



## FCC TEST REPORT

**FCC ID: 2A3MU-F8**

On Behalf of

Shanghai EFIX Geomatics Co., Ltd.

Geodetic GNSS Receiver

Model No.: F8

Prepared for : Shanghai EFIX Geomatics Co., Ltd.  
Address : Room 1137, Area D, 11th Floor, Building 1, No. 158, Shuanglian Road, Qingpu District, Shanghai

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.  
Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number : A2506320-C01-R03  
Date of Receipt : July 20, 2025  
Date of Test : July 20, 2025 – September 9, 2025  
Date of Report : September 12, 2025  
Version Number : V0  
**Test Result : Pass**

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## TEST REPORT DECLARATION

Applicant : Shanghai EFIX Geomatics Co., Ltd.  
Address : Room 1137, Area D, 11th Floor, Building 1, No. 158, Shuanglian Road, Qingpu District, Shanghai  
Manufacturer : Shanghai EFIX Geomatics Co., Ltd.  
Address : Room 1137, Area D, 11th Floor, Building 1, No. 158, Shuanglian Road, Qingpu District, Shanghai  
EUT Description : Geodetic GNSS Receiver  
(A) Model No. : F8  
(B) Trademark :



Measurement Standard Used:

**FCC Rules and Regulations Part 15 Subpart E, ANSI C63.10:2013**

**KDB 789033 D02 General U-NII Test Procedures New Rules v02r01**

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart E limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:

Yannis Wen  
Project Engineer

Handwritten signature of Yannis Wen in black ink, followed by a dotted line.

Approved by (name + signature).....:

Jack Xu  
Project Manager

Handwritten signature of Jack Xu in black ink, followed by a dotted line.

Date of issue.....:

September 12, 2025

**Revision History**

| Revision | Issue Date         | Revisions              | Revised By |
|----------|--------------------|------------------------|------------|
| V0       | September 12, 2025 | Initial released Issue | Yannis Wen |

## 1 Test Summary

| Test Item                        | Section in CFR 47         | Result |
|----------------------------------|---------------------------|--------|
| Antenna requirement              | Section 15.203            | PASS   |
| AC Power Line Conducted Emission | Section 15.207(a)         | PASS   |
| Maximum Conducted Output Power   | Section 15.407(a) (c) (g) | PASS   |
| Power Spectral Density           | Section 15.407(a) (c) (g) | PASS   |
| Undesirable Emission             | Section 15.407(b) (c) (g) | PASS   |
| Conducted Spurious Emission      | Section 15.407(b) (c) (g) | PASS   |
| Radiated Emission                | 15.205&15.209 (a)         | PASS   |
| Conducted Band Edge              | Section 15.407(b) (c) (g) | PASS   |
| Radiated Band Edge               | 15.205&15.209 (a)         | PASS   |

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Frequency Stability: The manufacturer stated in the user's manual.
3. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

### 1.1 Measurement Uncertainty

| Item                                                                   | Uncertainty               |
|------------------------------------------------------------------------|---------------------------|
| Uncertainty for Power point Conducted Emissions Test                   | 1.63dB                    |
| Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)    | 3.5dB                     |
| Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)  | 3.74dB(Polarize: V)       |
|                                                                        | 3.76dB(Polarize: H)       |
| Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)  | 3.77dB(Polarize: V)       |
|                                                                        | 3.80dB(Polarize: H)       |
| Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz) | 4.31 dB(Polarize: V)      |
|                                                                        | 4.30 dB(Polarize: H)      |
| Uncertainty for radio frequency                                        | $5.06 \times 10^{-8}$ GHz |
| Uncertainty for conducted RF Power                                     | 0.40dB                    |
| Uncertainty for temperature                                            | 0.2℃                      |
| Uncertainty for humidity                                               | 1%                        |
| Uncertainty for DC and low frequency voltages                          | 0.06%                     |

## 2 General Information

### 2.1 General Description of EUT

EUT Name : Geodetic GNSS Receiver  
Model No. : F8  
DIFF. : N/A  
Power supply : DC 7.2V from battery and DC 5V form adapter

Radio Technology : 5G WIFI

Operation Frequency : 802.11ac(VHT80): 5210MHz

Channel separation : 80MHz for 802.11ac(VHT80)

Modulation technology: : IEEE 802.11ac: OFDM (64QAM, 16QAM, 256QAM, QPSK, BPSK)

Antenna Type : PCB antenna, Maximum Gain is 2.1dBi  
(Antenna information is provided by applicant.)

Software version : V1.0

Hardware version : V1.0

Intend use environment : Residential, commercial and light industrial environment

## 2.2 Test mode

| <b>U-NII-1:</b>     |                            |         |                 |
|---------------------|----------------------------|---------|-----------------|
| Mode                | data rate (Mbps)(see Note) | Channel | Frequency (MHz) |
| IEEE 802.11ac VHT80 | 433.3                      | CH42    | 5210            |

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

## 2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

## 2.4 Description of Support Units

Accessories : AC Adapter  
 Manufacturer : Yisheng Electronics Co., LTD  
 Model : EA1012AVRU-050  
 Ratings : AC Input: 100-240Vac, 1.0A, 50~60Hz  
 : DC Output: 5.0V=2.4A 12.0W

## 2.5 Deviation from Standards

None.

## 2.6 Abnormalities from Standard Conditions

None.

## 2.7 Other Information Requested by the Customer

None.

## 2.8 Additional instructions

Software (Used for test) from client

| Channel | Power level |
|---------|-------------|
| 5210MHz | Default     |

Note: Using SecureCRT testing software to control EUT work in Continuous TX mode, and select test channel, wireless mode, the power level of the test is set to default.

