



# FCC RF Test Report

**Report No.:** JYTSZ-R12-2400767  
**Applicant:** PORTMAN ELECTRONICS (DONGGUAN) CO., LTD.  
**Address of Applicant:** NO#10, Luyi 2 Road, Keyuancheng, Tangxia Town,  
DONGGUAN CITY, GUANGDONG PROVINCE CHINA  
523718

## Equipment Under Test (EUT)

**Product Name:** CAR ALARM  
**Model No.:** 7147VSEC, 7147X  
**Trade Mark:** N/A  
**FCC ID:** TBQ7147V  
**Applicable Standards:** FCC CFR Title 47 Part 15C (§15.231)  
**Date of Sample Receipt:** 10 Jul, 2024  
**Date of Test:** 11 Jul., to 25 Jul., 2024  
**Date of Report Issue:** 25 Jul., 2024  
**Test Result:** PASS

**Tested by:**

*po bin. Gu*  
**Project Engineer**  
*Yeta Zhang*  
**Senior Engineer**  
*James Wei*  
**Manager**

**Date:**

25 Jul., 2024

**Reviewed by:**

**Date:**

25 Jul., 2024

**Approved by:**

**Date:**

25 Jul., 2024

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

## 1 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | 25 Jul., 2024 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

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### 3 General Information

#### 3.1 Client Information

|               |                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------|
| Applicant:    | PORTMAN ELECTRONICS (DONGGUAN) CO., LTD.                                                      |
| Address:      | NO#10, Luyi 2 Road, Keyuancheng, Tangxia Town, DONGGUAN CITY, GUANGDONG PROVINCE CHINA 523718 |
| Manufacturer: | DONGGUAN PORTMAN ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD.                                  |
| Address:      | NO.10, LUYI 2 ROAD, TANGXIA TOWN, DONGGUAN CITY GUANGDONG PROVINCE                            |
| Factory:      | DONGGUAN PORTMAN ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD.                                  |
| Address:      | NO.10, LUYI 2 ROAD, TANGXIA TOWN, DONGGUAN CITY GUANGDONG PROVINCE                            |

#### 3.2 General Description of E.U.T.

|                        |                                                                                                                                                           |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:          | CAR ALARM                                                                                                                                                 |
| Model No.:             | 7147VSEC, 7147X                                                                                                                                           |
| Operation Frequency:   | 433.92 MHz                                                                                                                                                |
| Channel Numbers:       | 1                                                                                                                                                         |
| Modulation Type:       | ASK                                                                                                                                                       |
| Antenna Type:          | PCB Antenna                                                                                                                                               |
| Antenna Gain:          | -2.48 dBi (declare by Applicant)                                                                                                                          |
| Power Supply:          | DC 3V                                                                                                                                                     |
| Test Sample Condition: | The test samples were provided in good working order with no visible defects.                                                                             |
| Remark:                | 7147VSEC, 7147X were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name. |

### 3.3 Test Mode and Environment

| Test Mode:                                                                                                                                                                                                                                          |                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Transmitting mode:                                                                                                                                                                                                                                  | Keep the EUT in transmitting mode with modulation                   |
| <b>Remark:</b> The EUT was placed on three different polar directions tested: i.e. X axis, Y axis, Z axis, and found the test results are both the "worst case" and "worst setup": Y axis, so the report only reflects the test data of worst mode. |                                                                     |
| Operating Environment:                                                                                                                                                                                                                              |                                                                     |
| Temperature:                                                                                                                                                                                                                                        | 15°C ~ 35°C                                                         |
| Humidity:                                                                                                                                                                                                                                           | 20 % ~ 75 % RH                                                      |
| Atmospheric Pressure:                                                                                                                                                                                                                               | 1008 mbar                                                           |
| Test Engineer:                                                                                                                                                                                                                                      | Logan Li (Conducted measurement)<br>Robin Gu (Radiated measurement) |

### 3.4 Description of Test Auxiliary Equipment

| Manufacturer | Description | Model | Serial Number | FCC ID/DoC |
|--------------|-------------|-------|---------------|------------|
| N/A          | N/A         | N/A   | N/A           | N/A        |

### 3.5 Measurement Uncertainty

| Parameter                                                                                                                                                                                                                                                                                                              | Expanded Uncertainty<br>(Confidence of 95%(U = 2Uc(y))) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Radiated Emission (30MHz ~ 200MHz) (3m SAC)                                                                                                                                                                                                                                                                            | 4.6 dB                                                  |
| Radiated Emission (200MHz ~ 1000MHz) (3m SAC)                                                                                                                                                                                                                                                                          | 5.8 dB                                                  |
| Radiated Emission (1GHz ~ 6GHz) (3m FAR)                                                                                                                                                                                                                                                                               | 4.95 dB                                                 |
| Radiated Emission (6GHz ~ 18GHz) (3m FAR)                                                                                                                                                                                                                                                                              | 5.23 dB                                                 |
| <b>Remark:</b> All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance. |                                                         |

### 3.6 Additions to, Deviations, or Exclusions From the Method

|    |
|----|
| No |
|----|

### 3.7 Laboratory Facility

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

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

### 3.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

### 3.9 Test Instruments List

| Radiated Emission(3m SAC):   |                 |                 |                  |                      |                          |
|------------------------------|-----------------|-----------------|------------------|----------------------|--------------------------|
| Test Equipment               | Manufacturer    | Model No.       | Manage No.       | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m SAC                       | ETS             | 9m*6m*6m        | WXJ001-1         | 04-14-2021           | 04-13-2026               |
| BiConiLog Antenna            | Schwarzbeck     | VULB9163        | WXJ002           | 01-09-2024           | 01-08-2025               |
| Horn Antenna                 | Schwarzbeck     | BBHA9120D       | WXJ002-2         | 01-05-2024           | 01-04-2025               |
| Pre-amplifier (30MHz ~ 1GHz) | Schwarzbeck     | BBV9743B        | WXJ001-2         | 12-27-2023           | 12-26-2024               |
| Pre-amplifier (1GHz ~ 18GHz) | SKET            | LNPA_0118G-50   | WXJ001-3         | 12-27-2023           | 12-26-2024               |
| EMI Test Receiver            | Rohde & Schwarz | ESRP7           | WXJ003-1         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer            | Rohde & Schwarz | FSP 30          | WXJ004           | 12-27-2023           | 12-26-2024               |
| Coaxial Cable (30MHz ~ 1GHz) | JYTSZ           | JYT3M-1G-NN-8M  | WXG001-4         | 01-17-2024           | 01-16-2025               |
| Coaxial Cable (1GHz ~ 18GHz) | JYTSZ           | JYT3M-18G-NN-8M | WXG001-5         | 01-17-2024           | 01-16-2025               |
| Band Reject Filter Group     | Tonscend        | JS0806-F        | WXJ089           | N/A                  |                          |
| Test Software                | Tonscend        | TS+             | Version: 3.0.0.1 |                      |                          |

