

# TEST REPORT

**Report No.:** 8333EU012813W

**Applicant:** Productech Corporation

**Address:** 7901 4TH ST N, SUITE 4240, St. Petersburg, FL,  
33702, USA

**Product Name:** Wireless Earbuds

**Model No.:** X3-Pro (refer to clause 2.4)

**Trademark:** TREBLAB

**FCC ID:** 2A889-X3PROB

**Test Standard(s):** 47 CFR Part 15 Subpart C

**Test Result:** Pass

**Date of Receipt:** Aug. 28, 2025

**Test Date:** Aug. 28, 2025 – Sep. 18, 2025

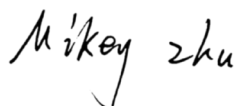
**Date of Issue:** Sep. 23, 2025

**ISSUED BY:**

SHENZHEN EU TESTING LABORATORY LIMITED



**Prepared by:**



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**Reviewed and Approved by:**



Sally Zhang/ Manager

## Revision Record

| Report Version | Issued Date   | Description | Status |
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| V0             | Sep. 23, 2025 | Original    | Valid  |
|                |               |             |        |



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## 2 General Information

### 2.1 Applicant Information

|           |                                                           |
|-----------|-----------------------------------------------------------|
| Applicant | Productech Corporation                                    |
| Address   | 7901 4TH ST N, SUITE 4240, St. Petersburg, FL, 33702, USA |

### 2.2 Manufacturer Information

|              |                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------|
| Manufacturer | Shenzhen Bonfin Technology CO. , Ltd                                                                               |
| Address      | South, 5/F, Xinlong Keji Park, No. 2 Dawangshan Industry 1st Rd., Shajing St., Bao'an, Shenzhen, Guang dong, China |

### 2.3 Factory Information

|         |                                                                                                                    |
|---------|--------------------------------------------------------------------------------------------------------------------|
| Factory | Shenzhen Bonfin Technology CO. , Ltd                                                                               |
| Address | South, 5/F, Xinlong Keji Park, No. 2 Dawangshan Industry 1st Rd., Shajing St., Bao'an, Shenzhen, Guang dong, China |

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

|                                      |                                                                                                                                                                                   |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                         | Wireless Earbuds                                                                                                                                                                  |
| Model No. Under Test                 | X3-Pro                                                                                                                                                                            |
| List Model No.                       | X3-Pro-W, TREBLAB X3-Pro, TREBLAB X3-Pro-W                                                                                                                                        |
| Description of Model differentiation | All models are same with electrical parameters and internal circuit structure, but only differ in appearance color and model name.<br>(this information provided by the customer) |
| Rating(s)                            | Input: 5V---1A<br>Battery Capacity (for charging base): 3.7VDC, 2500mAh, 9.25Wh<br>Battery Capacity (for earbud): 3.7VDC, 50mAh, 0.185Wh                                          |
| Product Type                         | <input type="checkbox"/> Mobile<br><input checked="" type="checkbox"/> Portable<br><input type="checkbox"/> Fix Location                                                          |
| Test Sample No.                      | -1/2(Normal Sample), -2/2(Engineering Sample)                                                                                                                                     |
| Hardware Version                     | V5.3                                                                                                                                                                              |
| Software Version                     | BT5636A                                                                                                                                                                           |
| Remark                               | For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.                                                                 |

## 2.5 Technical Information of E.U.T.

|                                   |                     |
|-----------------------------------|---------------------|
| Network and Wireless Connectivity | Bluetooth (BDR+EDR) |
|-----------------------------------|---------------------|

The requirement for the following technical information of the EUT was tested in this report:

|                     |                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Technology          | <b>Bluetooth</b>                                                                                                                       |
| Operation Mode      | <input checked="" type="checkbox"/> BDR <input checked="" type="checkbox"/> EDR                                                        |
| Modulation Type     | GFSK, $\pi/4$ -DQPSK, 8DPSK                                                                                                            |
| Operating Frequency | 2402-2480MHz                                                                                                                           |
| Transfer Rate       | DH5: 1 Mbps<br>2DH5: 2 Mbps<br>3DH5: 3 Mbps                                                                                            |
| Number of Channel   | 79                                                                                                                                     |
| Antenna Type        | PCB Antenna                                                                                                                            |
| Antenna Gain(Peak)  | Left Ear & Right Ear: 2.86 dBi                                                                                                         |
| Remark              | The above information are declared by the applicant, EU-LAB is not responsible for the information accuracy provided by the applicant. |

All channels were listed on the following table:

| Channel Number | Freq. (MHz) | Channel Number | Freq. (MHz) | Channel Number | Freq. (MHz) | Channel Number | Freq. (MHz) |
|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|
| <b>0</b>       | <b>2402</b> | 21             | 2423        | 42             | 2444        | 63             | 2465        |
| 1              | 2403        | 22             | 2424        | 43             | 2445        | 64             | 2466        |
| 2              | 2404        | 23             | 2425        | 44             | 2446        | 65             | 2467        |
| 3              | 2405        | 24             | 2426        | 45             | 2447        | 66             | 2468        |
| 4              | 2406        | 25             | 2427        | 46             | 2448        | 67             | 2469        |
| 5              | 2407        | 26             | 2428        | 47             | 2449        | 68             | 2470        |
| 6              | 2408        | 27             | 2429        | 48             | 2450        | 69             | 2471        |
| 7              | 2409        | 28             | 2430        | 49             | 2451        | 70             | 2472        |
| 8              | 2410        | 29             | 2431        | 50             | 2452        | 71             | 2473        |
| 9              | 2411        | 30             | 2432        | 51             | 2453        | 72             | 2474        |
| 10             | 2412        | 31             | 2433        | 52             | 2454        | 73             | 2475        |
| 11             | 2413        | 32             | 2434        | 53             | 2455        | 74             | 2476        |
| 12             | 2414        | 33             | 2435        | 54             | 2456        | 75             | 2477        |
| 13             | 2415        | 34             | 2436        | 55             | 2457        | 76             | 2478        |
| 14             | 2416        | 35             | 2437        | 56             | 2458        | 77             | 2479        |
| 15             | 2417        | 36             | 2438        | 57             | 2459        | <b>78</b>      | <b>2480</b> |
| 16             | 2418        | 37             | 2439        | 58             | 2460        | -              | -           |
| 17             | 2419        | 38             | 2440        | 59             | 2461        | -              | -           |
| 18             | 2420        | <b>39</b>      | <b>2441</b> | 60             | 2462        | -              | -           |
| 19             | 2421        | 40             | 2442        | 61             | 2463        | -              | -           |
| 20             | 2422        | 41             | 2443        | 62             | 2464        | -              | -           |

### 3 Test Summary

#### 3.1 Test Standard

The tests were performed according to following standards:

| No. | Identity                                   | Document Title                                                                                                                                                                           |
|-----|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | 47 CFR Part 15, Subpart C                  | Intentional radiators of radio frequency equipment                                                                                                                                       |
| 2   | ANSI C63.10-2020                           | American National Standard for Testing Unlicensed Wireless Devices                                                                                                                       |
| 3   | KDB 558074 D01 15.247 Meas Guidance v05r02 | Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules |

Remark:

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

#### 3.2 Test Verdict

| No. | Description                                            | FCC Part No.        | Channel                       | Verdict | Remark            |
|-----|--------------------------------------------------------|---------------------|-------------------------------|---------|-------------------|
| 1   | Antenna Requirement                                    | 15.203              | N/A                           | Pass    | Note <sup>1</sup> |
| 2   | Conducted Emission at AC Power Line                    | 15.207              | Low/Middle/High               | Pass    | --                |
| 3   | Occupied Bandwidth                                     | 15.215(c)           | Low/Middle/High               | Pass    | --                |
| 4   | Maximum Conducted Output Power                         | 15.247(b)(1)        | Low/Middle/High               | Pass    | --                |
| 5   | Carrier Frequency Separation                           | 15.247(a)(1)        | Hopping Mode                  | Pass    | --                |
| 6   | Pseudorandom Frequency Hopping Sequence                | 15.247(a)(1)        | Hopping Mode                  | Pass    |                   |
| 7   | Number of Hopping Frequencies                          | 15.247(a)(1)(iii)   | Hopping Mode                  | Pass    | --                |
| 8   | Time of Occupancy (Dwell time)                         | 15.247(a)(1)(iii)   | Hopping Mode                  | Pass    | --                |
| 9   | Emission in non-restricted frequency bands (Conducted) | 15.247(d)           | Hopping Mode; Low/Middle/High | Pass    | --                |
| 10  | Band Edge Emissions (Restricted frequency bands)       | 15.209<br>15.247(d) | Low/High                      | Pass    | --                |
| 11  | Radiated Spurious Emission                             | 15.209<br>15.247(d) | Low/Middle/High               | Pass    | --                |

Note <sup>1</sup>: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

#### 3.3 Test Laboratory

|                               |                                                                                                                        |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Test Laboratory               | Shenzhen EU Testing Laboratory Limited                                                                                 |
| Address                       | 101, Building B1, Fuqiao Fourth Area, Qiaotou Community, Fuhai Subdistrict, Baoan District, Shenzhen, Guangdong, China |
| Designation Number            | CN1368                                                                                                                 |
| Test Firm Registration Number | 952583                                                                                                                 |

## 4 Test Configuration

### 4.1 Test Environment

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

|                            |                         |                                                   |
|----------------------------|-------------------------|---------------------------------------------------|
| Relative Humidity          | 30% to 60%              |                                                   |
| Atmospheric Pressure       | 86 kPa to 106 kPa       |                                                   |
| Temperature                | NT (Normal Temperature) | +15℃ to +35℃                                      |
| Working Voltage of the EUT | NV (Normal Voltage)     | 120VAC, 60Hz for adapter<br>3.7VDC battery inside |

### 4.2 Test Equipment

| Conducted Emission at AC power line  |                 |          |           |            |              |
|--------------------------------------|-----------------|----------|-----------|------------|--------------|
| Equipment                            | Manufacturer    | Model No | Serial No | Cal Date   | Cal Due Date |
| L.I.S.N.<br>Artificial Mains Network | Rohde & Schwarz | ENV216   | EE-004    | 2025/01/08 | 2026/01/07   |
| EMI Test Receiver                    | Rohde & Schwarz | ESCI     | EE-005    | 2025/01/08 | 2026/01/07   |
| Test Software                        | Farad           | EZ-EMC   | EE-014    | N.C.R      | N.C.R        |

| Radiated Emission and RF Test         |                 |              |           |            |               |
|---------------------------------------|-----------------|--------------|-----------|------------|---------------|
| Equipment                             | Manufacturer    | Model No     | Serial No | Cal. Date  | Cal. Due Date |
| EMI Test Receiver                     | ROHDE & SCHWARZ | ESPI         | EE-006    | 2025/01/08 | 2026/01/07    |
| Bilog Broadband Antenna               | SCHWARZBECK     | VULB 9163    | EE-007    | 2023/01/14 | 2026/01/13    |
| Double Ridged Horn Antenna            | A-INFOMW        | LB-10180-NF  | EE-008    | 2023/01/12 | 2026/01/11    |
| Pre-amplifier                         | Agilent         | 8447D        | EE-009    | 2025/01/08 | 2026/01/07    |
| Pre-amplifier                         | Agilent         | 8449B        | EE-010    | 2025/01/08 | 2026/01/07    |
| MXA Signal Analyzer                   | Agilent         | N9020A       | EE-011    | 2025/01/08 | 2026/01/07    |
| MXG RF Vector Signal Generator        | Agilent         | N5182A       | EE-012    | 2025/01/08 | 2026/01/07    |
| Test Software                         | Farad           | EZ-EMC       | EE-015    | N.C.R      | N.C.R         |
| MIMO Power Measurement Module         | TSTPASS         | TSPS 2023R   | EE-016    | 2025/01/08 | 2026/01/07    |
| RF Test Software                      | TSTPASS         | TS32893 V2.0 | EE-017    | N.C.R      | N.C.R         |
| Antenna Mast                          | TOP Precision   | TPBAM-4      | EE-306    | N.C.R      | N.C.R         |
| Wideband Radio Communication Tester   | ROHDE & SCHWARZ | CMW500       | EE-402    | 2025/02/14 | 2026/02/13    |
| Loop Antenna                          | TESEQ           | HLA6121      | EE-403    | 2025/02/14 | 2026/02/13    |
| MXG RF Analog Signal Generator        | Agilent         | N5181A       | EE-406    | 2025/02/14 | 2026/02/13    |
| DRG Horn Antenna                      | SCHWARZBECK     | BBHA 9170    | EE-410    | 2025/02/14 | 2026/02/13    |
| Pre-amplifier                         | SKET            | LNPA-1840-50 | EE-411    | 2025/02/14 | 2026/02/13    |
| Power Meter                           | Anritsu         | ML2495A      | EE-416    | 2025/02/14 | 2026/02/13    |
| Constant Temperature Humidity Chamber | Guangxin        | GXP-401      | ES-002    | 2025/07/29 | 2026/07/28    |

