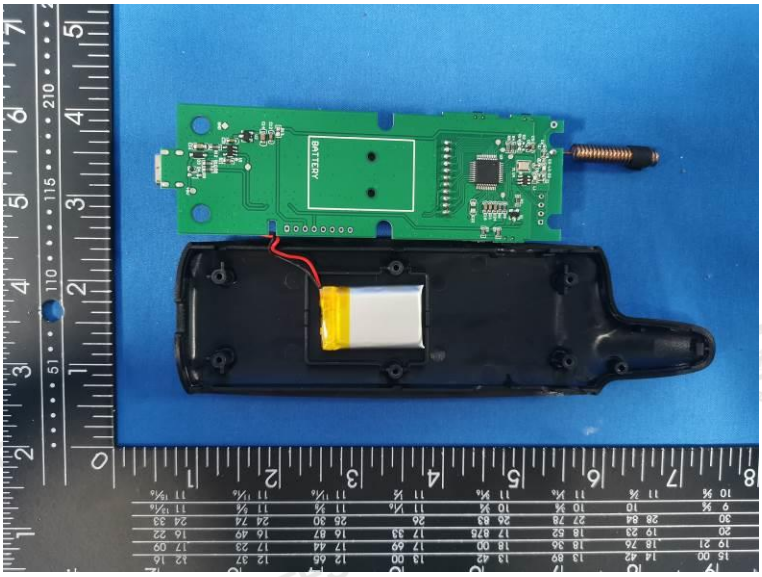
The antenna used in this product is an Internal Antenna, The directional gains of antenna used for transmitting is 0 dBi.
Remark:The antenna gain is provided by the customer , if the data provided by the customer is not accurate, Shenzhen CTA Testing Technology Co., Ltd. does not assume any responsibility.

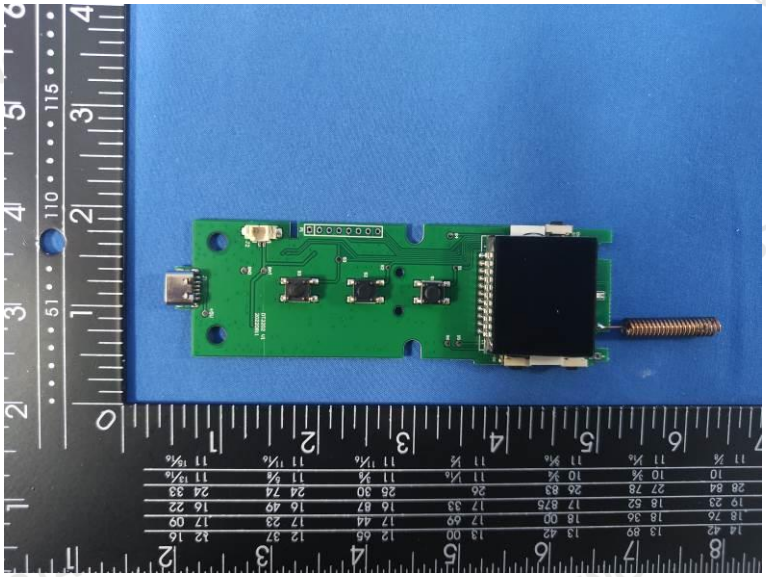
# 5 Test Setup Photos of the EUT

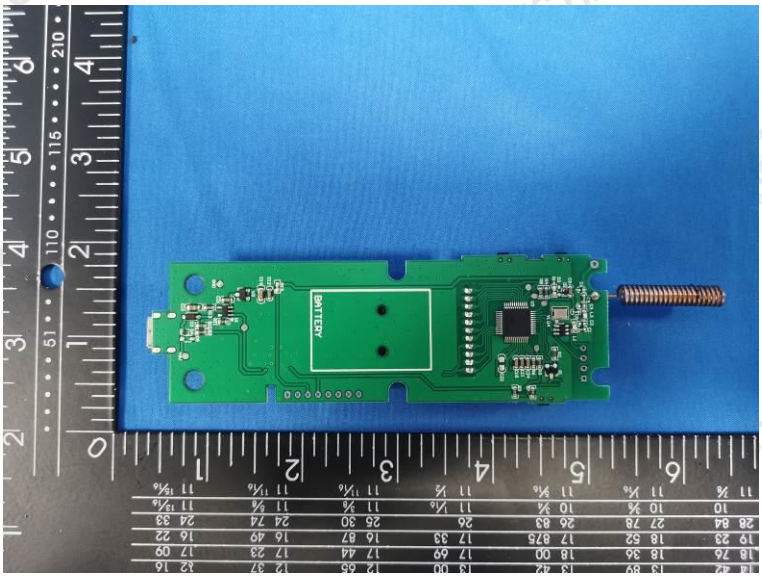
# 6 Photos of the EUT

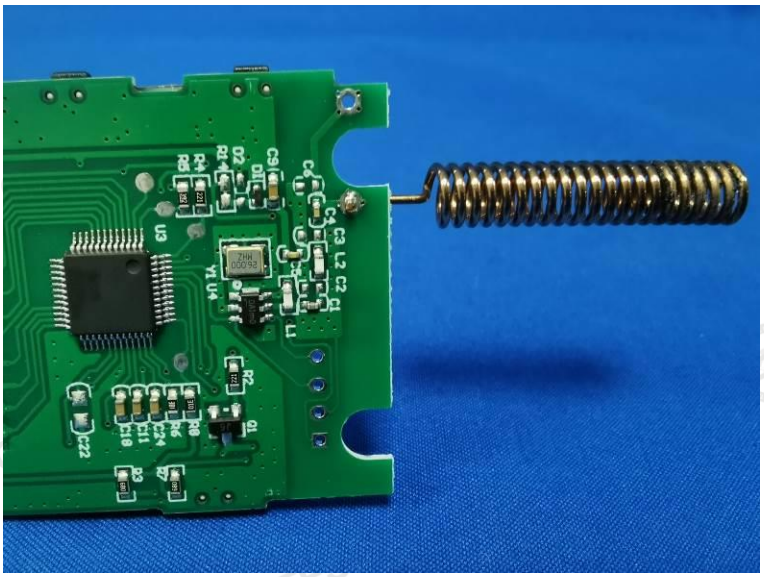



Antenna


BATTERY




BATTERY




********** End of Report **********