| Radiated Emission(3m FAR):    |                 |                 |                |                      |                          |
|-------------------------------|-----------------|-----------------|----------------|----------------------|--------------------------|
| Test Equipment                | Manufacturer    | Model No.       | Manage No.     | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m FAR                        | YUNYI           | 9m*6m*6m        | WXJ097         | 06-15-2023           | 06-14-2028               |
| BiConiLog Antenna             | Schwarzbeck     | VULB9163        | WXJ097-2       | 06-26-2024           | 06-25-2025               |
| Biconical Antenna             | Schwarzbeck     | VUBA9117        | WXJ002-1       | 07-01-2024           | 06-30-2027               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ097-3       | 06-16-2024           | 06-15-2025               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ002-3       | 12-28-2023           | 12-27-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-5       | 12-28-2023           | 12-27-2024               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-6       | 12-28-2023           | 12-27-2024               |
| Pre-amplifier (30MHz ~ 1GHz)  | YUNYI           | PAM-310N        | WXJ097-5       | 04-24-2024           | 04-23-2025               |
| Pre-amplifier (1GHz ~ 18GHz)  | YUNYI           | PAM-118N        | WXJ097-6       | 05-14-2023           | 05-13-2024               |
| Pre-amplifier (18GHz ~ 40GHz) | RF System       | TRLA-180400G45B | WXJ002-7       | 12-28-2023           | 12-27-2024               |
| EMI Test Receiver             | Rohde & Schwarz | ESCI3           | WXJ003         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer             | Rohde & Schwarz | FSP 30          | WXJ004         | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer             | KEYSIGHT        | N9010B          | WXJ081-1       | 06-11-2024           | 06-10-2025               |
| Coaxial Cable (30MHz ~ 1GHz)  | JYTSZ           | JYT3M-1G-NN-13M | WXG097-1       | 08-01-2023           | 07-31-2024               |
| Coaxial Cable (1GHz ~ 18GHz)  | JYTSZ           | JYT3M-18G-NN-8M | WXG097-2       | 08-01-2023           | 07-31-2024               |
| Coaxial Cable (18GHz ~ 40GHz) | JYTSZ           | JYT3M-40G-SS-8M | WXG097-3       | 08-01-2023           | 07-31-2024               |
| High Band Reject Filter Group | Tonscend        | JS0806-F        | WXJ089         | N/A                  |                          |
| Low Band Reject Filter Group  | Tonscend        | JS0806-F        | WXJ097-4       | N/A                  |                          |
| Test Software                 | Tonscend        | TS+             | Version: 5.0.0 |                      |                          |

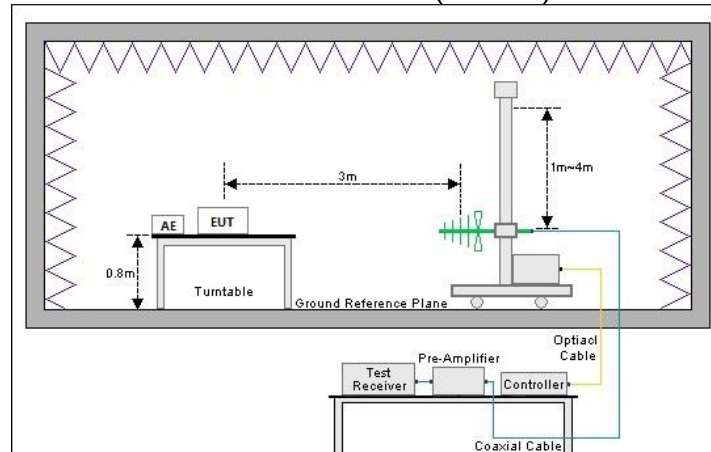
| Conducted Method: |                 |           |            |                      |                          |
|-------------------|-----------------|-----------|------------|----------------------|--------------------------|
| Test Equipment    | Manufacturer    | Model No. | Manage No. | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| Spectrum Analyzer | Rohde & Schwarz | FSP 30    | WXJ004     | 12-27-2023           | 12-26-2024               |
| EMI Test Receiver | Rohde & Schwarz | ESCI3     | WXJ003     | 12-27-2023           | 12-26-2024               |
| Spectrum Analyzer | Keysight        | N9010B    | WXJ004-3   | 11-01-2023           | 10-31-2024               |
| DC Power Supply   | Keysight        | E3642A    | WXJ025-2   | N/A                  |                          |