### 4.3 Description of Support Unit

| No. | Title   | Manufacturer | Model No.        | Serial No. |
|-----|---------|--------------|------------------|------------|
| 1   | Adapter | MI           | A232-050200U-CN2 | EMC-PJ-004 |

### 4.4 Test Mode

| No. | Test Modes                      | Description                                                                                 |
|-----|---------------------------------|---------------------------------------------------------------------------------------------|
| TM1 | TX-GFSK (Non-Hopping)           | Keep the EUT in continuously transmitting mode (non-hopping) with GFSK modulation.          |
| TM2 | TX-GFSK (Hopping)               | Keep the EUT in continuously transmitting mode (hopping) with GFSK modulation.              |
| TM3 | TX- $\pi$ /4DQPSK (Non-Hopping) | Keep the EUT in continuously transmitting mode (non-hopping) with $\pi$ /4DQPSK modulation. |
| TM4 | TX- $\pi$ /4DQPSK (Hopping)     | Keep the EUT in continuously transmitting mode (hopping) with $\pi$ /4DQPSK modulation.     |
| TM5 | TX-8DPSK (Non-Hopping)          | Keep the EUT in continuously transmitting mode (non-hopping) with 8DPSK modulation.         |
| TM6 | TX-8DPSK (Hopping)              | Keep the EUT in continuously transmitting mode (hopping) with 8DPSK modulation.             |

### 4.5 Description of Calculation

#### 4.5.1. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS \text{ (dBuV/m)} = RA \text{ (dBuV)} + AF \text{ (dB/m)} + CL \text{ (dB)} - AG \text{ (dB)}$$

|                           |                                            |
|---------------------------|--------------------------------------------|
| Where FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
| RA = Reading Amplitude    | AG = Amplifier Gain                        |
| AF = Antenna Factor       |                                            |

#### 4.5.2. Disturbance Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$CD \text{ (dBuV)} = RA \text{ (dBuV)} + PL \text{ (dB)} + CL \text{ (dB)}$$

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| Where CD = Conducted Disturbance | CL = Cable Attenuation Factor (Cable Loss) |
| RA = Reading Amplitude           | PL = 10 dB Pulse Limiter Factor            |

#### 4.6 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

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

| Test Item                         | Measurement Uncertainty   |
|-----------------------------------|---------------------------|
| Conducted Emission                | 2.64 dB                   |
| Occupied Channel Bandwidth        | 70 kHz                    |
| RF output power, conducted        | 1.04 dB                   |
| Power Spectral Density, conducted | 0.91 dB                   |
| Time of Occupancy (Dwell Time)    | 1.8 %                     |
| Unwanted Emissions, conducted     | 2.72 dB                   |
| Radiated Emission (9kHz- 30MHz)   | Ur = 2.50 dB              |
| Radiated Emission (30MHz- 1GHz)   | Ur = 2.70 dB (Horizontal) |
|                                   | Ur = 2.70 dB (Vertical)   |
| Radiated Emission (1GHz- 18GHz)   | Ur = 3.50 dB (Horizontal) |
|                                   | Ur = 3.50 dB (Vertical)   |
| Radiated Emission (18GHz- 40GHz)  | Ur = 5.15 dB (Horizontal) |
|                                   | Ur = 5.24 dB (Vertical)   |
| Temperature                       | 0.8°C                     |
| Humidity                          | 4%                        |

#### 4.7 Deviation from Standards

None.

#### 4.8 Abnormalities from Standard Condition

None.

## 5 Test Items

### 5.1 Antenna requirement

#### 5.1.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | <p>According to FCC §15.203, 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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.</p> <p>If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.</p> |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

| Protected Method                        | Description                            |
|-----------------------------------------|----------------------------------------|
| The antenna is embedded in the product. | An embedded-in antenna design is used. |

#### 5.1.3 Antenna Gain

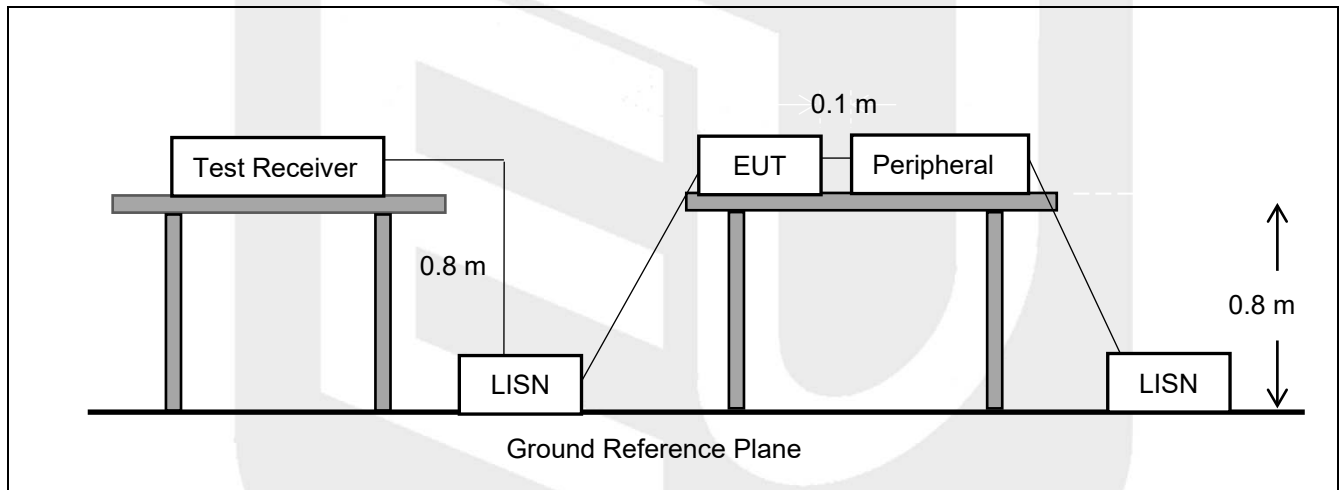
The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

## 5.2 Conducted Emission at AC Power Line

### 5.2.1 Test Requirement

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |           |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------|
| Test Requirement: | Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 ohms line impedance stabilization network (LISN). |                              |           |
| Test Limit        | Frequency of emission (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                          | Conducted limit (dB $\mu$ V) |           |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 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 Method       | Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices.                                                                                                                                                                                                                                                                                                                  |                              |           |

### 5.2.2 Test Setup Diagram



### 5.2.3 Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipment. Both sides of AC line are investigated to find out the maximum conducted emission according to the test standard regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in 150kHz~30MHz.

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

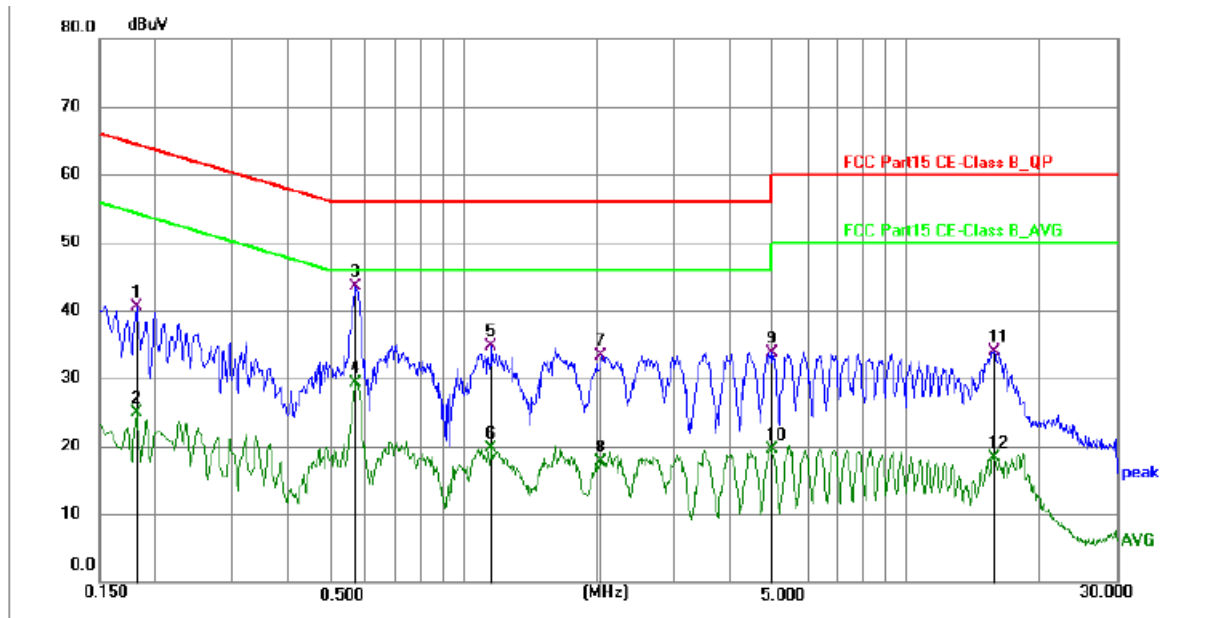
### 5.2.4 Test Data

PASS.

Only the worst case data was showed in the report, please to see the following pages.