### 3 Test Instruments list

| Equipment                    | Manufacturer  | Model No.    | Firmware version | Serial No.             | Last Cal.  | Cal. Due day |
|------------------------------|---------------|--------------|------------------|------------------------|------------|--------------|
| 9*6*6 anechoic chamber       | CHENYU        | 9*6*6        | /                | N/A                    | 2025.03.09 | 4Year        |
| 4*4*3 Shielded room          | CHENYU        | 4*4*3        | /                | N/A                    | 2025.03.09 | 4Year        |
| Spectrum analyzer            | ROHDE&SCHWARZ | FSV40-N      | 2.3              | 102137                 | 2025.08.04 | 1Year        |
| Spectrum analyzer            | Agilent       | N9020A       | A.14.16          | MY499100060            | 2025.08.04 | 1Year        |
| Test Receiver                | ROHDE&SCHWARZ | ESR          | 2.28 SP1         | 1316.3003K03-102082-Wa | 2025.08.04 | 1Year        |
| Test Receiver                | ROHDE&SCHWARZ | ESCI         | 4.42 SP1         | 101165                 | 2025.08.04 | 1Year        |
| Bilog Antenna                | SCHWARZBECK   | VULB 9168    | /                | VULB 9168#627          | 2025.08.11 | 2Year        |
| Horn Antenna                 | SCHWARZBECK   | BBHA 9120 D  | /                | 2106                   | 2025.08.11 | 2Year        |
| Loop Antenna                 | SCHWARZBECK   | FMZB 1519B   | /                | 00128                  | 2025.08.11 | 2Year        |
| RF Cable                     | Resenberger   | Cable 1      | /                | RE1                    | 2025.08.04 | 1Year        |
| RF Cable                     | Resenberger   | Cable 2      | /                | RE2                    | 2025.08.04 | 1Year        |
| RF Cable                     | Resenberger   | Cable 3      | /                | CE1                    | 2025.08.04 | 1Year        |
| Amplifier                    | HP            | HP8347A      | /                | 2834A00455             | 2025.08.04 | 1Year        |
| Amplifier                    | Agilent       | 8449B        | /                | 3008A02664             | 2025.08.04 | 1Year        |
| L.I.S.N.#1                   | SCHWARZBECK   | NSLK8126     | /                | 8126-466               | 2025.08.04 | 1Year        |
| L.I.S.N.#2                   | ROHDE&SCHWARZ | ENV216       | /                | 101043                 | 2025.08.04 | 1Year        |
| Horn Antenna                 | SCHWARZBECK   | BBHA 9170    | /                | 00946                  | 2025.08.11 | 2Year        |
| Preamplifier                 | SKET          | LNPA_1840-50 | /                | SK2018101801           | 2025.08.04 | 1 Year       |
| Power Meter                  | Agilent       | E4419B       | /                | GB40202122             | 2025.08.04 | 1 Year       |
| Power Sensor                 | Agilent       | E9300A       | /                | MY41496628             | 2025.08.04 | 1 Year       |
| Power Sensor                 | Agilent       | E9304A       | /                | MY41496815             | 2025.08.04 | 1 Year       |
| Temp. & Humid. Chamber       | Teelong       | TL-HW408S    | /                | TL-20191205-01         | 2025.07.14 | 1 Year       |
| Electronic Thermo-Hygrometer | S.H.Qixiang   | HTC-1        | /                | N/A                    | 2025.08.04 | 1 Year       |
| Switching Mode Power Supply  | JUNKE         | JK12010S     | /                | 20140927-6             | 2025.08.04 | 1 Year       |
| Adjustable attenuator        | MWRFTest      | N/A          | /                | N/A                    | N/A        | N/A          |
| 10dB Attenuator              | Mini-Circuits | DC-6G        | /                | N/A                    | N/A        | N/A          |

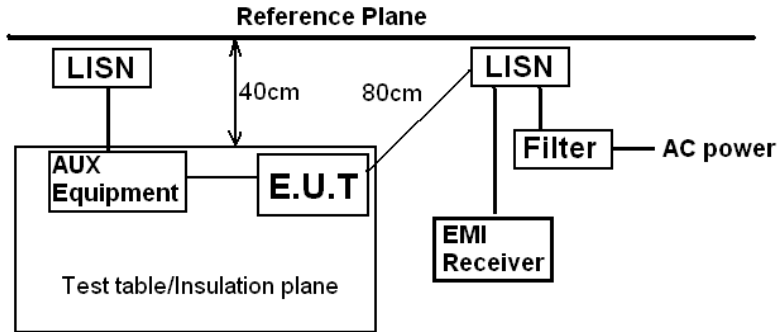
| Software Information |               |              |           |
|----------------------|---------------|--------------|-----------|
| Test Item            | Software Name | Manufacturer | Version   |
| RE                   | EZ-EMC        | Farad        | Alpha-3A1 |
| CE                   | EZ-EMC        | Farad        | Alpha-3A1 |
| RF-CE                | MTS 8310      | MWRFtest     | V2.0.0.0  |

## 4 Test results and Measurement Data

### 4.1 Antenna requirement:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FCC Part15 C Section 15.203 |
| <p>15.203 requirement:</p> <p>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.</p> |                             |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |
| The antenna is PCB antenna. The best case gain of the antenna is 2.1dBi for 5.15~5.25GHz                                                                                                                                                                                                                                                                                                                                                                                             |                             |

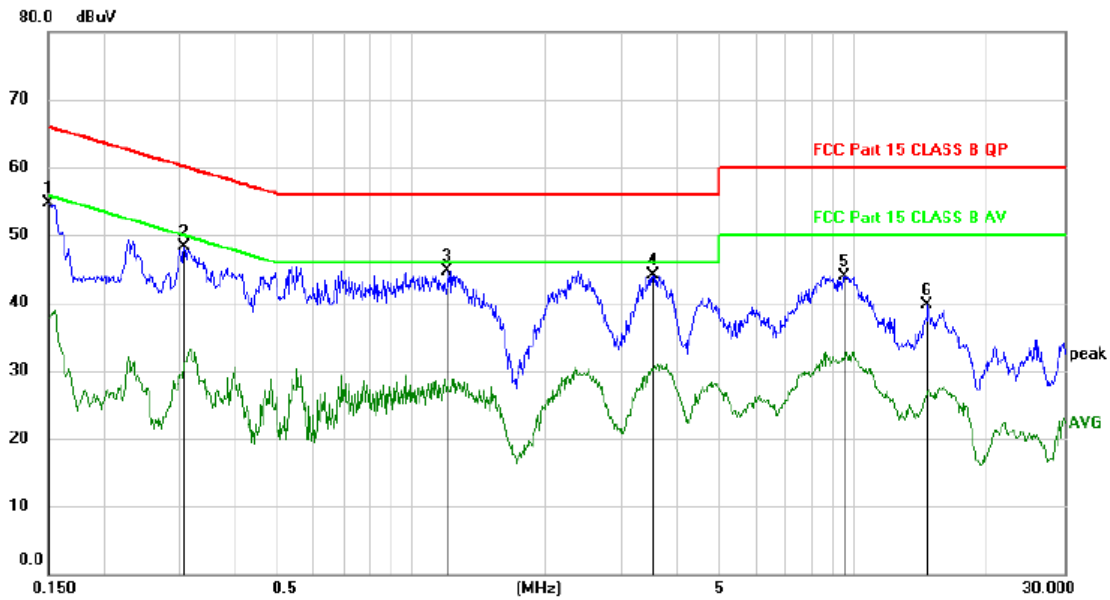
## 4.2 Conducted Emissions

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |           |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|
| Test Requirement:                                | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |           |
| Test Method:                                     | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |           |
| Test Frequency Range:                            | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |           |
| Class<br>Severity:                               | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |           |
| Class B                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |           |
| Receiver setup:                                  | RBW=9KHz, VBW=30KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |           |
| Limit:                                           | Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Limit (dBuV) |           |
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak   | Average   |
|                                                  | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 66 to 56*    | 56 to 46* |
|                                                  | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 56           | 46        |
|                                                  | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 60           | 50        |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |           |
| Test procedure                                   | <p>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.</p> |              |           |
| Test setup:                                      |  <p>Remark<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |           |
| Test results:                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |           |

### Measurement Data

An initial pre-scan was performed on the line and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