## 4 Measurement Setup and Procedure

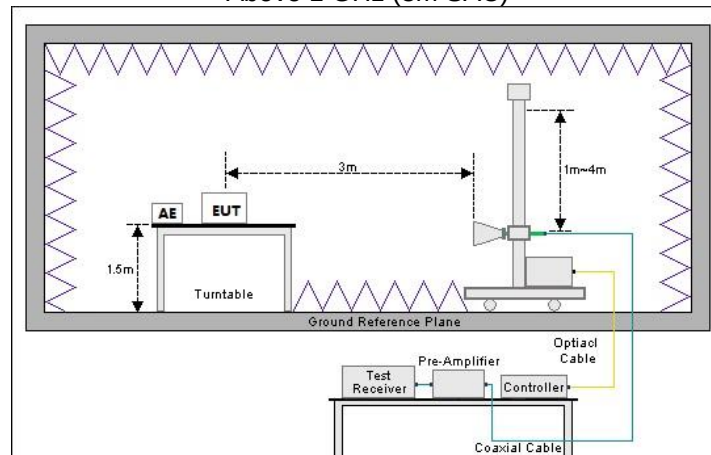
### 4.1 Test Setup

**Radiated emission measurement:**

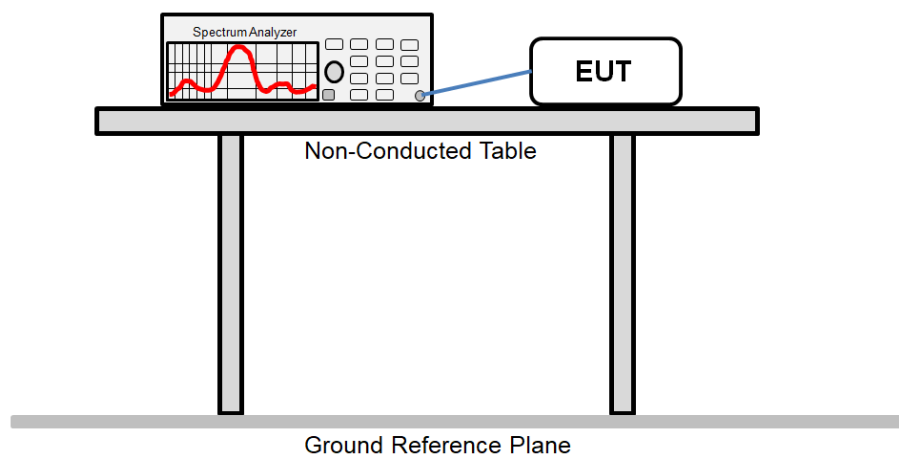
30 MHz – 1000 MHz (3m SAC)



Above 1 GHz (3m SAC)



**Conducted test method:**





## 4.2 Test Procedure

| Test method           | Test step                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiated emission     | <ol style="list-style-type: none"> <li>1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> |
| Conducted test method | <ol style="list-style-type: none"> <li>1. The antenna port of EUT was connected to the RF port of the spectrum analyzer through an RF cable.</li> <li>2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>3. The test data is saved by the screenshot function of the spectrum analyzer.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## 5 Test Results

### 5.1 Summary

#### 5.1.1 Clause and Data Summary

| Test items                                                                                                              | Standard clause                     | Test data       | Result |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|--------|
| Antenna Requirement                                                                                                     | 15.203                              | See Section 5.2 | Pass   |
| AC Power Line Conducted Emission                                                                                        | 15.207                              | N/A             | N/A    |
| 20dB Bandwidth                                                                                                          | 15.231 (c)                          | See Section 5.3 | Pass   |
| Field Strength of Fundamental                                                                                           | 15.231 (b)                          | See Section 5.4 | Pass   |
| Field Strength of Spurious Emissions                                                                                    | 15.209<br>15.231 (b)                | See Section 5.5 | Pass   |
| Duration Time                                                                                                           | 15.231 (a)(1)                       | See Section 5.6 | Pass   |
| <b>Remark:</b><br>1. Pass: The EUT complies with the essential requirements in the standard.<br>2. N/A: Not Applicable. |                                     |                 |        |
| <b>Test Method:</b>                                                                                                     | ANSI C63.4-2014<br>ANSI C63.10-2013 |                 |        |

## 5.1.2 Test Limit

| Test items                                                                | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|---------------|------|-----|----------------|------|-----|-----------------|---------------------------|-------------------------|-----------------|------|-----|-----------------|----------------------------|--------------------------|--------------|-------|------|-----------------|---------------------|----------|---------|------|------------|----------|------|------------|-----------|------|------------|------------|------|------------|-----------|---------------------|--|---------|-------|-------------|------|------|
| 20dB Bandwidth                                                            | The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Field Strength of Fundamental<br><br>Field Strength of Spurious Emissions | <table><tr><th>Fundamental Frequency (MHz)</th><th>Field strength of fundamental (microvolts/meter)</th><th>Field strength of spurious emissions (microvolts/meter)</th></tr><tr><td>40.66 – 40.70</td><td>2250</td><td>225</td></tr><tr><td>70.00 – 130.00</td><td>1250</td><td>125</td></tr><tr><td>130.00 – 174.00</td><td><sup>1</sup>1250 to 3750</td><td><sup>1</sup>125 to 375</td></tr><tr><td>174.00 – 260.00</td><td>3750</td><td>375</td></tr><tr><td>260.00 – 470.00</td><td><sup>1</sup>3750 to 12500</td><td><sup>1</sup>375 to 1250</td></tr><tr><td>Above 470.00</td><td>12500</td><td>1250</td></tr></table> <p><sup>1</sup>Linear interpolations.</p> <p>(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.</p> <p>(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in § 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of § 15.205 shall be demonstrated using the measurement instrumentation specified in that section.</p> <p>(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength:</p> <table><tr><th>Frequency (MHz)</th><th>Limit (dBµV/m) @ 3m</th><th>Detector</th></tr><tr><td>30 – 88</td><td>40.0</td><td>Quasi-peak</td></tr><tr><td>88 – 216</td><td>43.5</td><td>Quasi-peak</td></tr><tr><td>216 – 960</td><td>46.0</td><td>Quasi-peak</td></tr><tr><td>960 – 1000</td><td>54.0</td><td>Quasi-peak</td></tr></table> <p><b>Note:</b> The more stringent limit applies at transition frequencies.</p> <table><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dBµV/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></table> <p><b>Note:</b> The measurement bandwidth shall be 1 MHz or greater.</p> | Fundamental Frequency (MHz)                             | Field strength of fundamental (microvolts/meter) | Field strength of spurious emissions (microvolts/meter) | 40.66 – 40.70 | 2250 | 225 | 70.00 – 130.00 | 1250 | 125 | 130.00 – 174.00 | <sup>1</sup> 1250 to 3750 | <sup>1</sup> 125 to 375 | 174.00 – 260.00 | 3750 | 375 | 260.00 – 470.00 | <sup>1</sup> 3750 to 12500 | <sup>1</sup> 375 to 1250 | Above 470.00 | 12500 | 1250 | Frequency (MHz) | Limit (dBµV/m) @ 3m | Detector | 30 – 88 | 40.0 | Quasi-peak | 88 – 216 | 43.5 | Quasi-peak | 216 – 960 | 46.0 | Quasi-peak | 960 – 1000 | 54.0 | Quasi-peak | Frequency | Limit (dBµV/m) @ 3m |  | Average | Peake | Above 1 GHz | 54.0 | 74.0 |
| Fundamental Frequency (MHz)                                               | Field strength of fundamental (microvolts/meter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Field strength of spurious emissions (microvolts/meter) |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 40.66 – 40.70                                                             | 2250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 225                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 70.00 – 130.00                                                            | 1250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 125                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 130.00 – 174.00                                                           | <sup>1</sup> 1250 to 3750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <sup>1</sup> 125 to 375                                 |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 174.00 – 260.00                                                           | 3750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 375                                                     |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 260.00 – 470.00                                                           | <sup>1</sup> 3750 to 12500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <sup>1</sup> 375 to 1250                                |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Above 470.00                                                              | 12500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1250                                                    |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Frequency (MHz)                                                           | Limit (dBµV/m) @ 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Detector                                                |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 30 – 88                                                                   | 40.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 88 – 216                                                                  | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 216 – 960                                                                 | 46.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| 960 – 1000                                                                | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quasi-peak                                              |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Frequency                                                                 | Limit (dBµV/m) @ 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
|                                                                           | Average                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Peake                                                   |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Above 1 GHz                                                               | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 74.0                                                    |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |
| Duration Time                                                             | A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |                                                  |                                                         |               |      |     |                |      |     |                 |                           |                         |                 |      |     |                 |                            |                          |              |       |      |                 |                     |          |         |      |            |          |      |            |           |      |            |            |      |            |           |                     |  |         |       |             |      |      |