### Conducted Emission Test Data

Test Site: Shielded Room #1  
 Test Mode: TM2  
 Comments: Live Line



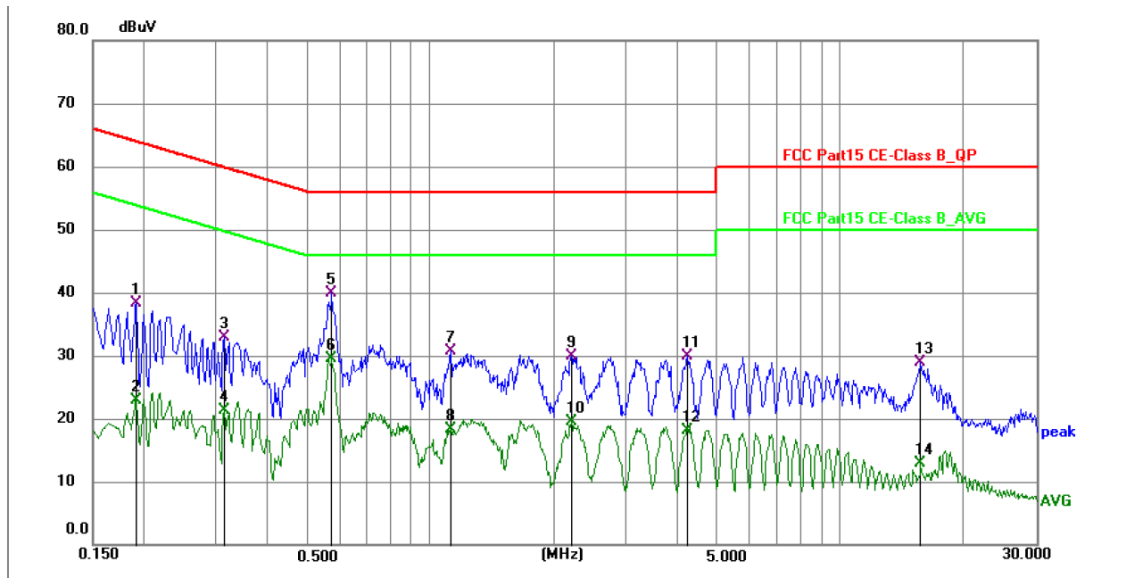
| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.1815          | 30.58          | 9.87        | 40.45        | 64.42        | -23.97      | QP       | P   |        |
| 2   | 0.1815          | 15.08          | 9.87        | 24.95        | 54.42        | -29.47      | AVG      | P   |        |
| 3 * | 0.5670          | 33.57          | 9.92        | 43.49        | 56.00        | -12.51      | QP       | P   |        |
| 4   | 0.5670          | 19.31          | 9.92        | 29.23        | 46.00        | -16.77      | AVG      | P   |        |
| 5   | 1.1534          | 24.85          | 9.94        | 34.79        | 56.00        | -21.21      | QP       | P   |        |
| 6   | 1.1534          | 9.74           | 9.94        | 19.68        | 46.00        | -26.32      | AVG      | P   |        |
| 7   | 2.0549          | 23.44          | 9.92        | 33.36        | 56.00        | -22.64      | QP       | P   |        |
| 8   | 2.0549          | 7.88           | 9.92        | 17.80        | 46.00        | -28.20      | AVG      | P   |        |
| 9   | 4.9519          | 23.77          | 9.95        | 33.72        | 56.00        | -22.28      | QP       | P   |        |
| 10  | 4.9519          | 9.63           | 9.95        | 19.58        | 46.00        | -26.42      | AVG      | P   |        |
| 11  | 15.8014         | 23.88          | 9.96        | 33.84        | 60.00        | -26.16      | QP       | P   |        |
| 12  | 15.8014         | 8.36           | 9.96        | 18.32        | 50.00        | -31.68      | AVG      | P   |        |

Note: Level = Reading + Factor

Margin = Level - Limit

### Conducted Emission Test Data

Test Site: Shielded Room #1  
 Test Mode: TM2  
 Comments: Neutral Line



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|-------------|--------------|--------------|-------------|----------|-----|--------|
| 1   | 0.1905          | 28.35          | 9.88        | 38.23        | 64.01        | -25.78      | QP       | P   |        |
| 2   | 0.1905          | 13.12          | 9.88        | 23.00        | 54.01        | -31.01      | AVG      | P   |        |
| 3   | 0.3120          | 22.99          | 9.89        | 32.88        | 59.92        | -27.04      | QP       | P   |        |
| 4   | 0.3120          | 11.39          | 9.89        | 21.28        | 49.92        | -28.64      | AVG      | P   |        |
| 5 * | 0.5730          | 29.94          | 9.92        | 39.86        | 56.00        | -16.14      | QP       | P   |        |
| 6   | 0.5730          | 19.56          | 9.92        | 29.48        | 46.00        | -16.52      | AVG      | P   |        |
| 7   | 1.1220          | 20.69          | 9.94        | 30.63        | 56.00        | -25.37      | QP       | P   |        |
| 8   | 1.1220          | 8.46           | 9.94        | 18.40        | 46.00        | -27.60      | AVG      | P   |        |
| 9   | 2.2110          | 20.01          | 9.93        | 29.94        | 56.00        | -26.06      | QP       | P   |        |
| 10  | 2.2110          | 9.54           | 9.93        | 19.47        | 46.00        | -26.53      | AVG      | P   |        |
| 11  | 4.2315          | 19.91          | 9.95        | 29.86        | 56.00        | -26.14      | QP       | P   |        |
| 12  | 4.2315          | 8.10           | 9.95        | 18.05        | 46.00        | -27.95      | AVG      | P   |        |
| 13  | 15.6975         | 18.94          | 9.95        | 28.89        | 60.00        | -31.11      | QP       | P   |        |
| 14  | 15.6975         | 2.86           | 9.95        | 12.81        | 50.00        | -37.19      | AVG      | P   |        |

Note: Level = Reading + Factor

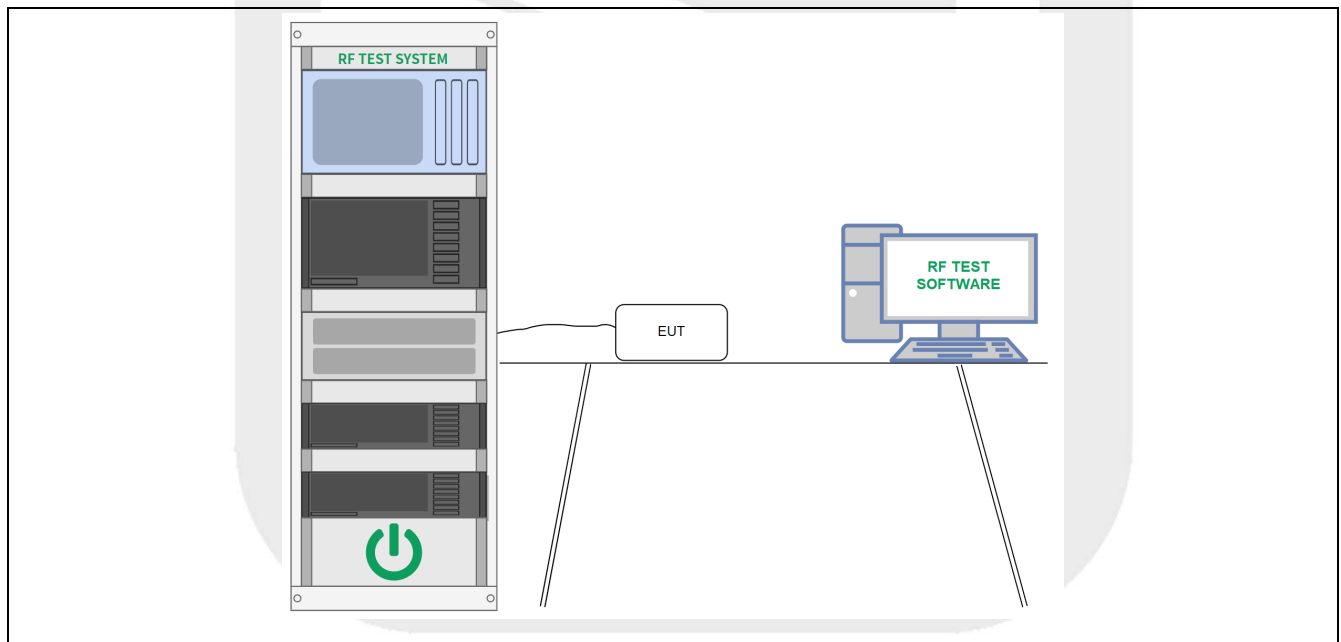
Margin = Level - Limit

## 5.3 Occupied Bandwidth

### 5.3.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. |
| Test Limit:      | Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. |
| Test Method      | ANSI C63.10-2020, section 6.9.2<br>Occupied bandwidth—relative measurement procedure                                                                                                                                                                                                                                                                                                                                                                                         |

### 5.3.2 Test Setup Diagram



### 5.3.3 Test Procedure

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (\text{OBW/RBW})]$  below the reference level. Specific guidance is given in 4.1.5.2.
- d) Steps a) through c) might require iteration to adjust within the specified tolerances.
- e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.
- f) Set detection mode to peak and trace mode to maxhold.
- g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- h) Determine the “-xx dB down amplitude” using  $[(\text{reference value}) - \text{xx}]$ . Alternatively, this calculation may be made by using the marker-delta function of the instrument.
- i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).
- j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.
- k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

### 5.3.4 Test Data

PASS.

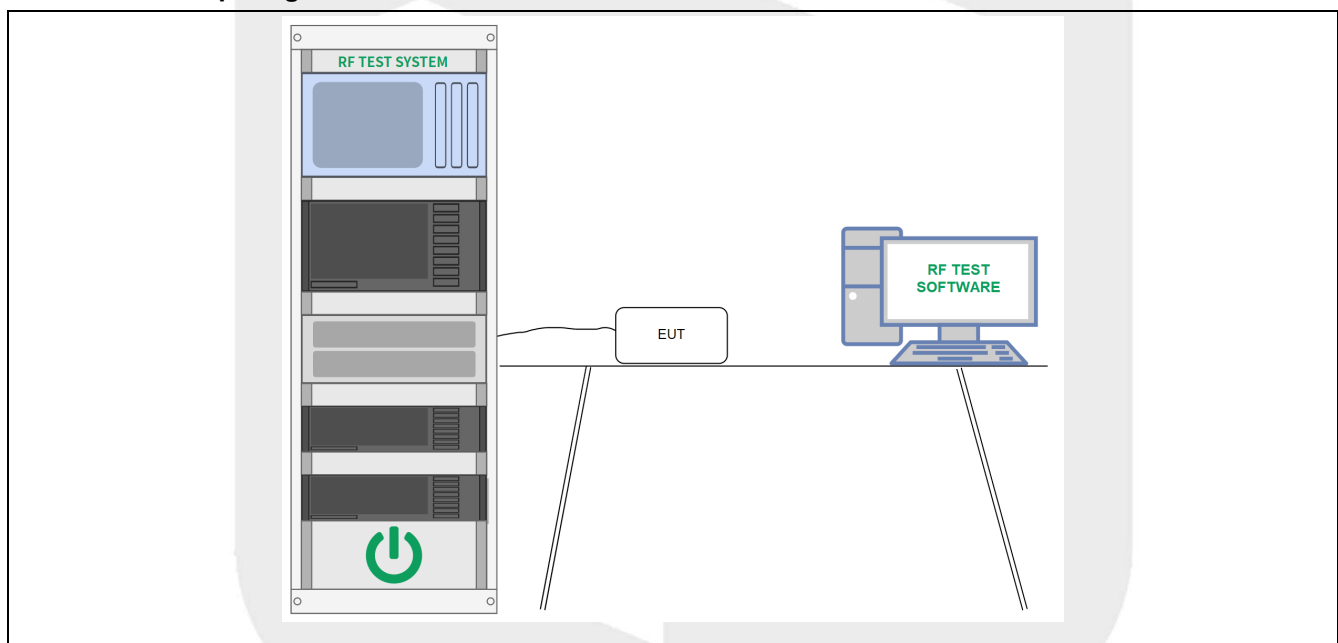
Please refer to Annex D for details.

## 5.4 Maximum Conducted Output Power

### 5.4.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                    |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts. |
| Test Limit:      | For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts. |
| Test Method      | ANSI C63.10-2020, section 7.8.5<br>Output power test procedure for frequency-hopping spread-spectrum (FHSS) devices                                                                                                                                                                |

### 5.4.2 Test Setup Diagram



### 5.4.3 Test Procedure

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation.

The hopping shall be disabled for this test:

a) Use the following spectrum analyzer settings:

- 1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 2) RBW > 20 dB bandwidth of the emission being measured.
- 3) VBW  $\geq$  RBW.
- 4) Sweep: Auto.
- 5) Detector function: Peak.
- 6) Trace: Max hold.

b) Allow trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission.

d) The indicated level is the peak output power, after any corrections for external attenuators and cables.

A plot of the test results and setup description shall be included in the test report. NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.

#### 5.4.4 Test Data

PASS.

Please refer to Annex D for details.