## Line:

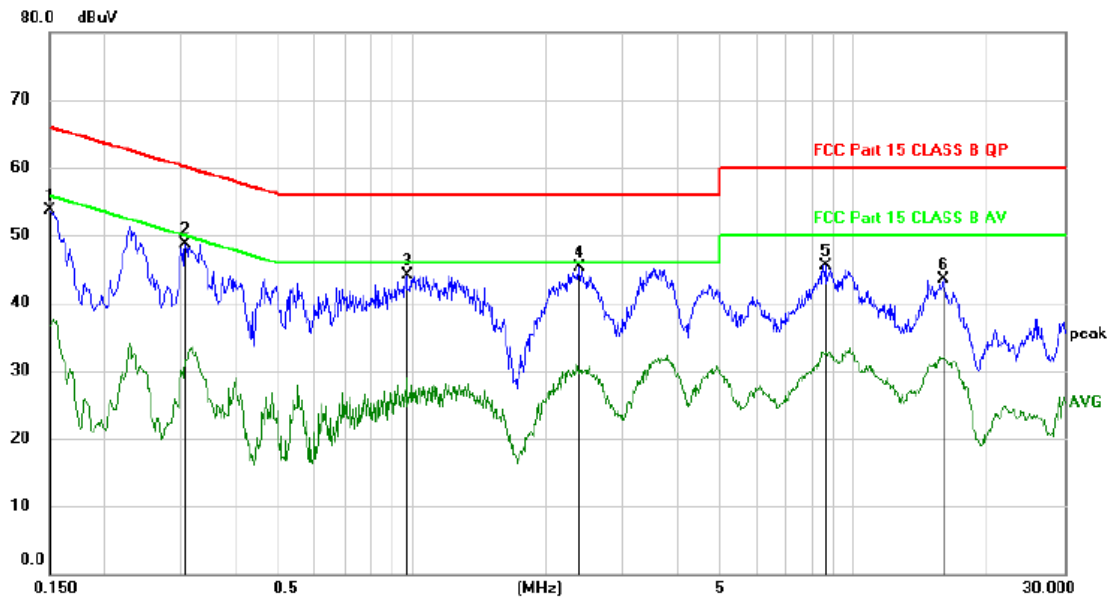


| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Margin | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     |          |         |
| 1   | *   | 0.1500  | 44.73         | 9.94           | 54.67       | 66.00 | -11.33 | peak     |         |
| 2   |     | 0.3059  | 38.38         | 9.92           | 48.30       | 60.08 | -11.78 | peak     |         |
| 3   |     | 1.2057  | 34.72         | 9.89           | 44.61       | 56.00 | -11.39 | peak     |         |
| 4   |     | 3.5129  | 34.07         | 9.96           | 44.03       | 56.00 | -11.97 | peak     |         |
| 5   |     | 9.5100  | 33.77         | 10.20          | 43.97       | 60.00 | -16.03 | peak     |         |
| 6   |     | 14.7149 | 29.39         | 10.32          | 39.71       | 60.00 | -20.29 | peak     |         |

\*:Maximum data    x:Over limit    !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor.    Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

**Neutral:**

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1   |     | 0.1500       | 43.73                    | 9.94                    | 53.67                    | 66.00         | -12.33       | peak     |         |
| 2   |     | 0.3059       | 38.88                    | 9.92                    | 48.80                    | 60.08         | -11.28       | peak     |         |
| 3   |     | 0.9717       | 34.15                    | 9.93                    | 44.08                    | 56.00         | -11.92       | peak     |         |
| 4   | *   | 2.3938       | 35.32                    | 9.90                    | 45.22                    | 56.00         | -10.78       | peak     |         |
| 5   |     | 8.6128       | 35.38                    | 10.17                   | 45.55                    | 60.00         | -14.45       | peak     |         |
| 6   |     | 15.9627      | 33.09                    | 10.36                   | 43.45                    | 60.00         | -16.55       | peak     |         |

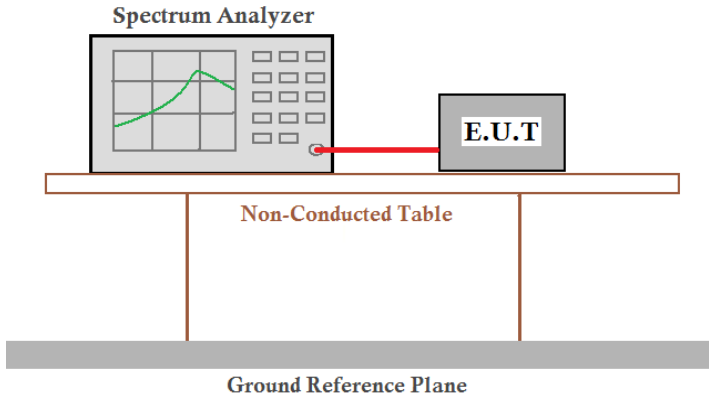
\*:Maximum data    x:Over limit    !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor.    Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Note: All modes and channels have been tested and only the ac 5210MHz mode with the worst data is listed.

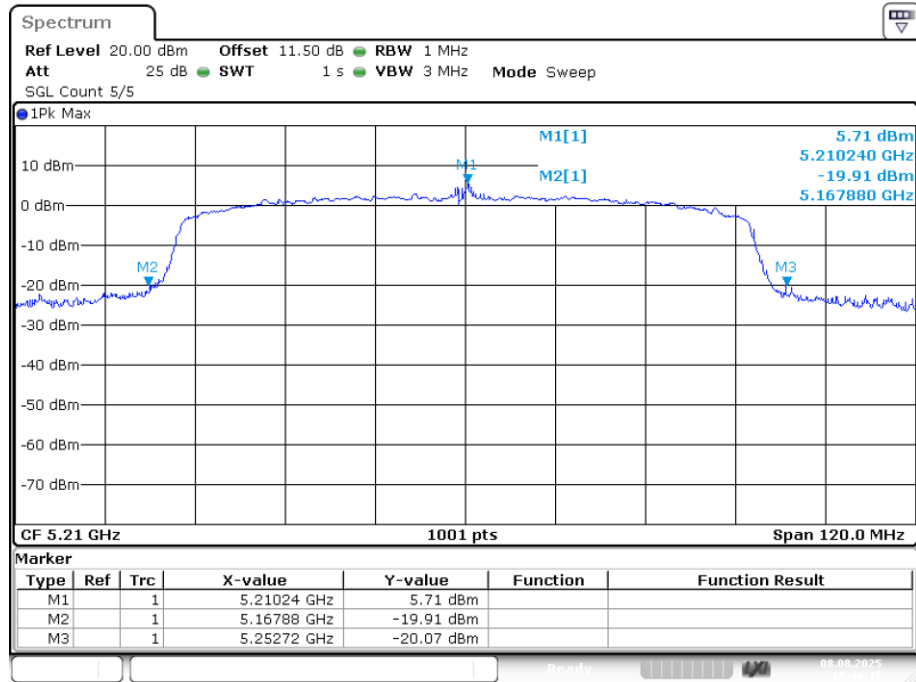
#### 4.3 Emission Bandwidth and 99% Occupied Bandwidth

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Limit:            | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs and sits on a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test procedure:   | <ol style="list-style-type: none"> <li>1. Set center frequency to the nominal EUT channel center frequency.</li> <li>2. Set span = 1.5 times to 5.0 times the OBW.</li> <li>3. Set RBW = 1% to 5% of the OBW</li> <li>4. Set VBW <math>\geq 3</math> RBW</li> <li>5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.</li> <li>6. Use the 99% power bandwidth function of the instrument (if available).</li> <li>7. If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.</li> </ol> |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Measurement Data:

**Band 1 (5150-5250 MHz):  
-26dB Bandwidth**

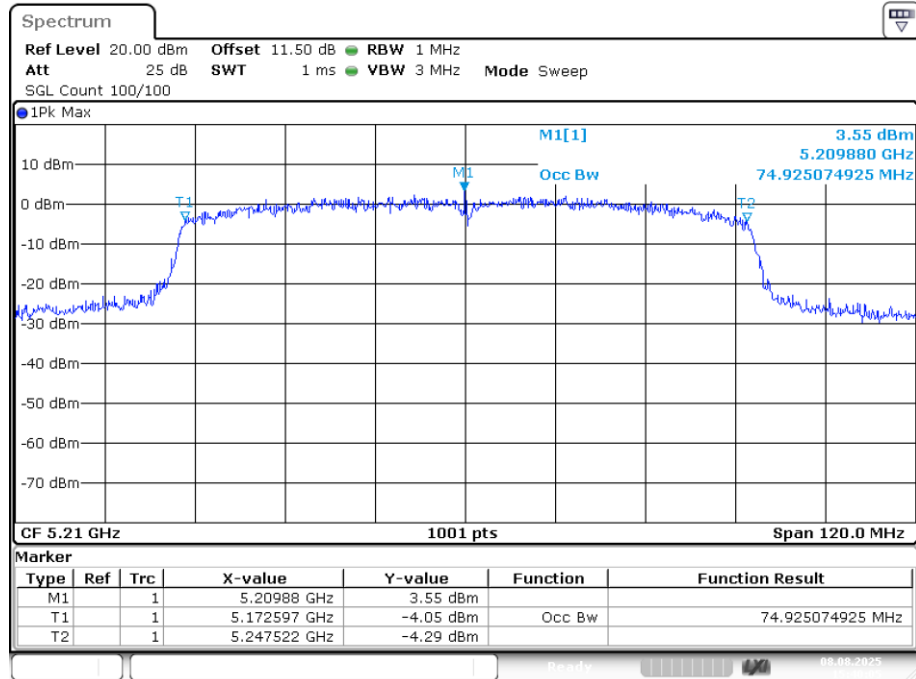
| Condition | Mode | Frequency (MHz) | Antenna | -26 dB Bandwidth (MHz) | Limit -26 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|---------|------------------------|------------------------------|---------|
| NVNT      | ac80 | 5210            | Ant1    | 84.84                  | N/A                          | Pass    |

**-26dB Bandwidth NVNT ac80 5210MHz Ant1**

Date: 8.AUG.2025 15:40:17

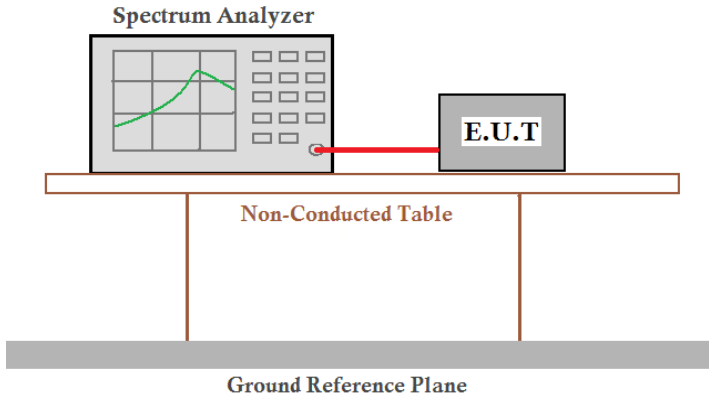
**Occupied Channel Bandwidth**

| Condition | Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|-----------|------|-----------------|---------|---------------|
| NVNT      | ac80 | 5210            | Ant1    | 74.925        |

**OBW NVNT ac80 5210MHz Ant1**

Date: 8.AUG.2025 15:40:05

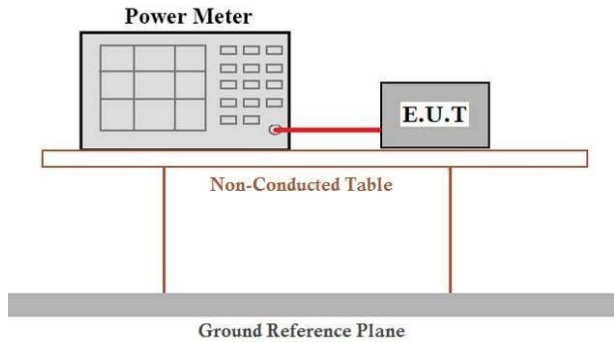
#### 4.4 Duty Cycle

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Limit:            | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green signal trace, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a table labeled 'Non-Conducted Table'. This table is supported by two vertical legs that rest on a thick grey horizontal bar at the bottom, labeled 'Ground Reference Plane'.</p> |
| Test procedure:   | <p>a) A diode detector and an oscilloscope that together have sufficiently short response time to permit accurate measurements of the on and off times of the transmitted signal.<br/>789033 D02 General UNII Test Procedures New Rules v02r01 Page 3</p> <p>b) Set the center frequency of the instrument to the center frequency of the transmission. Set <math>RBW \geq EBW</math> if possible; otherwise, set RBW to the largest available value. Set <math>VBW \geq RBW</math>. Set detector = peak</p>      |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**U-NII 1**

| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) |
|-----------|------|-----------------|---------|----------------|------------------------|
| NVNT      | ac80 | 5210            | Ant1    | 80.62          | 0.94                   |

#### 4.5 Maximum Conducted Output Power

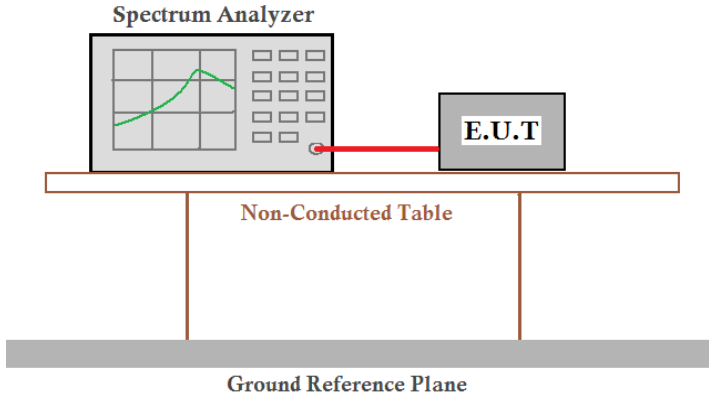
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Limit:            | For the band 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 250mW.<br>For the band 5.725-5.85GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 1W.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test setup:       |  <p>The diagram illustrates the test setup. A 'Power Meter' is connected to an 'E.U.T.' (Equipment Under Test) via a red cable. Both the Power Meter and the E.U.T. are placed on a 'Non-Conducted Table'. This table is supported by a 'Ground Reference Plane'.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test procedure:   | <p><b>Measurement using an RF average power meter</b></p> <ul style="list-style-type: none"> <li>(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied <ul style="list-style-type: none"> <li>a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle.</li> <li>b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.</li> <li>c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.</li> </ul> </li> <li>(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B).</li> <li>(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.</li> <li>(iv) Adjust the measurement in dBm by adding <math>10 \log(1/x)</math> where x is the duty cycle (e.g., <math>10 \log(1/0.25)</math> if the duty cycle is 25 percent).</li> </ul> |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Measurement Data****Band 1 (5150-5250 MHz)**

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Cycle Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|------------------------|-------------------|-------------|---------|
| NVNT      | ac80 | 5210            | Ant1    | 8.696                 | 0.94                   | 9.636             | 24          | Pass    |