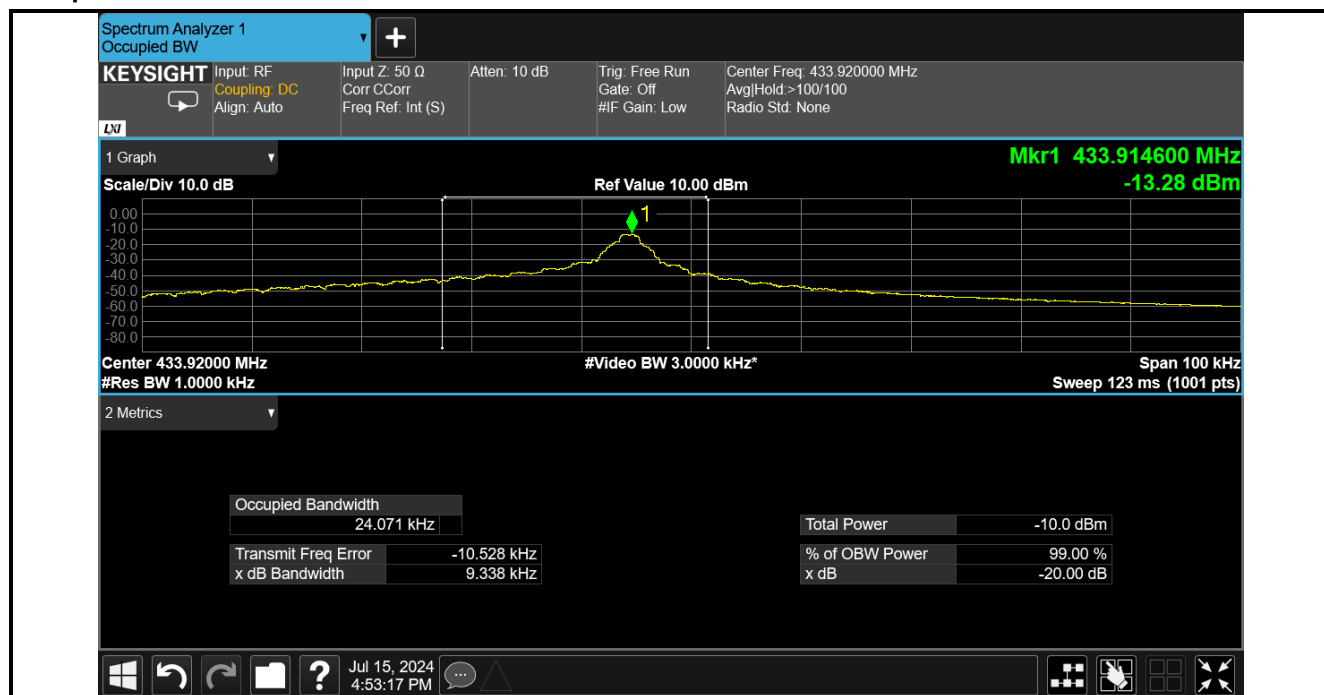
## 5.2 Antenna Requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FCC Part15 C Section 15.203 |
| <b>15.203 requirement:</b><br>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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. |                             |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |
| The antenna of EUT is a PCB Antenna which cannot replace by end-user. See product internal photos for details.                                                                                                                                                                                                                                                                                                                                                                   |                             |

### 5.3 20dB Bandwidth

| 20dB bandwidth (MHz)                                                                       | Limit (MHz) | Results |
|--------------------------------------------------------------------------------------------|-------------|---------|
| 0.009338                                                                                   | 1.0848      | Passed  |
| <b>Note:</b> Limit = Fundamental frequency $\times$ 0.25%=433.92 $\times$ 0.25%=1.0848MHz. |             |         |

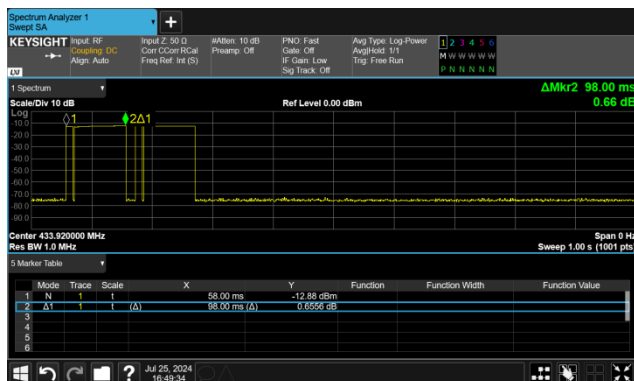
Test plot as follows:



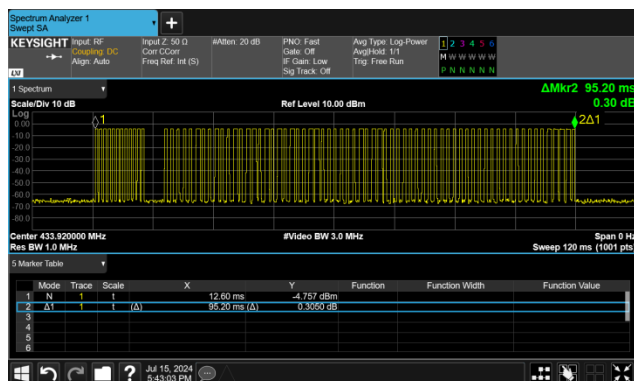
## 5.4 Field Strength of Fundamental

| Peak value                           |                                                                    |                   |                        |                |             |              |
|--------------------------------------|--------------------------------------------------------------------|-------------------|------------------------|----------------|-------------|--------------|
| Frequency (MHz)                      | Read level (dBuV)                                                  | Factor (dB/m)     | Level (dBuV/m)         | Limit (dBuV/m) | Margin (dB) | Polarization |
| 433.8514                             | 86.34                                                              | -10.09            | 76.25                  | 100.83         | 24.58       | Vertical     |
| 433.9484                             | 95.92                                                              | -10.09            | 85.83                  | 100.83         | 15.00       | Horizontal   |
| Average value                        |                                                                    |                   |                        |                |             |              |
| Frequency (MHz)                      | Level (dBuV/m)                                                     | Duty cycle factor | Average value (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Polarization |
| 433.8514                             | 76.25                                                              | -7.98             | 68.27                  | 80.83          | 12.55       | Vertical     |
| 433.9484                             | 85.83                                                              | -7.98             | 77.85                  | 80.83          | 2.97        | Horizontal   |
| Duty Cycle Factor Calculate Formula: | Average value = Peak value + Duty Cycle Factor                     |                   |                        |                |             |              |
|                                      | Duty cycle factor = 20log(Duty cycle)                              |                   |                        |                |             |              |
|                                      | Duty cycle = on time/100 milliseconds or period, whichever is less |                   |                        |                |             |              |
|                                      | T on time = (61*0.40)(ms) + (17*0.80)(ms) = 38.0(ms)               |                   |                        |                |             |              |
|                                      | T period = 95.20(ms)                                               |                   |                        |                |             |              |
|                                      | Duty cycle = 39.92%                                                |                   |                        |                |             |              |
|                                      | Duty cycle factor = 20log(Duty cycle) = -7.98                      |                   |                        |                |             |              |

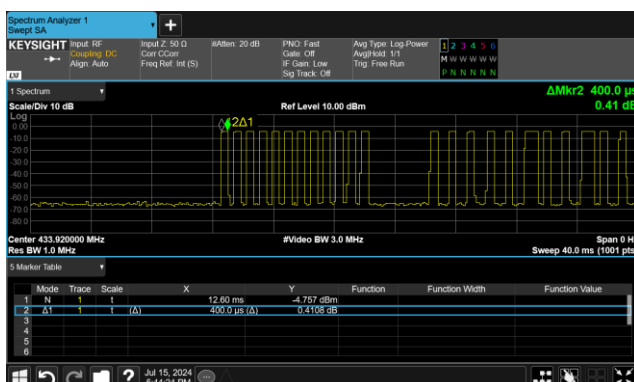
T period:



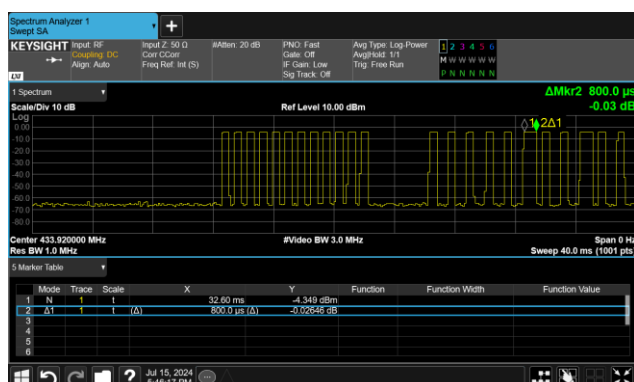
T 120ms:



T 40ms-1:

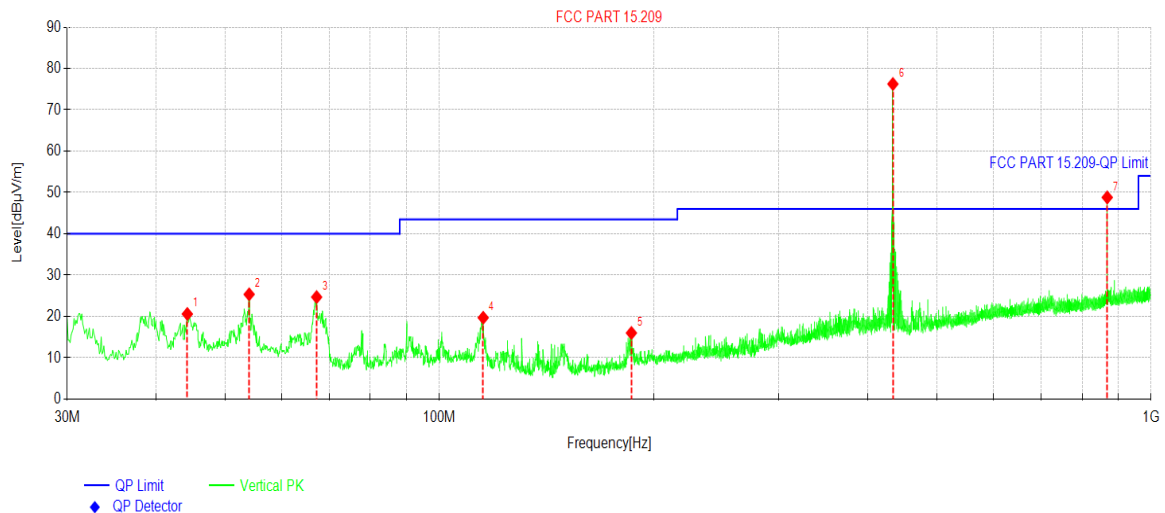


T 40ms-2:



## 5.5 Field Strength of Spurious Emissions

|                 |                   |                |          |
|-----------------|-------------------|----------------|----------|
| Product Name:   | CAR ALARM         | Product Model: | 7147VSEC |
| Test By:        | Robin Gu          | Test mode:     | Tx mode  |
| Test Frequency: | 30 MHz – 1000 MHz | Polarization:  | Vertical |
| Test Voltage:   | DC 3V             |                |          |



**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBμV/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
|-----|-------------|------------------|-------------|----------------|----------------|-------------|-------|----------|
| 1   | 44.2604     | 33.44            | -12.84      | 20.60          | 40.00          | 19.40       | PK    | Vertical |
| 2   | 54.0584     | 38.38            | -13.03      | 25.35          | 40.00          | 14.65       | PK    | Vertical |
| 3   | 67.2517     | 40.43            | -15.74      | 24.69          | 40.00          | 15.31       | PK    | Vertical |
| 4   | 115.2715    | 35.33            | -15.63      | 19.70          | 43.50          | 23.80       | PK    | Vertical |
| 5   | 186.1856    | 32.44            | -16.44      | 16.00          | 43.50          | 27.50       | PK    | Vertical |
| 6   | 433.8514    | 86.34            | -10.09      | 76.25          | 100.83         | 24.58       | PK    | Vertical |
| 7   | 867.8728    | 51.88            | -3.07       | 48.81          | 80.83          | 32.02       | PK    | Vertical |

**Suspected Data List(Average)**

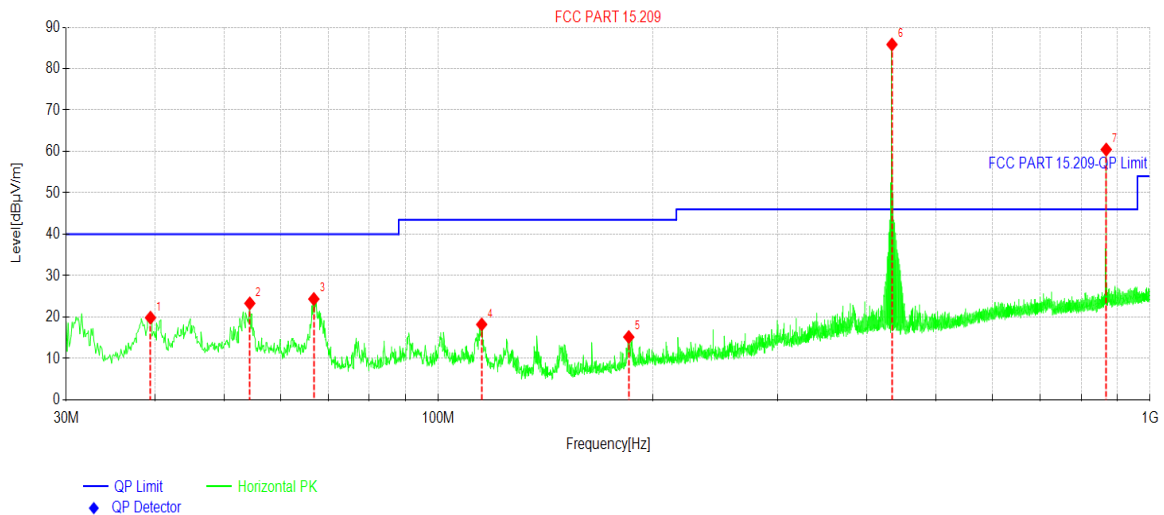
| NO. | Freq. [MHz] | PK Level (dBμV/m) | Duty cycle factor | Average value (dBμV/m) | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|-------|----------|
| 1   | 433.8514    | 76.25             | -7.98             | 68.27                  | 80.83          | 12.55       | AV    | Vertical |
| 2   | 867.8728    | 48.81             | -7.98             | 40.83                  | 60.83          | 19.99       | AV    | Vertical |

**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).



|                 |                   |                |            |
|-----------------|-------------------|----------------|------------|
| Product Name:   | CAR ALARM         | Product Model: | 7147VSEC   |
| Test By:        | Robin Gu          | Test mode:     | Tx mode    |
| Test Frequency: | 30 MHz – 1000 MHz | Polarization:  | Horizontal |
| Test Voltage:   | DC 3V             |                |            |



#### Suspected Data List

| NO. | Freq. [MHz] | Reading [dBμV/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
|-----|-------------|------------------|-------------|----------------|----------------|-------------|-------|------------|
| 1   | 39.4099     | 33.68            | -13.84      | 19.84          | 40.00          | 20.16       | PK    | Horizontal |
| 2   | 54.3494     | 36.40            | -13.08      | 23.32          | 40.00          | 16.68       | PK    | Horizontal |
| 3   | 66.8637     | 39.94            | -15.58      | 24.36          | 40.00          | 15.64       | PK    | Horizontal |
| 4   | 115.0775    | 33.81            | -15.59      | 18.22          | 43.50          | 25.28       | PK    | Horizontal |
| 5   | 185.2155    | 31.72            | -16.55      | 15.17          | 43.50          | 28.33       | PK    | Horizontal |
| 6   | 433.9484    | 95.92            | -10.09      | 85.83          | 100.83         | 15.00       | PK    | Horizontal |
| 7   | 867.8728    | 63.53            | -3.07       | 60.46          | 80.83          | 20.37       | PK    | Horizontal |