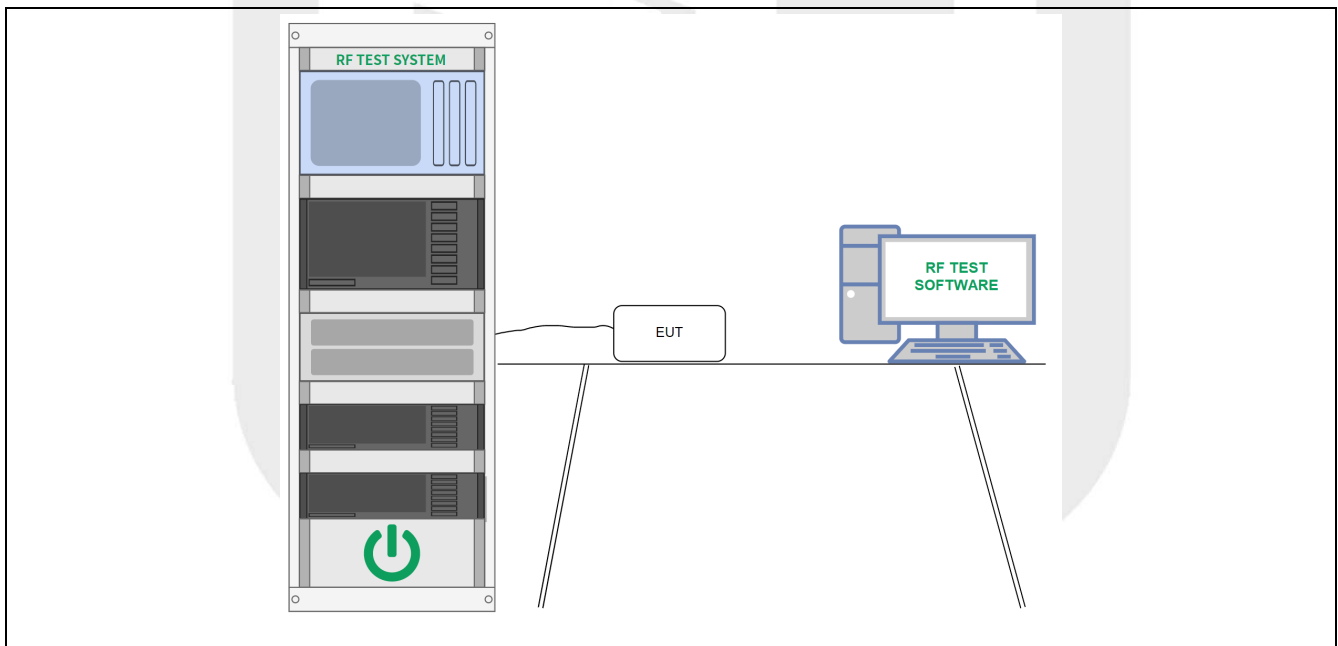


## 5.5 Carrier Frequency Separation

### 5.5.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. |
| Test Limit:      | Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. |
| Test Method      | ANSI C63.10-2020, section 7.8.2<br>Carrier frequency separation                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### 5.5.2 Test Setup Diagram



### 5.5.3 Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- Span: Wide enough to capture the peaks of two adjacent channels.
- RBW: Start with the RBW set to approximately 30% of the channelspacing; adjust as necessary to best identify the center of each individual channel.
- Video (or average) bandwidth (VBW)  $\geq$  RBW.
- Sweep: Auto.
- Detector function: Peak.
- Trace: Max hold.
- Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A plot of the data shall be included in the test report.

#### 5.5.4 Test Data

PASS.

Please refer to Annex D for details.



## 5.6 Pseudorandom Frequency Hopping Sequence

### 5.6.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | <p>For 47 CFR Part 15C § 15.247 (a) (1) requirement:</p> <p>The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hop-ping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.</p> |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 5.6.2 EUT Pseudorandom Frequency Hopping Sequence Requirement

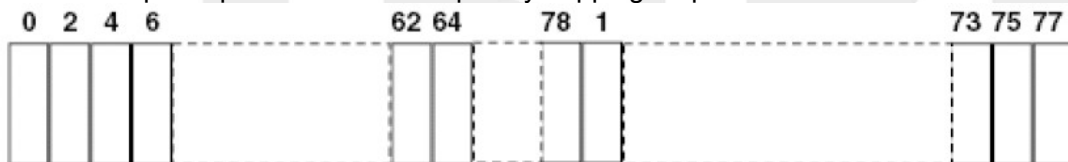
The pseudorandom frequency hopping sequence may be generated in a nine-stage shift register whose 5th first stage. The sequence begins with the first one of 9 consecutive ones, for example: the shift register is initialized with nine ones.

- Number of shift register stages:9
- Length of pseudo-random sequence:29-1=511 bits
- Longest sequence of zeros:8(non-inverted signal)



*Linear Feedback Shift Register for Generation of the PRBS sequence*

An example of pseudorandom frequency hopping sequence as follows:



Each frequency used equally one the average by each transmitter.

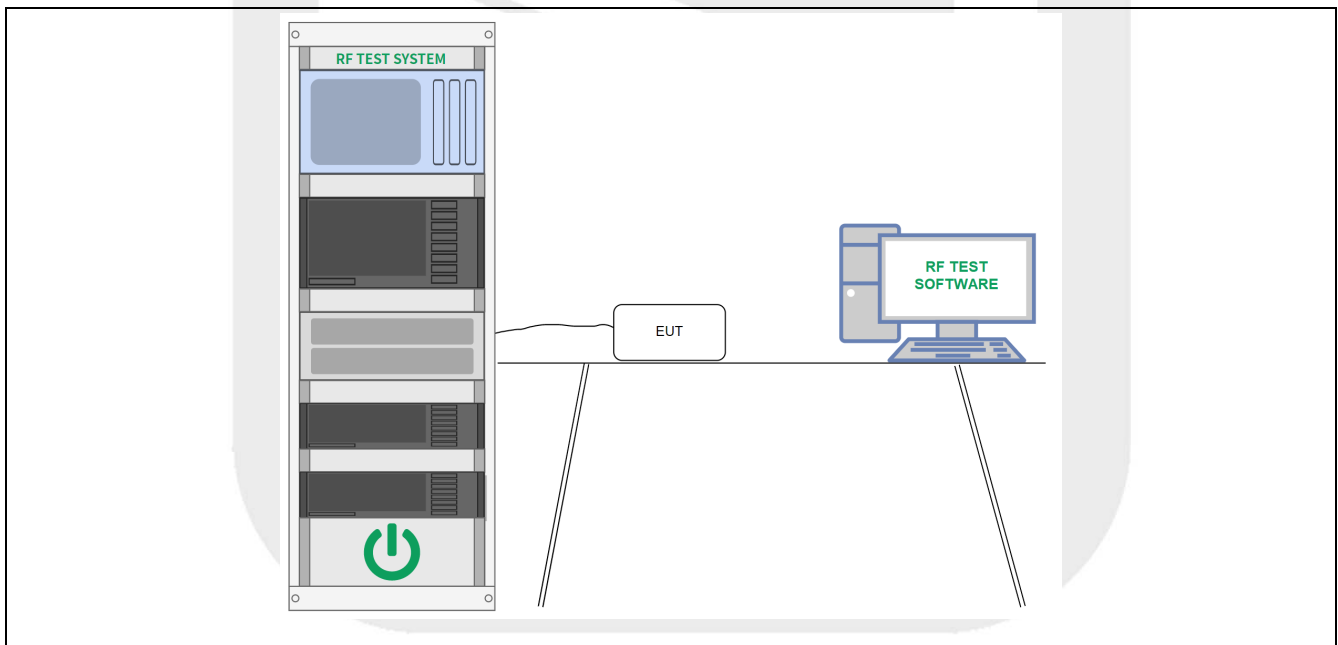
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitter and shift frequencies in synchronization with the transmitted signals.

## 5.7 Number of Hopping Frequencies

### 5.7.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. |
| Test Limit:      | Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. |
| Test Method      | ANSI C63.10-2020, section 7.8.3<br>Number of hopping frequencies                                                                                                                                                                                                                                                                                                                                                |

### 5.7.2 Test Setup Diagram



### 5.7.3 Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
- RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
- VBW  $\geq$  RBW.
- Sweep: Auto.
- Detector function: Peak.
- Trace: Max hold.
- Allow the trace to stabilize.

It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A plot of the data shall be included in the test report.

#### 5.7.4 Test Data

PASS.

Please refer to Annex D for details.

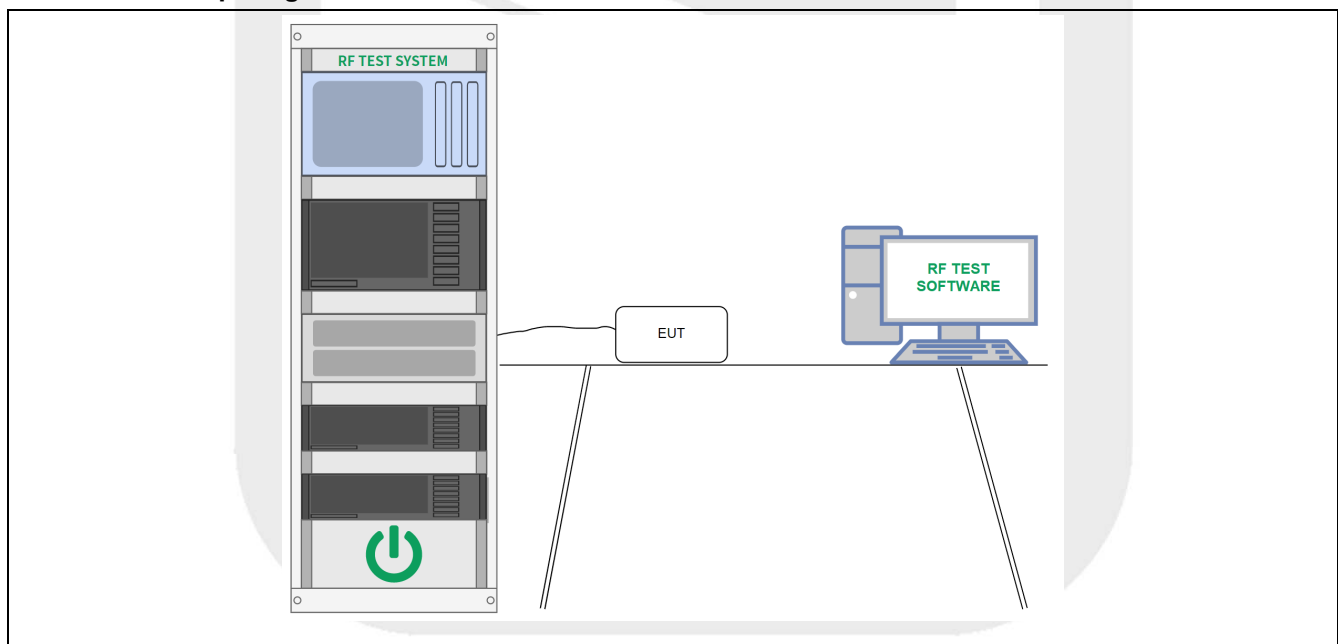


## 5.8 Time of Occupancy (Dwell Time)

### 5.8.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. |
| Test Limit:      | Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. |
| Test Method      | ANSI C63.10-2020, section 7.8.4<br>Time of occupancy (dwell time)                                                                                                                                                                                                                                                                                                                                               |

### 5.8.2 Test Setup Diagram



### 5.8.3 Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- Span: Zero span, centered on a hopping channel.
- RBW shall be  $\leq$  channel spacing and where possible RBW should be set  $\gg 1/T$ , where T is the expected dwell time per channel.
- Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
- Detector function: Peak.
- Trace: Max hold.

Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

Repeat the measurement using a longer sweep time to determine the number of hops over the period specified in the requirements. The sweep time shall be equal to, or less than, the period specified in the requirements. Determine the number of hops over the sweep time and calculate the total number of hops in the period specified in the requirements, using the following equation:

(Number of hops in the period specified in the requirements) =

(number of hops on spectrum analyzer) × (period specified in the requirements / analyzer sweep time)

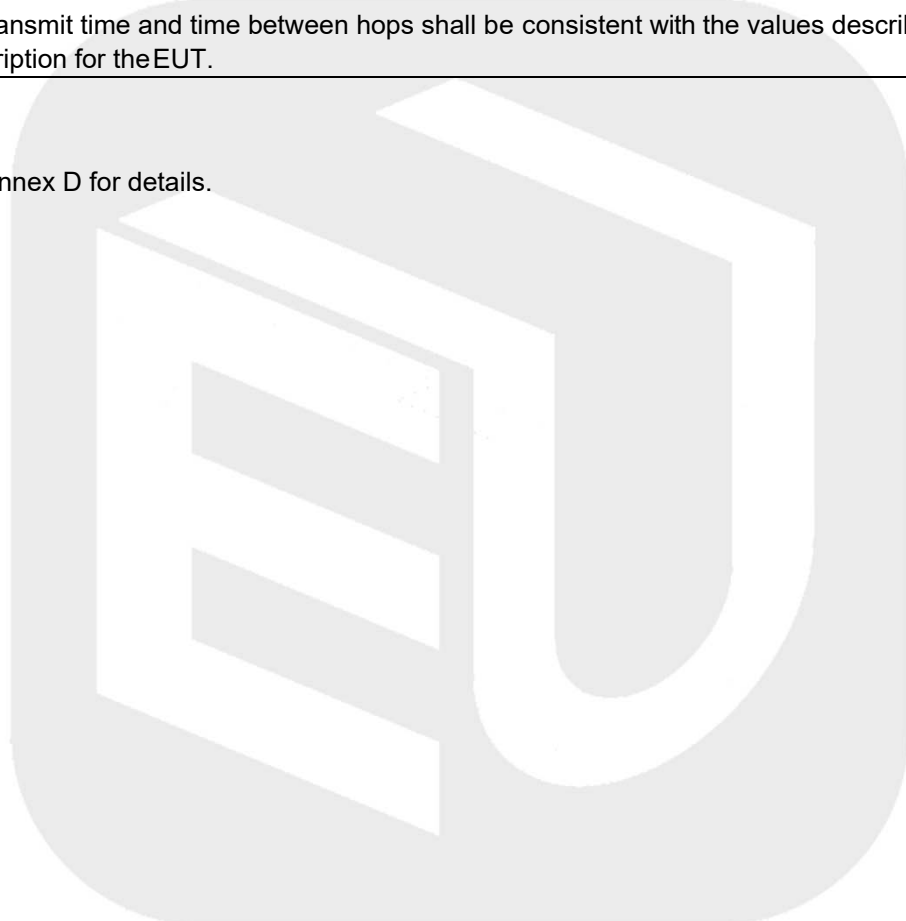
The average time of occupancy is calculated from the transmit time per hop multiplied by the number of hops in the period specified in the requirements. If the number of hops in a specific time varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation.

The measured transmit time and time between hops shall be consistent with the values described in the operational description for the EUT.

#### 5.8.4 Test Data

PASS.

Please refer to Annex D for details.

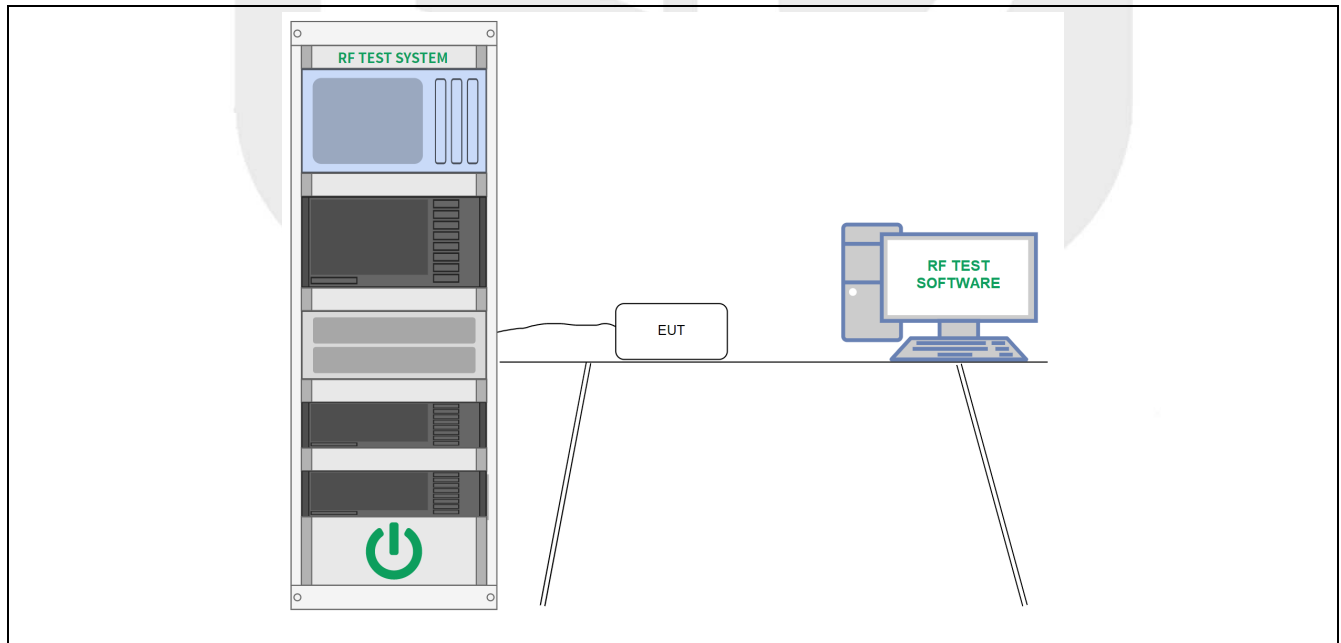


## 5.9 Emissions in Non-restricted Frequency Bands (Conducted)

### 5.9.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. |
| Test Limit:      | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. |
| Test Method      | ANSI C63.10-2020 Section 11.11<br>Emission in non-restricted frequency bands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

### 5.9.2 Test Setup Diagram



### 5.9.3 Test Procedure

- Establish a reference level by using the following procedure:
- Set instrument center frequency to DTS channel center frequency.
  - Set the span to  $\geq 1.5$  times the DTS bandwidth.
  - Set the RBW = 100 kHz.

- d) Set the VBW  $\geq [3 \times \text{RBW}]$ .
  - e) Detector = peak.
  - f) Sweep time = No faster than coupled (auto) time.
  - g) Trace mode = max-hold.
  - h) Allow trace to fully stabilize.
  - i) Use the peak marker function to determine the maximum PSD level.
- Note that the channel found to contain the maximum PSD level can be used to establish the reference level

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- b) Set the RBW = 100 kHz.
- c) Set the VBW  $\geq [3 \times \text{RBW}]$ .
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- f) Trace mode = max-hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

#### 5.9.4 Test Data

PASS.

Please refer to Annex D for details.

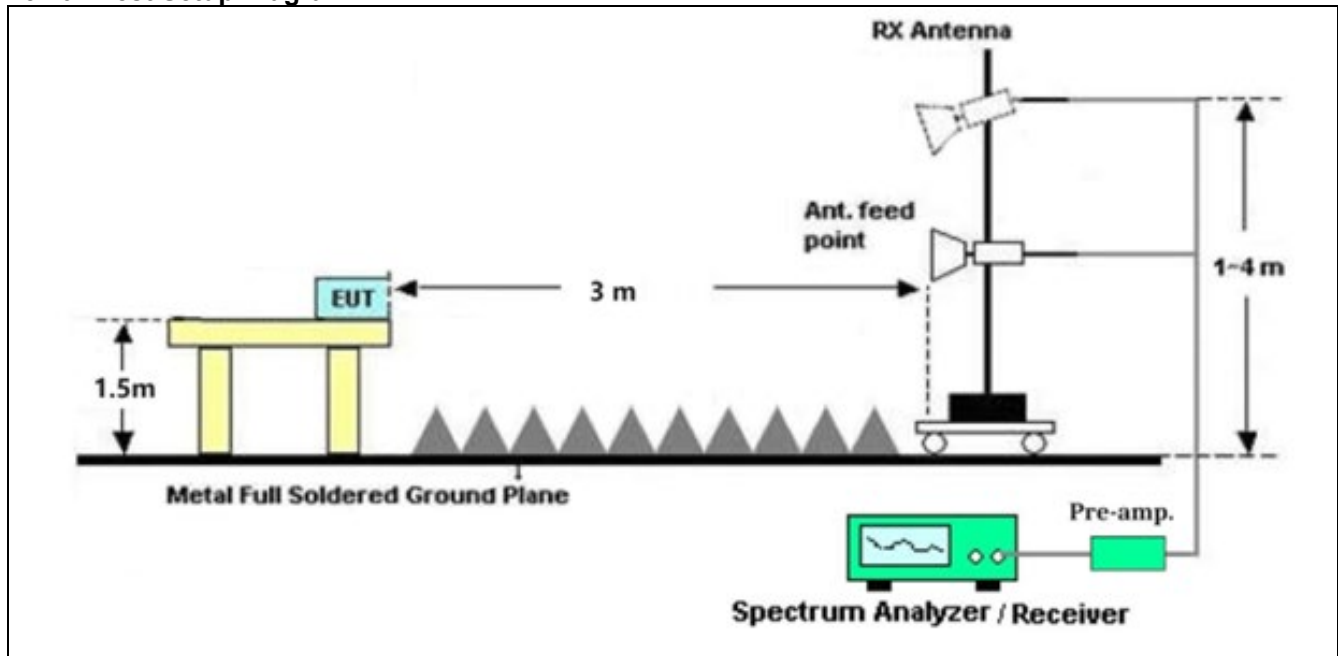
## 5.10 Band Edge Emissions (Restricted frequency bands)