**Note: Total Power= Conducted Power+ Duty Cycle Factor**

#### 4.6 Power Spectral Density

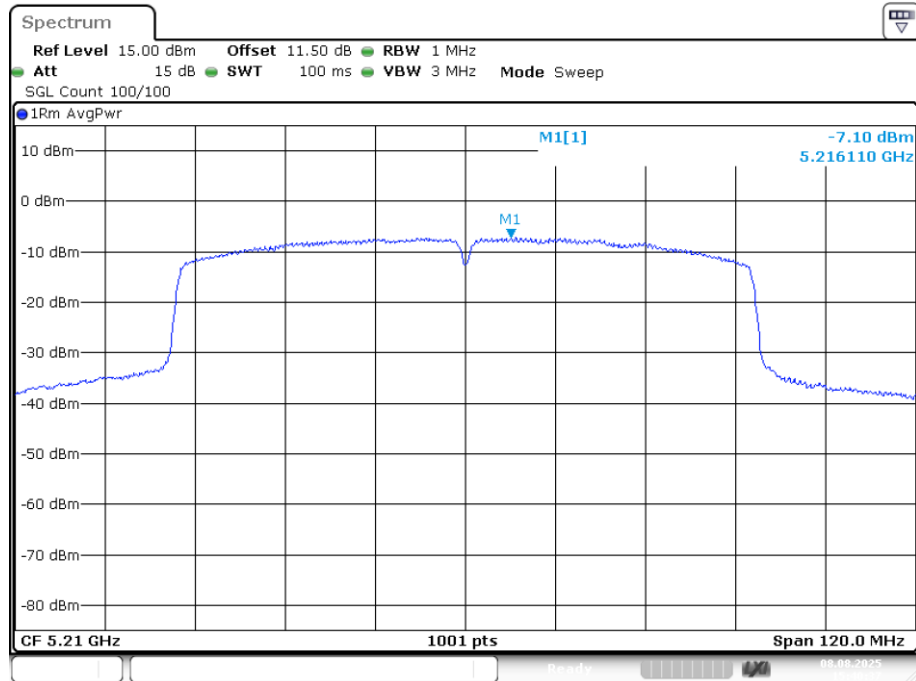
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47-CFR-Part-15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Method:      | ANSI C63.10-2020, section 12.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Limit:            | $\leq 11.00\text{dBm/MHz}$ for 5150MHz-5250MHz, 5250-5350MHz and 5470-5725 MHz<br>$\leq 30.00\text{dBm/500KHz}$ for 5725MHz-5850MHz                                                                                                                                                                                                                                                                                                                                                                          |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green signal trace, is connected to an E.U.T (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T are positioned on a Non-Conducted Table, which is a rectangular platform supported by two vertical legs. Below the table, a thick gray horizontal bar represents the Ground Reference Plane.</p> |
| Test procedure:   | Refer to ANSI-C63.10-2020, section.12.6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Measurement Data****Band 1 (5150 - 5250 MHz)**

| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD(dBm) | Duty Cycle Factor (dB) | Total PSD (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|--------------------|------------------------|-----------------|-------------|---------|
| NVNT      | ac80 | 5210            | Ant1    | -7.098             | 0.94                   | -6.158          | 11          | Pass    |

**Note: 1. Total PSD= Conducted PSD+ Duty Cycle Factor,****2. Offset = Cable loss**

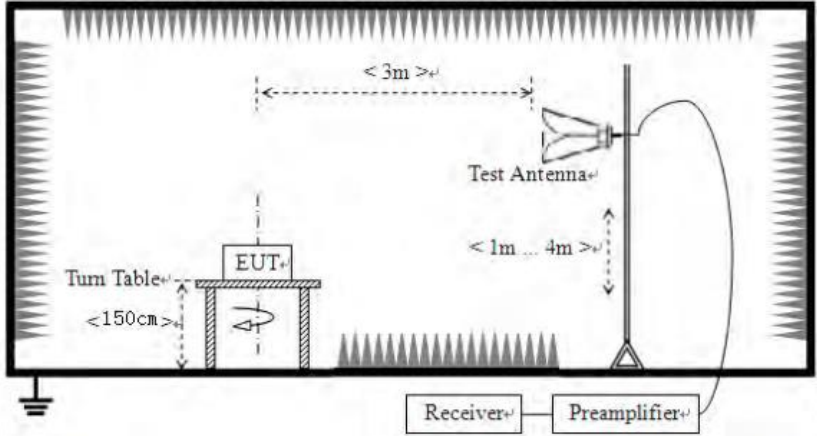
PSD NVNT ac80 5210MHz Ant1



Date: 8.AUG.2025 15:40:36

#### 4.7 Radiated Band Edge

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------|--|-----------|--------------------|--------|-------------|--------|------------------|--------------|--------|------------------|------------------|------------|------------------|-------------|------|------------------|------------|------|---------------|---------------|------------|
| Test Requirement: | 15.205&15.209                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Method:      | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test site:        | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Receiver setup:   | <table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |        |                  |  | Frequency | Detector           | RBW    | VBW         | Remark | 30MHz-1GHz       | Quasi-peak   | 100KHz | 300KHz           | Quasi-peak Value | Above 1GHz | Peak             | 1MHz        | 3MHz | Peak Value       | AV         | 1MHz | 3MHz          | Average Value |            |
| Frequency         | Detector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RBW              | VBW    | Remark           |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-1GHz        | Quasi-peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100KHz           | 300KHz | Quasi-peak Value |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | Peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1MHz             | 3MHz   | Peak Value       |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | AV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1MHz             | 3MHz   | Average Value    |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Limit:            | <table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>68.2</td><td>Peak Value</td></tr></table> <p>Undesirable emission limits:</p> <p>(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.</p> <p>(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.</p> <p>(3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.</p> |                  |        |                  |  | Frequency | Limit (dBuV/m @3m) | Remark | 30MHz-88MHz | 40.0   | Quasi-peak Value | 88MHz-216MHz | 43.5   | Quasi-peak Value | 216MHz-960MHz    | 46.0       | Quasi-peak Value | 960MHz-1GHz | 54.0 | Quasi-peak Value | Above 1GHz | 54.0 | Average Value | 68.2          | Peak Value |
| Frequency         | Limit (dBuV/m @3m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Remark           |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-88MHz       | 40.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 88MHz-216MHz      | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 216MHz-960MHz     | 46.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 960MHz-1GHz       | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Average Value    |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | 68.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Peak Value       |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Procedure:   | <p>a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p>      |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test setup:       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |

|               |                                                                                    |
|---------------|------------------------------------------------------------------------------------|
|               |  |
| Test results: | Pass                                                                               |

## Remark:

According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2,$$

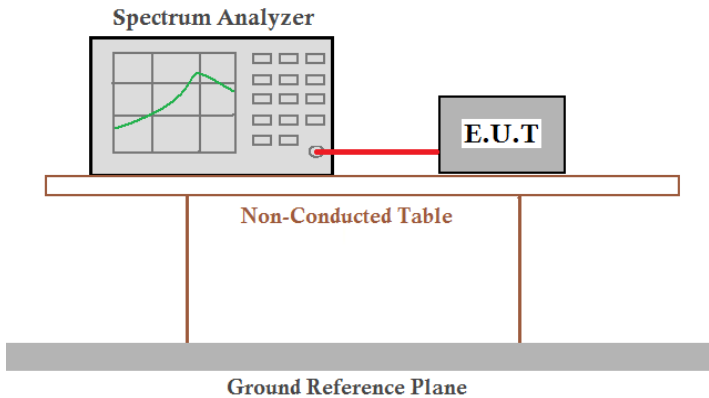
For example, if EIRP = -27dBm

$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

**Measurement Data:****Band1**

| Mode:        |                 | 802.11ac             |               | Frequency:             |                | 5210MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 32.22                | 17.18         | 49.40                  | 68.20          | -18.80         | PK       |
| V            | 5150.00         | 33.90                | 17.18         | 51.08                  | 68.20          | -17.12         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac             |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 23.01                | 17.18         | 40.19                  | 54.00          | -13.81         | AV       |
| V            | 5150.00         | 26.92                | 17.18         | 44.10                  | 54.00          | -9.90          | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac             |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 31.57                | 17.18         | 48.75                  | 68.20          | -19.45         | PK       |
| V            | 5350.00         | 35.49                | 17.18         | 52.67                  | 68.20          | -15.53         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac             |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 24.09                | 17.18         | 41.27                  | 54.00          | -12.73         | AV       |
| V            | 5350.00         | 26.08                | 17.18         | 43.26                  | 54.00          | -10.74         | AV       |