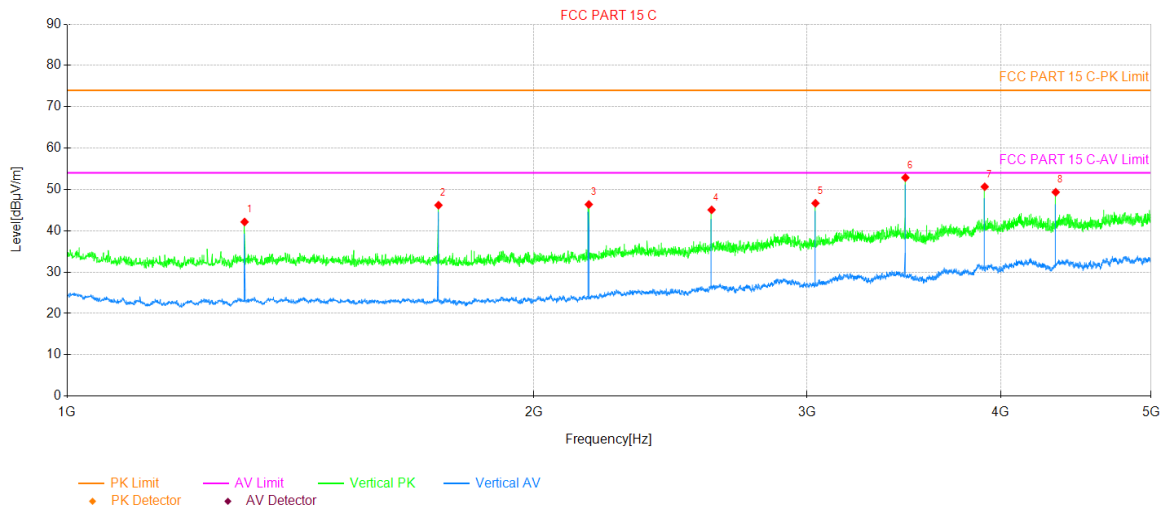
#### Suspected Data List(Average)

| NO. | Freq. [MHz] | PK Level (dBμV/m) | Duty cycle factor | Average value (dBμV/m) | Limit [dBμV/m] | Margin [dB] | Trace | Polarity   |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|-------|------------|
| 1   | 433.9484    | 85.83             | -7.98             | 77.85                  | 80.83          | 2.97        | AV    | Horizontal |
| 2   | 867.8728    | 60.46             | -7.98             | 52.48                  | 60.83          | 8.34        | AV    | Horizontal |

#### Remark:

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).

|                 |                     |                |          |
|-----------------|---------------------|----------------|----------|
| Product Name:   | CAR ALARM           | Product Model: | 7147VSEC |
| Test By:        | Robin Gu            | Test mode:     | Tx mode  |
| Test Frequency: | 1000 MHz – 5000 MHz | Polarization:  | Vertical |
| Test Voltage:   | DC 3V               |                |          |



#### Suspected Data List

| NO. | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Angle [°] | Detector | Verdict | Polarity |
|-----|-------------|----------------|---------------|----------------|----------------|-------------|-----------|----------|---------|----------|
| 1   | 1301.54     | 64.82          | -22.68        | 42.14          | 74.00          | 31.86       | 282       | PK       | PASS    | Vertical |
| 2   | 1735.59     | 68.59          | -22.40        | 46.19          | 80.83          | 34.64       | 2         | PK       | PASS    | Vertical |
| 3   | 2169.65     | 66.97          | -20.60        | 46.37          | 80.83          | 34.46       | 62        | PK       | PASS    | Vertical |
| 4   | 2603.70     | 62.69          | -17.62        | 45.07          | 80.83          | 35.76       | 352       | PK       | PASS    | Vertical |
| 5   | 3037.75     | 62.42          | -15.75        | 46.67          | 80.83          | 34.16       | 212       | PK       | PASS    | Vertical |
| 6   | 3471.81     | 65.32          | -12.46        | 52.86          | 80.83          | 27.97       | 27        | PK       | PASS    | Vertical |
| 7   | 3905.86     | 59.95          | -9.29         | 50.66          | 74.00          | 23.34       | 254       | PK       | PASS    | Vertical |
| 8   | 4339.92     | 57.86          | -8.51         | 49.35          | 74.00          | 24.65       | 20        | PK       | PASS    | Vertical |

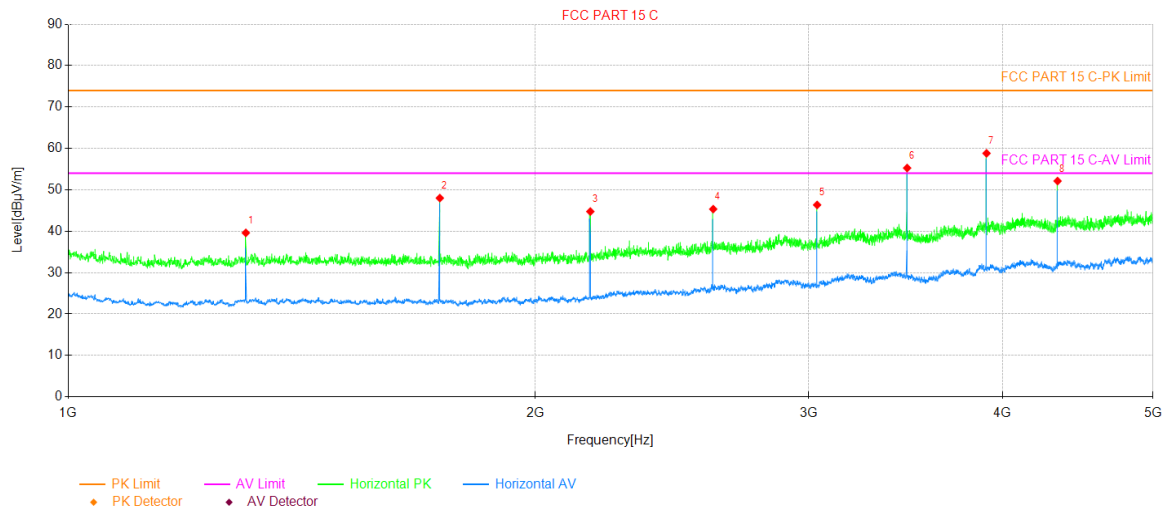
#### Suspected Data List(Average)