### 5.10.1 Test Requirement

| Test Requirement                                                                                                                                                                                                                                                                                                                                                                                                | In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|---------------|-----------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|-------------------|----------------|---------------------|---------------------|---------------|----------------|---------------------|---------------------|--------------|--------------|-----------|-------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------|-----------------------|---------------|-------------------|----------------|-----------|-------------|-------------|-----------|------------|---------------|-----------------|-------------|-----------------|-------------|-------------|---------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|-----------|-------------|--------------|--------------|--------------|-------------|---------------|-------------|-------------|--------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                 | Frequency (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Field strength (microvolts/meter) | Measurement distance (meters) |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.009-0.490                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2400/F(kHz)                       | 300                           |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.490-1.705                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24000/F(kHz)                      | 30                            |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.705-30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30                                | 30                            |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 30-88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100 **                            | 3                             |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 88-216                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 150 **                            | 3                             |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 216-960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 200 **                            | 3                             |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | Above 960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 500                               | 3                             |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | Restricted frequency bands:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| Test Limit                                                                                                                                                                                                                                                                                                                                                                                                      | <table><thead><tr><th>MHz</th></tr></thead><tbody><tr><td>0.090 - 0.110</td></tr><tr><td>0.495 - 0.505</td></tr><tr><td>2.1735 - 2.1905</td></tr><tr><td>3.020 - 3.026</td></tr><tr><td>4.125 - 4.128</td></tr><tr><td>4.17725 - 4.17775</td></tr><tr><td>4.20725 - 4.20775</td></tr><tr><td>5.677 - 5.683</td></tr><tr><td>6.215 - 6.218</td></tr><tr><td>6.26775 - 6.26825</td></tr><tr><td>6.31175 - 6.31225</td></tr><tr><td>8.291 - 8.294</td></tr><tr><td>8.362 - 8.366</td></tr><tr><td>8.37625 - 8.38675</td></tr><tr><td>8.41425 - 8.41475</td></tr><tr><td>12.29 - 12.293</td></tr><tr><td>12.51975 - 12.52025</td></tr><tr><td>12.57675 - 12.57725</td></tr><tr><td>13.36 - 13.41</td></tr><tr><td>16.42 - 16.423</td></tr><tr><td>16.69475 - 16.69525</td></tr><tr><td>16.80425 - 16.80475</td></tr><tr><td>25.5 - 25.67</td></tr><tr><td>37.5 - 38.25</td></tr><tr><td>73 - 74.6</td></tr><tr><td>74.8 - 75.2</td></tr><tr><td>108 - 138</td></tr></tbody></table> | MHz                               | 0.090 - 0.110                 | 0.495 - 0.505 | 2.1735 - 2.1905 | 3.020 - 3.026 | 4.125 - 4.128 | 4.17725 - 4.17775 | 4.20725 - 4.20775 | 5.677 - 5.683 | 6.215 - 6.218 | 6.26775 - 6.26825 | 6.31175 - 6.31225 | 8.291 - 8.294 | 8.362 - 8.366 | 8.37625 - 8.38675 | 8.41425 - 8.41475 | 12.29 - 12.293 | 12.51975 - 12.52025 | 12.57675 - 12.57725 | 13.36 - 13.41 | 16.42 - 16.423 | 16.69475 - 16.69525 | 16.80425 - 16.80475 | 25.5 - 25.67 | 37.5 - 38.25 | 73 - 74.6 | 74.8 - 75.2 | 108 - 138 | <table><thead><tr><th>MHz</th></tr></thead><tbody><tr><td>149.9 - 150.05</td></tr><tr><td>156.52475 - 156.52525</td></tr><tr><td>156.7 - 156.9</td></tr><tr><td>162.0125 - 167.17</td></tr><tr><td>167.72 - 173.2</td></tr><tr><td>240 - 285</td></tr><tr><td>322 - 335.4</td></tr><tr><td>399.9 - 410</td></tr><tr><td>608 - 614</td></tr><tr><td>960 - 1427</td></tr><tr><td>1435 - 1626.5</td></tr><tr><td>1645.5 - 1646.5</td></tr><tr><td>1660 - 1710</td></tr><tr><td>1718.8 - 1722.2</td></tr><tr><td>2200 - 2300</td></tr><tr><td>2310 - 2390</td></tr><tr><td>2483.5 - 2500</td></tr><tr><td>2655 - 2900</td></tr><tr><td>3260 - 3267</td></tr><tr><td>3332 - 3339</td></tr><tr><td>3345.8 - 3358</td></tr><tr><td>3500 - 4400</td></tr><tr><td>4500 - 5150</td></tr><tr><td>5350 - 5460</td></tr><tr><td>7250 - 7750</td></tr><tr><td>8025 - 8500</td></tr><tr><td>--</td></tr></tbody></table> | MHz | 149.9 - 150.05 | 156.52475 - 156.52525 | 156.7 - 156.9 | 162.0125 - 167.17 | 167.72 - 173.2 | 240 - 285 | 322 - 335.4 | 399.9 - 410 | 608 - 614 | 960 - 1427 | 1435 - 1626.5 | 1645.5 - 1646.5 | 1660 - 1710 | 1718.8 - 1722.2 | 2200 - 2300 | 2310 - 2390 | 2483.5 - 2500 | 2655 - 2900 | 3260 - 3267 | 3332 - 3339 | 3345.8 - 3358 | 3500 - 4400 | 4500 - 5150 | 5350 - 5460 | 7250 - 7750 | 8025 - 8500 | -- | <table><thead><tr><th>GHz</th></tr></thead><tbody><tr><td>9.0 - 9.2</td></tr><tr><td>9.3 - 9.5</td></tr><tr><td>10.6 - 12.7</td></tr><tr><td>13.25 - 13.4</td></tr><tr><td>14.47 - 14.5</td></tr><tr><td>15.35 - 16.2</td></tr><tr><td>17.7 - 21.4</td></tr><tr><td>22.01 - 23.12</td></tr><tr><td>23.6 - 24.0</td></tr><tr><td>31.2 - 31.8</td></tr><tr><td>36.43 - 36.5</td></tr><tr><td>Above 38.6</td></tr></tbody></table> <p>* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.</p> | GHz | 9.0 - 9.2 | 9.3 - 9.5 | 10.6 - 12.7 | 13.25 - 13.4 | 14.47 - 14.5 | 15.35 - 16.2 | 17.7 - 21.4 | 22.01 - 23.12 | 23.6 - 24.0 | 31.2 - 31.8 | 36.43 - 36.5 | Above 38.6 |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.090 - 0.110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.495 - 0.505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 2.1735 - 2.1905                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.020 - 3.026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 4.125 - 4.128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 4.17725 - 4.17775                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 4.20725 - 4.20775                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 5.677 - 5.683                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.215 - 6.218                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.26775 - 6.26825                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.31175 - 6.31225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.291 - 8.294                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.362 - 8.366                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.37625 - 8.38675                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.41425 - 8.41475                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 12.29 - 12.293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 12.51975 - 12.52025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 12.57675 - 12.57725                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 13.36 - 13.41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 16.42 - 16.423                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 16.69475 - 16.69525                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 16.80425 - 16.80475                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 25.5 - 25.67                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 37.5 - 38.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 73 - 74.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 74.8 - 75.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | 108 - 138                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 149.9 - 150.05                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 156.52475 - 156.52525                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 156.7 - 156.9                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 162.0125 - 167.17                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 167.72 - 173.2                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 240 - 285                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 322 - 335.4                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 399.9 - 410                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 608 - 614                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 960 - 1427                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 1435 - 1626.5                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 1645.5 - 1646.5                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 1660 - 1710                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 1718.8 - 1722.2                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 2200 - 2300                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 2310 - 2390                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 2483.5 - 2500                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 2655 - 2900                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 3260 - 3267                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 3332 - 3339                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 3345.8 - 3358                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 3500 - 4400                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 4500 - 5150                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 5350 - 5460                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 7250 - 7750                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 8025 - 8500                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
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| GHz                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 9.0 - 9.2                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 9.3 - 9.5                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 10.6 - 12.7                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 13.25 - 13.4                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 14.47 - 14.5                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 15.35 - 16.2                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 17.7 - 21.4                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 22.01 - 23.12                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 23.6 - 24.0                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 31.2 - 31.8                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| 36.43 - 36.5                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| Above 38.6                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |
| <p>Note:</p> <p>1) Field Strength (dBµV/m) = 20*log[Field Strength (µV/m)].</p> <p>2) In the emission tables above, the tighter limit applies at the band edges.</p> <p>3) For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |               |                 |               |               |                   |                   |               |               |                   |                   |               |               |                   |                   |                |                     |                     |               |                |                     |                     |              |              |           |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                |                       |               |                   |                |           |             |             |           |            |               |                 |             |                 |             |             |               |             |             |             |               |             |             |             |             |             |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |           |             |              |              |              |             |               |             |             |              |            |

|             |                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|             | maximum permitted average limit.<br>4) For above 1000 MHz, limit field strength of harmonics:<br>54dBuV/m@3m (AV) and 74dBuV/m@3m (PK). |
| Test Method | ANSI C63.10-2020 section 6.6.4                                                                                                          |

#### 5.10.2 Test Setup Diagram



#### 5.10.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for  $f \geq 1$  GHz, 100 kHz for  $f < 1$  GHz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold.

#### 5.10.4 Test Data

PASS.

Please refer to the following pages.

**Left Ear:**
**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: GFSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H               | 2310.00         | 44.80          | -2.81         | 41.99                   | 74.00            | -32.01      | PK            | PASS   |
| H               | 2390.00         | 48.09          | -2.69         | 45.40                   | 74.00            | -28.60      | PK            | PASS   |
| H               | **2400.00       | 61.03          | -2.68         | 58.35                   | 74.00            | -15.65      | PK            | PASS   |
| V               | 2310.00         | 45.07          | -2.81         | 42.26                   | 74.00            | -31.74      | PK            | PASS   |
| V               | 2390.00         | 45.10          | -2.69         | 42.41                   | 74.00            | -31.59      | PK            | PASS   |
| V               | **2400.00       | 62.05          | -2.68         | 59.37                   | 74.00            | -14.63      | PK            | PASS   |
| H               | 2310.00         | 34.30          | -2.81         | 31.49                   | 54.00            | -22.51      | AV            | PASS   |
| H               | 2390.00         | 36.18          | -2.69         | 33.49                   | 54.00            | -20.51      | AV            | PASS   |
| H               | **2400.00       | 48.10          | -2.68         | 45.42                   | 54.00            | -8.58       | AV            | PASS   |
| V               | 2310.00         | 31.49          | -2.81         | 28.68                   | 54.00            | -25.32      | AV            | PASS   |
| V               | 2390.00         | 34.14          | -2.69         | 31.45                   | 54.00            | -22.55      | AV            | PASS   |
| V               | **2400.00       | 48.42          | -2.68         | 45.74                   | 54.00            | -8.26       | AV            | PASS   |

| Test Mode: GFSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H               | **2483.50       | 46.25          | -2.56         | 43.69                   | 74.00             | -30.31      | PK            | PASS   |
| H               | 2500.00         | 49.87          | -2.54         | 47.33                   | 74.00             | -26.67      | PK            | PASS   |
| V               | **2483.50       | 47.55          | -2.56         | 44.99                   | 74.00             | -29.01      | PK            | PASS   |
| V               | 2500.00         | 49.56          | -2.54         | 47.02                   | 74.00             | -26.98      | PK            | PASS   |
| H               | **2483.50       | 36.92          | -2.56         | 34.36                   | 54.00             | -19.64      | AV            | PASS   |
| H               | 2500.00         | 40.09          | -2.54         | 37.55                   | 54.00             | -16.45      | AV            | PASS   |
| V               | **2483.50       | 36.61          | -2.56         | 34.05                   | 54.00             | -19.95      | AV            | PASS   |
| V               | 2500.00         | 41.46          | -2.54         | 38.92                   | 54.00             | -15.08      | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: $\pi/4$ DQPSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|--------------------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.                     | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H                        | 2310.00         | 43.72          | -2.81         | 40.91                   | 74.00            | -33.09      | PK            | PASS   |
| H                        | 2390.00         | 47.26          | -2.69         | 44.57                   | 74.00            | -29.43      | PK            | PASS   |
| H                        | **2400.00       | 60.88          | -2.68         | 58.20                   | 74.00            | -15.80      | PK            | PASS   |
| V                        | 2310.00         | 44.38          | -2.81         | 41.57                   | 74.00            | -32.43      | PK            | PASS   |
| V                        | 2390.00         | 46.19          | -2.69         | 43.50                   | 74.00            | -30.50      | PK            | PASS   |
| V                        | **2400.00       | 64.04          | -2.68         | 61.36                   | 74.00            | -12.64      | PK            | PASS   |
| H                        | 2310.00         | 34.86          | -2.81         | 32.05                   | 54.00            | -21.95      | AV            | PASS   |
| H                        | 2390.00         | 37.41          | -2.69         | 34.72                   | 54.00            | -19.28      | AV            | PASS   |
| H                        | **2400.00       | 48.68          | -2.68         | 46.00                   | 54.00            | -8.00       | AV            | PASS   |
| V                        | 2310.00         | 32.89          | -2.81         | 30.08                   | 54.00            | -23.92      | AV            | PASS   |
| V                        | 2390.00         | 37.04          | -2.69         | 34.35                   | 54.00            | -19.65      | AV            | PASS   |
| V                        | **2400.00       | 48.36          | -2.68         | 45.68                   | 54.00            | -8.32       | AV            | PASS   |

| Test Mode: $\pi/4$ DQPSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|--------------------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.                     | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H                        | **2483.50       | 45.51          | -2.56         | 42.95                   | 74.00             | -31.05      | PK            | PASS   |
| H                        | 2500.00         | 48.23          | -2.54         | 45.69                   | 74.00             | -28.31      | PK            | PASS   |
| V                        | **2483.50       | 47.97          | -2.56         | 45.41                   | 74.00             | -28.59      | PK            | PASS   |
| V                        | 2500.00         | 48.22          | -2.54         | 45.68                   | 74.00             | -28.32      | PK            | PASS   |
| H                        | **2483.50       | 36.11          | -2.56         | 33.55                   | 54.00             | -20.45      | AV            | PASS   |
| H                        | 2500.00         | 41.72          | -2.54         | 39.18                   | 54.00             | -14.82      | AV            | PASS   |
| V                        | **2483.50       | 36.83          | -2.56         | 34.27                   | 54.00             | -19.73      | AV            | PASS   |
| V                        | 2500.00         | 39.26          | -2.54         | 36.72                   | 54.00             | -17.28      | AV            | PASS   |