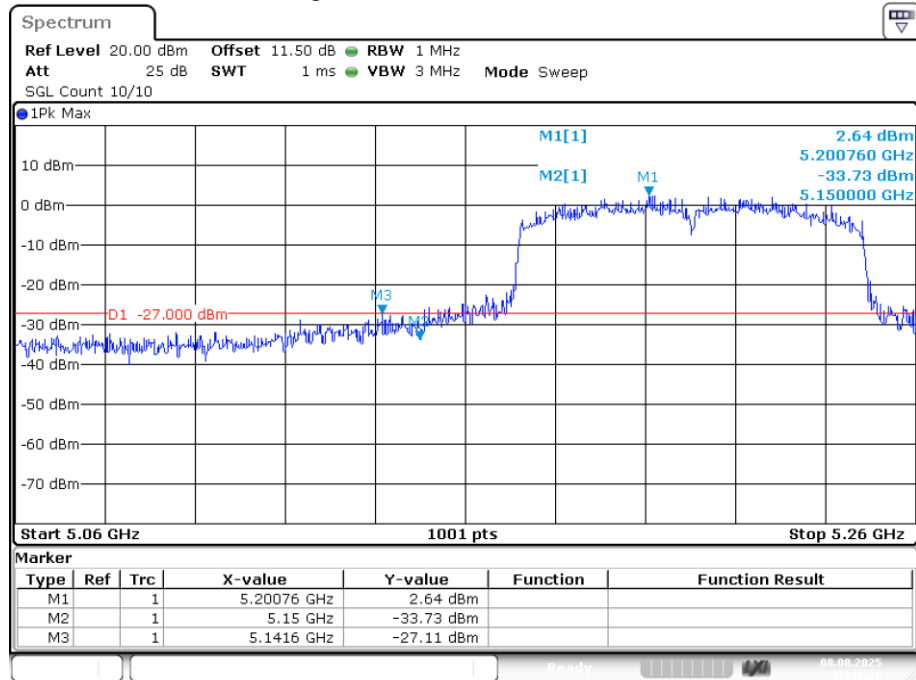
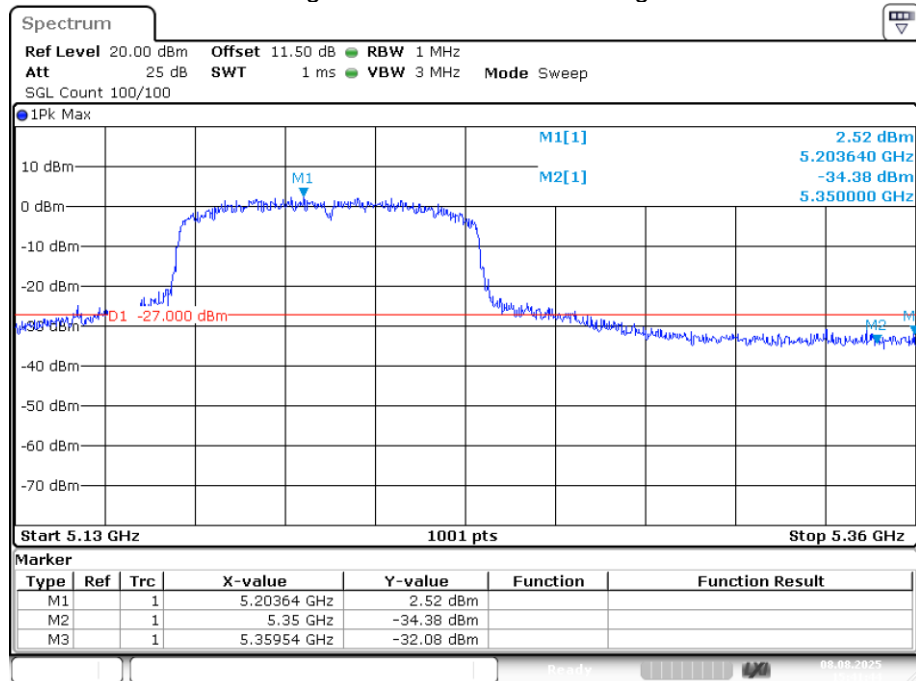
#### 4.8 Conducted Band Edge

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Limit:            | <ol style="list-style-type: none"> <li>1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.</li> <li>2. For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</li> </ol> |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                                                        |
| Test procedure:   | <p>The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:</p> <ol style="list-style-type: none"> <li>a) Peak emission levels are measured by setting the instrument as follows: <ol style="list-style-type: none"> <li>1) RBW = 1 MHz.</li> <li>2) VBW <math>\geq [3 \times \text{RBW}]</math>.</li> <li>3) Detector = peak.</li> <li>4) Sweep time = auto.</li> <li>5) Trace mode = max hold.</li> <li>6) Allow sweeps to continue until the trace stabilizes.</li> </ol> </li> </ol>                                                                                                                                                                                               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Band 1**

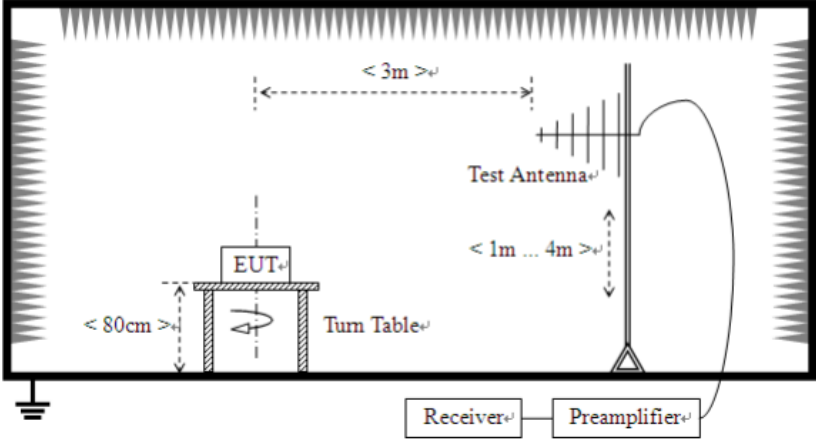
| Condition | Mode | Band Edge Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|---------------------------|---------|-----------------|-------------|---------|
| NVNT      | ac80 | 5180                      | Ant1    | -27.1           | -27         | Pass    |
| NVNT      | ac80 | 5240                      | Ant1    | -32.08          | -27         | Pass    |

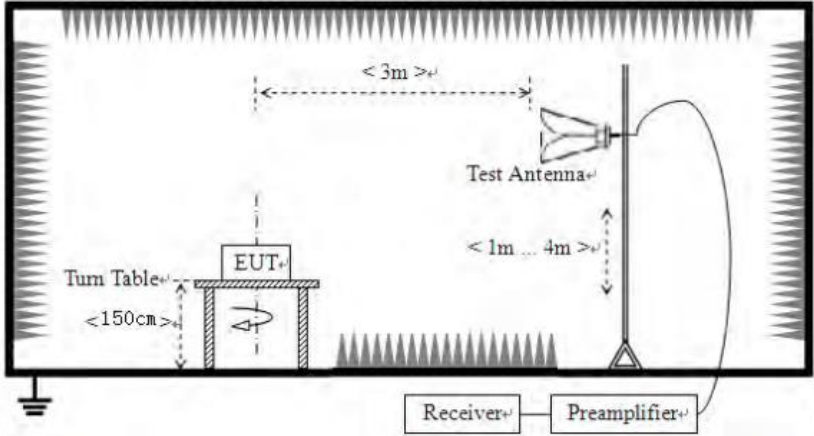
**Note:** The margin is at least greater than the antenna gain plus the cable loss.