| NO. | Freq. [MHz] | PK Level (dBμV/m) | Duty cycle factor | Average value (dBμV/m) | Limit [dBμV/m] | Margin [dB] | Detector | Verdict | Polarity |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|----------|---------|----------|
| 1   | 1301.54     | 42.14             | -7.98             | 34.16                  | 54.00          | 19.84       | AV       | PASS    | Vertical |
| 2   | 1735.59     | 46.19             | -7.98             | 38.21                  | 60.83          | 22.61       | AV       | PASS    | Vertical |
| 3   | 2169.65     | 46.37             | -7.98             | 38.39                  | 60.83          | 22.43       | AV       | PASS    | Vertical |
| 4   | 2603.70     | 45.07             | -7.98             | 37.09                  | 60.83          | 23.73       | AV       | PASS    | Vertical |
| 5   | 3037.75     | 46.67             | -7.98             | 38.69                  | 60.83          | 22.13       | AV       | PASS    | Vertical |
| 6   | 3471.81     | 52.86             | -7.98             | 44.88                  | 60.83          | 15.94       | AV       | PASS    | Vertical |
| 7   | 3905.86     | 50.66             | -7.98             | 42.68                  | 54.00          | 11.32       | AV       | PASS    | Vertical |
| 8   | 4339.92     | 49.35             | -7.98             | 41.37                  | 54.00          | 12.63       | AV       | PASS    | Vertical |

#### Remark:

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).

|                 |                     |                |            |
|-----------------|---------------------|----------------|------------|
| Product Name:   | CAR ALARM           | Product Model: | 7147VSEC   |
| Test By:        | Robin Gu            | Test mode:     | Tx mode    |
| Test Frequency: | 1000 MHz – 5000 MHz | Polarization:  | Horizontal |
| Test Voltage:   | DC 3V               |                |            |



#### Suspected Data List

| NO. | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Angle [°] | Detector | Verdict | Polarity   |
|-----|-------------|----------------|---------------|----------------|----------------|-------------|-----------|----------|---------|------------|
| 1   | 1301.54     | 62.29          | -22.68        | 39.61          | 74.00          | 34.39       | 49        | PK       | PASS    | Horizontal |
| 2   | 1735.59     | 70.41          | -22.40        | 48.01          | 80.83          | 32.82       | 56        | PK       | PASS    | Horizontal |
| 3   | 2169.65     | 65.36          | -20.60        | 44.76          | 80.83          | 36.07       | 347       | PK       | PASS    | Horizontal |
| 4   | 2603.70     | 62.96          | -17.62        | 45.34          | 80.83          | 35.49       | 340       | PK       | PASS    | Horizontal |
| 5   | 3037.75     | 62.10          | -15.75        | 46.35          | 80.83          | 34.48       | 85        | PK       | PASS    | Horizontal |
| 6   | 3471.81     | 67.73          | -12.46        | 55.27          | 80.83          | 25.56       | 6         | PK       | PASS    | Horizontal |
| 7   | 3905.86     | 68.11          | -9.29         | 58.82          | 74.00          | 15.18       | 13        | PK       | PASS    | Horizontal |
| 8   | 4339.92     | 60.64          | -8.51         | 52.13          | 74.00          | 21.87       | 318       | PK       | PASS    | Horizontal |

#### Suspected Data List(Average)

| NO. | Freq. [MHz] | PK Level (dBμV/m) | Duty cycle factor | Average value (dBμV/m) | Limit [dBμV/m] | Margin [dB] | Detector | Verdict | Polarity   |
|-----|-------------|-------------------|-------------------|------------------------|----------------|-------------|----------|---------|------------|
| 1   | 1301.54     | 39.61             | -7.98             | 31.63                  | 54.00          | 22.37       | AV       | PASS    | Horizontal |
| 2   | 1735.59     | 48.01             | -7.98             | 40.03                  | 60.83          | 20.79       | AV       | PASS    | Horizontal |
| 3   | 2169.65     | 44.76             | -7.98             | 36.78                  | 60.83          | 24.04       | AV       | PASS    | Horizontal |
| 4   | 2603.70     | 45.34             | -7.98             | 37.36                  | 60.83          | 23.46       | AV       | PASS    | Horizontal |
| 5   | 3037.75     | 46.35             | -7.98             | 38.37                  | 60.83          | 22.45       | AV       | PASS    | Horizontal |
| 6   | 3471.81     | 55.27             | -7.98             | 47.29                  | 60.83          | 13.53       | AV       | PASS    | Horizontal |
| 7   | 3905.86     | 58.82             | -7.98             | 50.84                  | 54.00          | 3.16        | AV       | PASS    | Horizontal |
| 8   | 4339.92     | 52.13             | -7.98             | 44.15                  | 54.00          | 9.85        | AV       | PASS    | Horizontal |

#### Remark:

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).

| Measurement monitoring                                                                      | Result |
|---------------------------------------------------------------------------------------------|--------|
| The EUT automatically deactivate the transmitter within 5 seconds of switch being released. | Pass   |

**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT**

Input RF: Coupling DC  
Align: Auto

Input Z: 50 Ω  
Corr C Corr R Cal  
Freq Ref: Int (S)

#Atten: 20 dB  
Preamp: Off

PNO: Fast  
Gate: Off  
IF Gain: Low  
Sig Track: Off

Avg Type: Log-Power  
Avg|Hold: 1/1  
Trig: Free Run

1 2 3 4 5 6  
M W W W W W  
P N N N N N

LNI

1 Spectrum

Scale/Div 10 dB

Ref Level 10.00 dBm

|   | Mode | Trace | Scale | X                | Y          | Function | Function Width | Function Value |
|---|------|-------|-------|------------------|------------|----------|----------------|----------------|
| 1 | N    | 1     | t     | 1.830 s          | -9.849 dBm |          |                |                |
| 2 | Δ1   | 1     | t     | (Δ) 220.0 ms (Δ) | 0.3763 dB  |          |                |                |
| 3 | Δ1   | 1     | t     | (Δ) 5.000 s (Δ)  | -54.75 dB  |          |                |                |
| 4 |      |       |       |                  |            |          |                |                |
| 5 |      |       |       |                  |            |          |                |                |
| 6 |      |       |       |                  |            |          |                |                |

Center 433.920000 MHz  
Res BW 1.0 MHz

Span 0 Hz  
Sweep 10.0 s (1001 pts)

5 Marker Table

-----End of report-----