**Band Edge NVNT ac80 5180MHz Low Ant1****Band Edge NVNT ac80 5240MHz High Ant1**

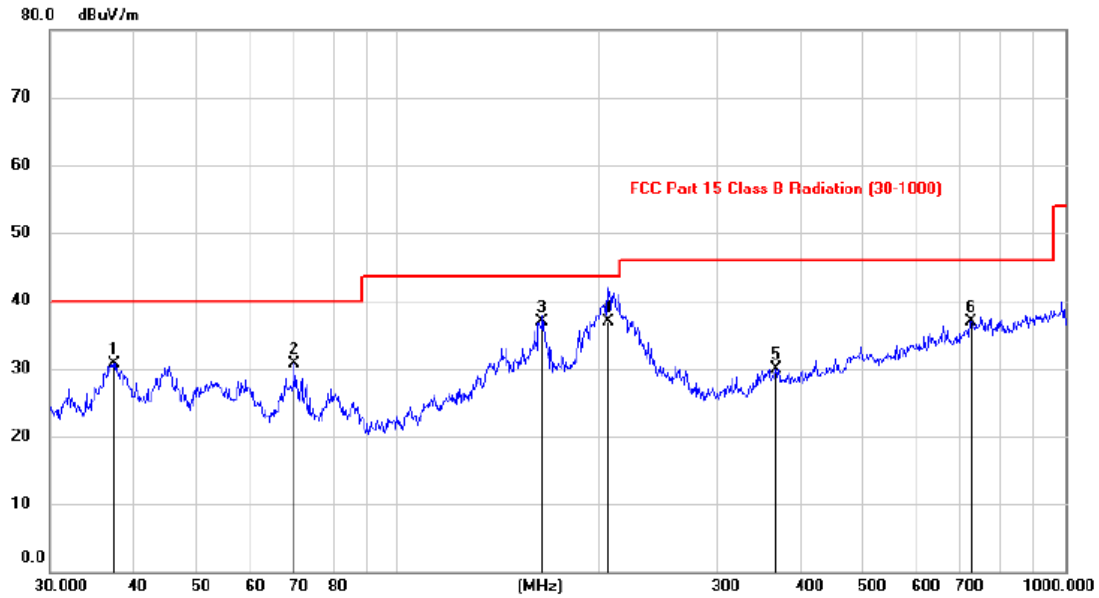
## 4.9 Radiated Emission

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                    |        |                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|--------|------------------|
| Test Requirement:     | 15.205&15.209                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                    |        |                  |
| Test Method:          | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                    |        |                  |
| Test Frequency Range: | 30MHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                    |        |                  |
| Test site:            | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                    |        |                  |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Detector   | RBW                | VBW    | Value            |
|                       | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Quasi-peak | 100KHz             | 300KHz | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Peak       | 1MHz               | 3MHz   | Peak Value       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | AV         | 1MHz               | 3MHz   | Average Value    |
| Limit:                | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            | Limit (dBuV/m @3m) |        | Remark           |
|                       | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | 40.0               |        | Quasi-peak Value |
|                       | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | 43.5               |        | Quasi-peak Value |
|                       | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | 46.0               |        | Quasi-peak Value |
|                       | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | 54.0               |        | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | 74.0               |        | Peak Value       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            | 54.0               |        | Average Value    |
| Test Procedure:       | <p>Substitution method was performed to determine the actual ERP emission levels of the EUT.</p> <p>The following test procedure as below:</p> <p>1&gt;.Below 1GHz test procedure:</p> <ol style="list-style-type: none"><li>1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li><li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li><li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li><li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li><li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li><li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li></ol> <p>2&gt;.Above 1GHz test procedure:</p> <ol style="list-style-type: none"><li>1. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.</li><li>2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver.</li><li>3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.</li></ol> |            |                    |        |                  |

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <ol style="list-style-type: none"> <li>4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.</li> <li>5. Repeat step 4 for test frequency with the test antenna polarized horizontally.</li> <li>6. Remove the transmitter and replace it with a substitution antenna</li> <li>7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.</li> <li>8. Repeat step 7 with both antennas horizontally polarized for each test frequency.</li> <li>9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:<br/> <math display="block">\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}</math>           where:<br/>           Pg is the generator output power into the substitution antenna.</li> </ol> |
| Test setup: | <p>Below 1GHz</p>  <p>Above 1GHz</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|               |                                                                                    |
|---------------|------------------------------------------------------------------------------------|
|               |  |
| Test results: | Pass                                                                               |

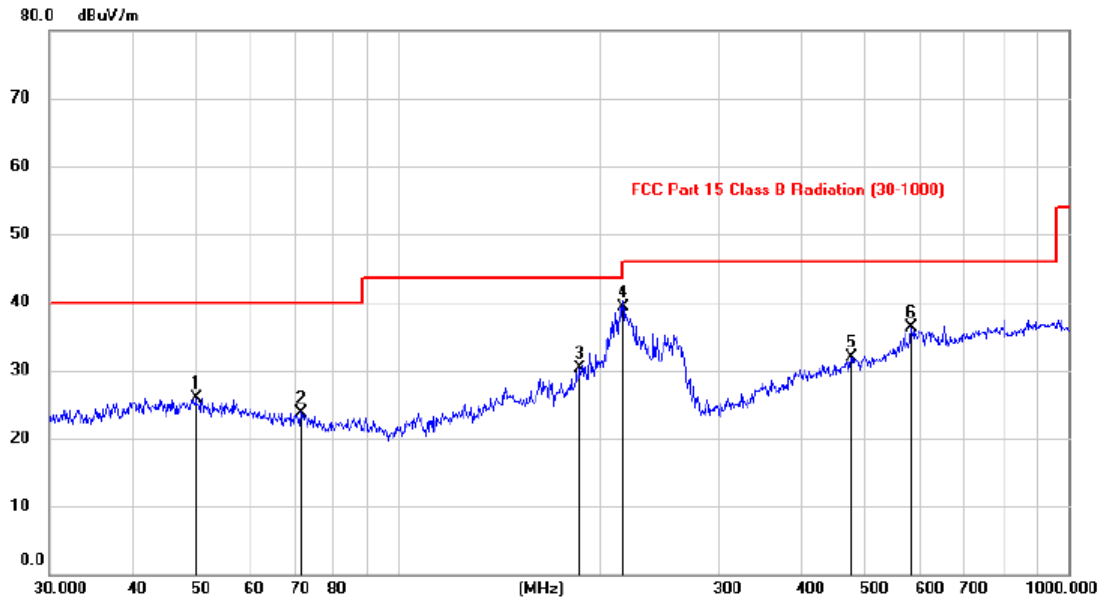
## Vertical:



| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit  | Margin | Antenna | Table  |         |
|-----|-----|----------|---------|---------|----------|--------|--------|---------|--------|---------|
|     |     | MHz      | Level   | Factor  | ment     |        |        | Height  | Degree |         |
|     |     |          | dBuV    | dB      | dBuV/m   | dBuV/m | dB     | cm      | degree | Comment |
| 1   |     | 37.4864  | 16.63   | 14.10   | 30.73    | 40.00  | -9.27  | peak    |        |         |
| 2   |     | 69.9920  | 19.20   | 11.42   | 30.62    | 40.00  | -9.38  | peak    |        |         |
| 3   |     | 164.4454 | 22.34   | 14.61   | 36.95    | 43.50  | -6.55  | QP      |        |         |
| 4   | *   | 206.6630 | 25.98   | 11.01   | 36.99    | 43.50  | -6.51  | QP      |        |         |
| 5   |     | 368.4560 | 14.37   | 15.61   | 29.98    | 46.00  | -16.02 | peak    |        |         |
| 6   |     | 723.3304 | 14.88   | 22.06   | 36.94    | 46.00  | -9.06  | peak    |        |         |

Note: 1. \*: Maximum data; x: Over limit; !: over margin.

2. Measurement = Reading Level + Correct Factor; Correct Factor = Antenna Factor + Cable Loss.

**Horizontal:**

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   |     | 49.8579  | 11.90         | 14.04          | 25.94       | 40.00  | -14.06 | peak           |              |         |
| 2   |     | 71.4217  | 12.69         | 11.11          | 23.80       | 40.00  | -16.20 | peak           |              |         |
| 3   |     | 186.6807 | 18.51         | 11.87          | 30.38       | 43.50  | -13.12 | peak           |              |         |
| 4   | *   | 216.1753 | 27.87         | 11.48          | 39.35       | 46.00  | -6.65  | QP             |              |         |
| 5   |     | 475.1102 | 14.04         | 17.85          | 31.89       | 46.00  | -14.11 | peak           |              |         |
| 6   |     | 583.8333 | 16.45         | 19.90          | 36.35       | 46.00  | -9.65  | peak           |              |         |

Note: 1. \*: Maximum data; x: Over limit; !: over margin.

2. Measurement = Reading Level + Correct Factor; Correct Factor = Antenna Factor + Cable Loss.

Remark: All modes have been tested, and only worst data of 802.11ac mode, Channel 5210MHz was listed in this report.

**Above 1GHz (U-NII-1):**

802.11ac 5210MHz

Detector: PK

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10420.07        | 49.73             | 16.29                 | 14.62           | 32.65              | 47.99          | 74.00               | -26.01          | Vertical     |
| 15630.11        | 47.60             | 21.83                 | 17.66           | 34.46              | 52.63          | 74.00               | -21.37          | Vertical     |
| 10420.31        | 52.88             | 16.29                 | 14.62           | 32.65              | 51.14          | 74.00               | -22.86          | Horizontal   |
| 15630.07        | 47.77             | 21.83                 | 17.66           | 34.46              | 52.80          | 74.00               | -21.20          | Horizontal   |

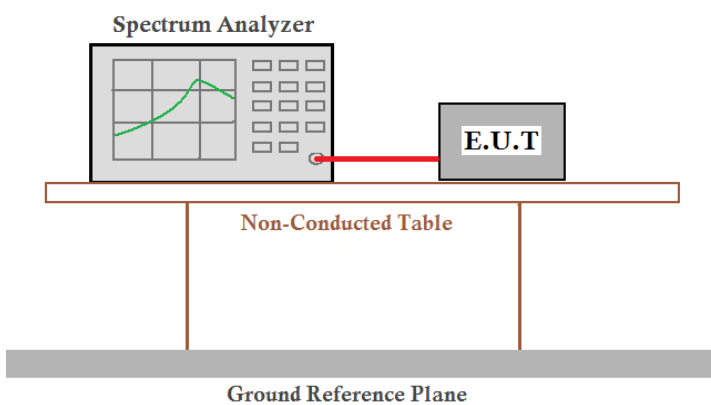
Detector: AV

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 10420.14        | 44.80             | 16.29                 | 14.62           | 32.65              | 43.06          | 54.00               | -10.94          | Vertical     |
| 15630.25        | 43.13             | 21.83                 | 17.66           | 34.46              | 48.16          | 54.00               | -5.84           | Vertical     |
| 10420.03        | 45.59             | 16.29                 | 14.62           | 32.65              | 43.85          | 54.00               | -10.15          | Horizontal   |
| 15630.07        | 37.65             | 21.83                 | 17.66           | 34.46              | 42.68          | 54.00               | -11.32          | Horizontal   |

Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

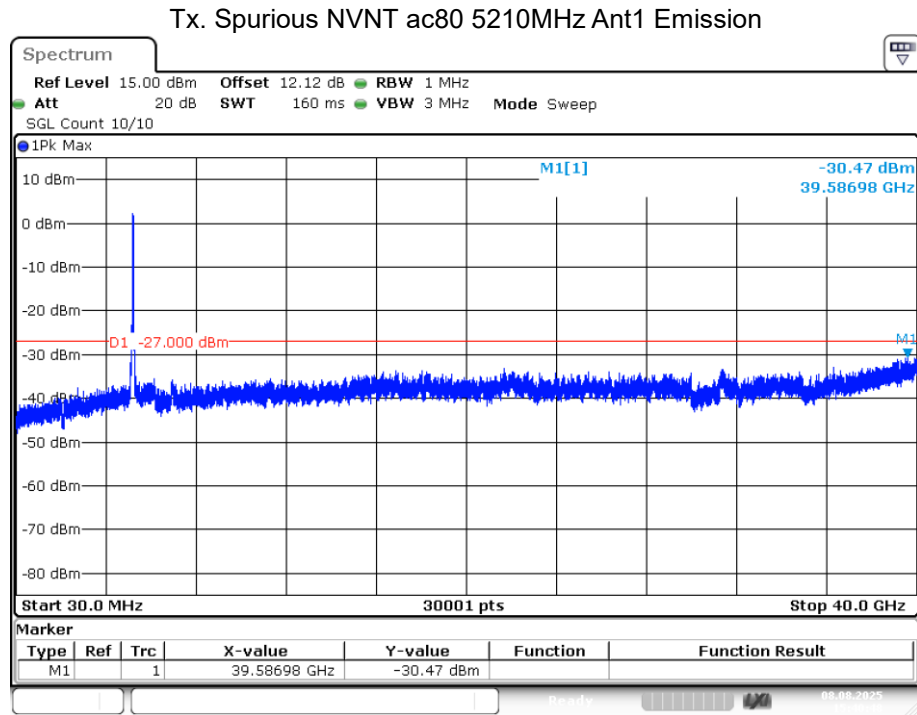
#### 4.10 Conducted Spurious Emission

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Limit:            | <ol style="list-style-type: none"> <li>1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.</li> <li>2. For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</li> </ol> |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs and sits on a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                          |
| Test procedure:   | <p>The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:</p> <ol style="list-style-type: none"> <li>a) Peak emission levels are measured by setting the instrument as follows: <ol style="list-style-type: none"> <li>1) RBW = 1 MHz.</li> <li>2) VBW <math>\geq [3 \times \text{RBW}]</math>.</li> <li>3) Detector = peak.</li> <li>4) Sweep time = auto.</li> <li>5) Trace mode = max hold.</li> <li>6) Allow sweeps to continue until the trace stabilizes.</li> </ol> </li> </ol>                                                                                                                                                                                               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## U-NII 1

| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | ac80 | 5210            | Ant1    | -30.46          | -27         | Pass    |

**Note:** The margin is at least greater than the antenna gain plus the cable loss.



Date: 8.AUG.2025 15:40:47

-----END OF REPORT-----