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: 8DPSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|------------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.             | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H                | 2310.00         | 44.37          | -2.81         | 41.56                   | 74.00            | -32.44      | PK            | PASS   |
| H                | 2390.00         | 45.20          | -2.69         | 42.51                   | 74.00            | -31.49      | PK            | PASS   |
| H                | **2400.00       | 62.51          | -2.68         | 59.83                   | 74.00            | -14.17      | PK            | PASS   |
| V                | 2310.00         | 44.51          | -2.81         | 41.70                   | 74.00            | -32.30      | PK            | PASS   |
| V                | 2390.00         | 47.54          | -2.69         | 44.85                   | 74.00            | -29.15      | PK            | PASS   |
| V                | **2400.00       | 61.48          | -2.68         | 58.80                   | 74.00            | -15.20      | PK            | PASS   |
| H                | 2310.00         | 34.82          | -2.81         | 32.01                   | 54.00            | -21.99      | AV            | PASS   |
| H                | 2390.00         | 35.15          | -2.69         | 32.46                   | 54.00            | -21.54      | AV            | PASS   |
| H                | **2400.00       | 47.81          | -2.68         | 45.13                   | 54.00            | -8.87       | AV            | PASS   |
| V                | 2310.00         | 31.17          | -2.81         | 28.36                   | 54.00            | -25.64      | AV            | PASS   |
| V                | 2390.00         | 37.77          | -2.69         | 35.08                   | 54.00            | -18.92      | AV            | PASS   |
| V                | **2400.00       | 49.03          | -2.68         | 46.35                   | 54.00            | -7.65       | AV            | PASS   |

| Test Mode: 8DPSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|------------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.             | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H                | **2483.50       | 47.35          | -2.56         | 44.79                   | 74.00             | -29.21      | PK            | PASS   |
| H                | 2500.00         | 49.43          | -2.54         | 46.89                   | 74.00             | -27.11      | PK            | PASS   |
| V                | **2483.50       | 46.45          | -2.56         | 43.89                   | 74.00             | -30.11      | PK            | PASS   |
| V                | 2500.00         | 48.18          | -2.54         | 45.64                   | 74.00             | -28.36      | PK            | PASS   |
| H                | **2483.50       | 39.04          | -2.56         | 36.48                   | 54.00             | -17.52      | AV            | PASS   |
| H                | 2500.00         | 39.67          | -2.54         | 37.13                   | 54.00             | -16.87      | AV            | PASS   |
| V                | **2483.50       | 39.26          | -2.56         | 36.70                   | 54.00             | -17.30      | AV            | PASS   |
| V                | 2500.00         | 38.17          | -2.54         | 35.63                   | 54.00             | -18.37      | AV            | PASS   |

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

**Right Ear:**
**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: GFSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H               | 2310.00         | 44.03          | -2.81         | 41.22                   | 74.00            | -32.78      | PK            | PASS   |
| H               | 2390.00         | 46.29          | -2.69         | 43.60                   | 74.00            | -30.40      | PK            | PASS   |
| H               | **2400.00       | 63.45          | -2.68         | 60.77                   | 74.00            | -13.23      | PK            | PASS   |
| V               | 2310.00         | 44.98          | -2.81         | 42.17                   | 74.00            | -31.83      | PK            | PASS   |
| V               | 2390.00         | 47.50          | -2.69         | 44.81                   | 74.00            | -29.19      | PK            | PASS   |
| V               | **2400.00       | 61.04          | -2.68         | 58.36                   | 74.00            | -15.64      | PK            | PASS   |
| H               | 2310.00         | 34.76          | -2.81         | 31.95                   | 54.00            | -22.05      | AV            | PASS   |
| H               | 2390.00         | 35.00          | -2.69         | 32.31                   | 54.00            | -21.69      | AV            | PASS   |
| H               | **2400.00       | 49.28          | -2.68         | 46.60                   | 54.00            | -7.40       | AV            | PASS   |
| V               | 2310.00         | 33.29          | -2.81         | 30.48                   | 54.00            | -23.52      | AV            | PASS   |
| V               | 2390.00         | 36.70          | -2.69         | 34.01                   | 54.00            | -19.99      | AV            | PASS   |
| V               | **2400.00       | 47.93          | -2.68         | 45.25                   | 54.00            | -8.75       | AV            | PASS   |

| Test Mode: GFSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H               | **2483.50       | 48.30          | -2.56         | 45.74                   | 74.00             | -28.26      | PK            | PASS   |
| H               | 2500.00         | 51.28          | -2.54         | 48.74                   | 74.00             | -25.26      | PK            | PASS   |
| V               | **2483.50       | 48.41          | -2.56         | 45.85                   | 74.00             | -28.15      | PK            | PASS   |
| V               | 2500.00         | 50.31          | -2.54         | 47.77                   | 74.00             | -26.23      | PK            | PASS   |
| H               | **2483.50       | 38.66          | -2.56         | 36.10                   | 54.00             | -17.90      | AV            | PASS   |
| H               | 2500.00         | 40.17          | -2.54         | 37.63                   | 54.00             | -16.37      | AV            | PASS   |
| V               | **2483.50       | 38.56          | -2.56         | 36.00                   | 54.00             | -18.00      | AV            | PASS   |
| V               | 2500.00         | 41.21          | -2.54         | 38.67                   | 54.00             | -15.33      | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: $\pi/4$ DQPSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|--------------------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.                     | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H                        | 2310.00         | 43.05          | -2.81         | 40.24                   | 74.00            | -33.76      | PK            | PASS   |
| H                        | 2390.00         | 45.61          | -2.69         | 42.92                   | 74.00            | -31.08      | PK            | PASS   |
| H                        | **2400.00       | 63.80          | -2.68         | 61.12                   | 74.00            | -12.88      | PK            | PASS   |
| V                        | 2310.00         | 42.97          | -2.81         | 40.16                   | 74.00            | -33.84      | PK            | PASS   |
| V                        | 2390.00         | 46.79          | -2.69         | 44.10                   | 74.00            | -29.90      | PK            | PASS   |
| V                        | **2400.00       | 62.11          | -2.68         | 59.43                   | 74.00            | -14.57      | PK            | PASS   |
| H                        | 2310.00         | 31.19          | -2.81         | 28.38                   | 54.00            | -25.62      | AV            | PASS   |
| H                        | 2390.00         | 34.87          | -2.69         | 32.18                   | 54.00            | -21.82      | AV            | PASS   |
| H                        | **2400.00       | 46.10          | -2.68         | 43.42                   | 54.00            | -10.58      | AV            | PASS   |
| V                        | 2310.00         | 32.35          | -2.81         | 29.54                   | 54.00            | -24.46      | AV            | PASS   |
| V                        | 2390.00         | 36.47          | -2.69         | 33.78                   | 54.00            | -20.22      | AV            | PASS   |
| V                        | **2400.00       | 47.96          | -2.68         | 45.28                   | 54.00            | -8.72       | AV            | PASS   |

| Test Mode: $\pi/4$ DQPSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|--------------------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.                     | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H                        | **2483.50       | 47.11          | -2.56         | 44.55                   | 74.00             | -29.45      | PK            | PASS   |
| H                        | 2500.00         | 49.19          | -2.54         | 46.65                   | 74.00             | -27.35      | PK            | PASS   |
| V                        | **2483.50       | 47.93          | -2.56         | 45.37                   | 74.00             | -28.63      | PK            | PASS   |
| V                        | 2500.00         | 49.43          | -2.54         | 46.89                   | 74.00             | -27.11      | PK            | PASS   |
| H                        | **2483.50       | 38.42          | -2.56         | 35.86                   | 54.00             | -18.14      | AV            | PASS   |
| H                        | 2500.00         | 38.96          | -2.54         | 36.42                   | 54.00             | -17.58      | AV            | PASS   |
| V                        | **2483.50       | 36.13          | -2.56         | 33.57                   | 54.00             | -20.43      | AV            | PASS   |
| V                        | 2500.00         | 38.69          | -2.54         | 36.15                   | 54.00             | -17.85      | AV            | PASS   |

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

**Band Edge Emissions (Restricted frequency bands):**

| Test Mode: 8DPSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|------------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.             | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| H                | 2310.00         | 44.01          | -2.81         | 41.20                   | 74.00            | -32.80      | PK            | PASS   |
| H                | 2390.00         | 45.12          | -2.69         | 42.43                   | 74.00            | -31.57      | PK            | PASS   |
| H                | **2400.00       | 60.83          | -2.68         | 58.15                   | 74.00            | -15.85      | PK            | PASS   |
| V                | 2310.00         | 42.49          | -2.81         | 39.68                   | 74.00            | -34.32      | PK            | PASS   |
| V                | 2390.00         | 45.78          | -2.69         | 43.09                   | 74.00            | -30.91      | PK            | PASS   |
| V                | **2400.00       | 63.19          | -2.68         | 60.51                   | 74.00            | -13.49      | PK            | PASS   |
| H                | 2310.00         | 34.37          | -2.81         | 31.56                   | 54.00            | -22.44      | AV            | PASS   |
| H                | 2390.00         | 36.01          | -2.69         | 33.32                   | 54.00            | -20.68      | AV            | PASS   |
| H                | **2400.00       | 48.29          | -2.68         | 45.61                   | 54.00            | -8.39       | AV            | PASS   |
| V                | 2310.00         | 33.82          | -2.81         | 31.01                   | 54.00            | -22.99      | AV            | PASS   |
| V                | 2390.00         | 34.88          | -2.69         | 32.19                   | 54.00            | -21.81      | AV            | PASS   |
| V                | **2400.00       | 47.02          | -2.68         | 44.34                   | 54.00            | -9.66       | AV            | PASS   |

| Test Mode: 8DPSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|------------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.             | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| H                | **2483.50       | 47.63          | -2.56         | 45.07                   | 74.00             | -28.93      | PK            | PASS   |
| H                | 2500.00         | 48.05          | -2.54         | 45.51                   | 74.00             | -28.49      | PK            | PASS   |
| V                | **2483.50       | 48.56          | -2.56         | 46.00                   | 74.00             | -28.00      | PK            | PASS   |
| V                | 2500.00         | 49.99          | -2.54         | 47.45                   | 74.00             | -26.55      | PK            | PASS   |
| H                | **2483.50       | 37.24          | -2.56         | 34.68                   | 54.00             | -19.32      | AV            | PASS   |
| H                | 2500.00         | 40.84          | -2.54         | 38.30                   | 54.00             | -15.70      | AV            | PASS   |
| V                | **2483.50       | 38.65          | -2.56         | 36.09                   | 54.00             | -17.91      | AV            | PASS   |
| V                | 2500.00         | 40.34          | -2.54         | 37.80                   | 54.00             | -16.20      | AV            | PASS   |

Remark:

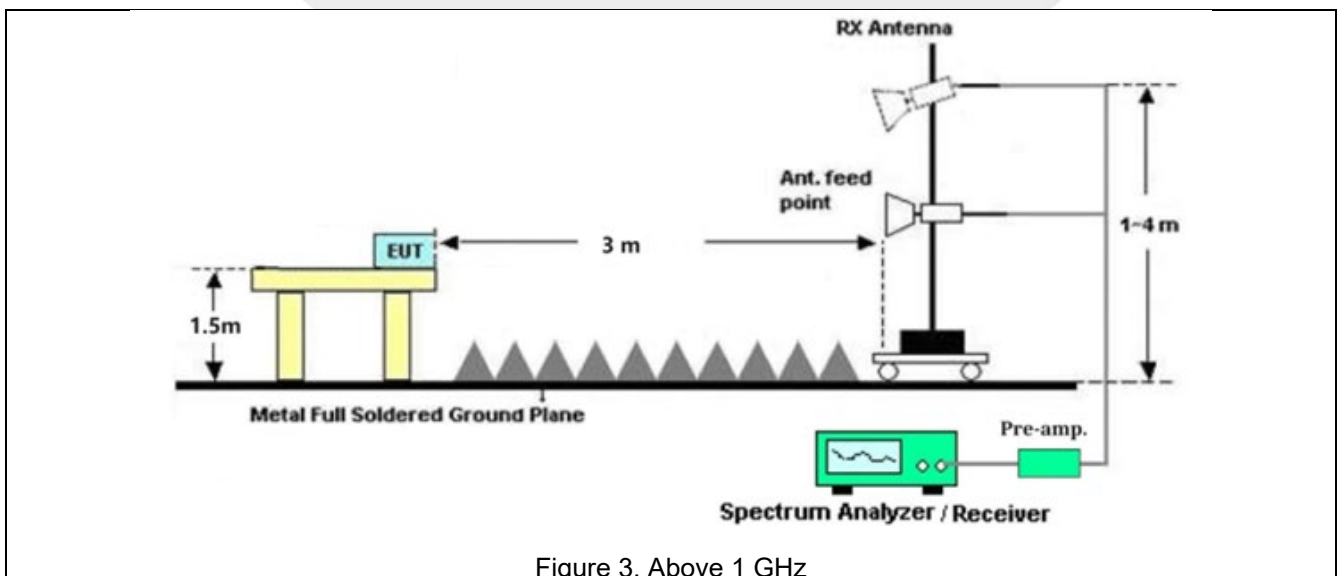
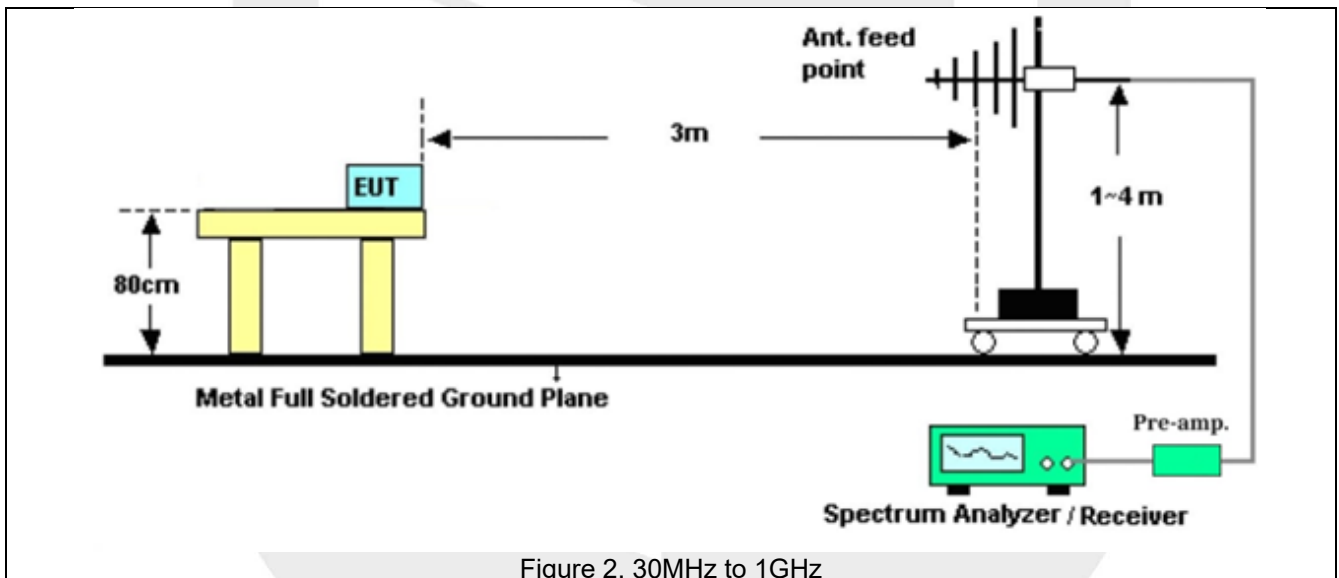
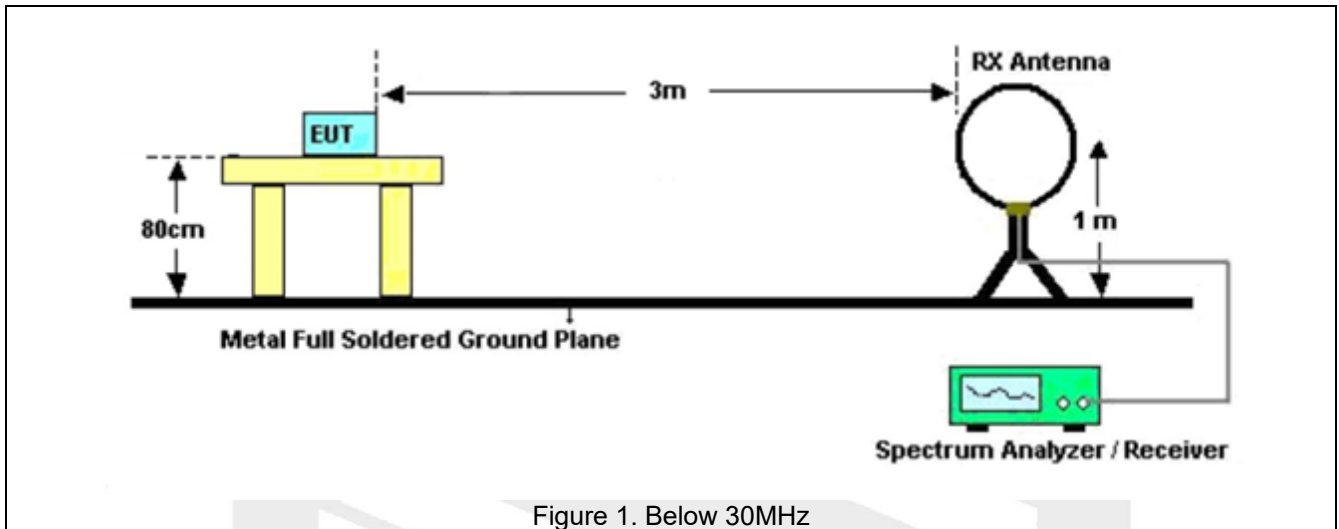
1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.

## 5.11 Radiated Emission

### 5.11.1 Test Requirement

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                               |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|
| Test Requirement | In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |
| Test Limit       | Frequency (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Field strength (microvolts/meter) | Measurement distance (meters) |
|                  | 0.009-0.490                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2400/F(kHz)                       | 300                           |
|                  | 0.490-1.705                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24000/F(kHz)                      | 30                            |
|                  | 1.705-30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30                                | 30                            |
|                  | 30-88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100 **                            | 3                             |
|                  | 88-216                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 150 **                            | 3                             |
|                  | 216-960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 200 **                            | 3                             |
|                  | Above 960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 500                               | 3                             |
|                  | <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>Note:</p> <p>1) Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].</p> <p>2) In the emission tables above, the tighter limit applies at the band edges.</p> <p>3) For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.</p> <p>4) For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).</p> |                                   |                               |
| Test Method      | ANSI C63.10-2020 section 6.6.4<br>Radiated emissions tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                               |

### 5.11.2 Test Setup Diagram



### 5.11.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power.

Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9kHz, VBW = 30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW = 1MHz, VBW = 1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW = 1MHz, VBW = 10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

### 5.11.4 Test Data

#### **PASS.**

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, for 30MHz to 1000MHz, pre-scan all modulations, and found the GFSK modulation Middle channel which is the worst case, only the worst case is recorded in the report.

During the test, for 1GHz- 25GHz, pre-scan all modulations, and found the GFSK modulation which is the worst case, only the worst case is recorded in the report.

### Radiated Emission Test Data (30-1000MHz)

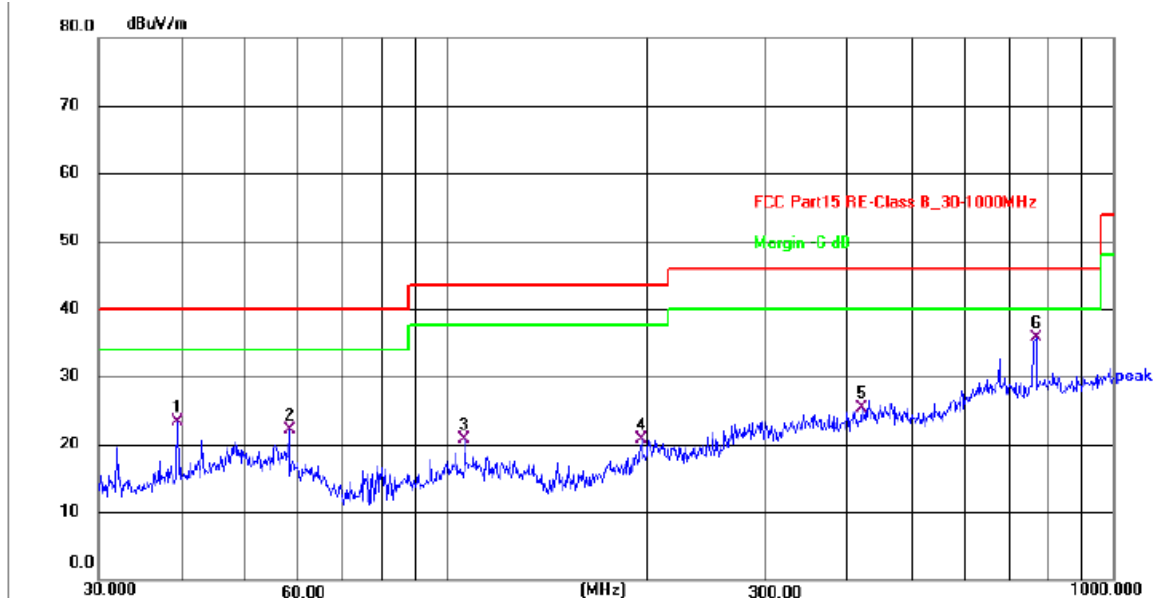
**Test Site:** 966 Chamber #1

**Polarization:** Horizontal

**Distance:** 3m

**Test Mode:** TM1/ CH Middle

**Note:** Left Ear



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-----|--------|
| 1   | 39.4371         | 38.65          | -15.38        | 23.27          | 40.00          | -16.73      | QP       | P   |        |
| 2   | 57.9992         | 37.26          | -15.07        | 22.19          | 40.00          | -17.81      | QP       | P   |        |
| 3   | 106.3850        | 36.71          | -16.10        | 20.61          | 43.50          | -22.89      | QP       | P   |        |
| 4   | 195.8220        | 36.04          | -15.37        | 20.67          | 43.50          | -22.83      | QP       | P   |        |
| 5   | 419.1081        | 34.95          | -9.63         | 25.32          | 46.00          | -20.68      | QP       | P   |        |
| 6 * | 766.0571        | 39.98          | -4.37         | 35.61          | 46.00          | -10.39      | QP       | P   |        |

**Note:** Level = Reading + Factor

**Margin = Level - Limit**

### Radiated Emission Test Data (30-1000MHz)

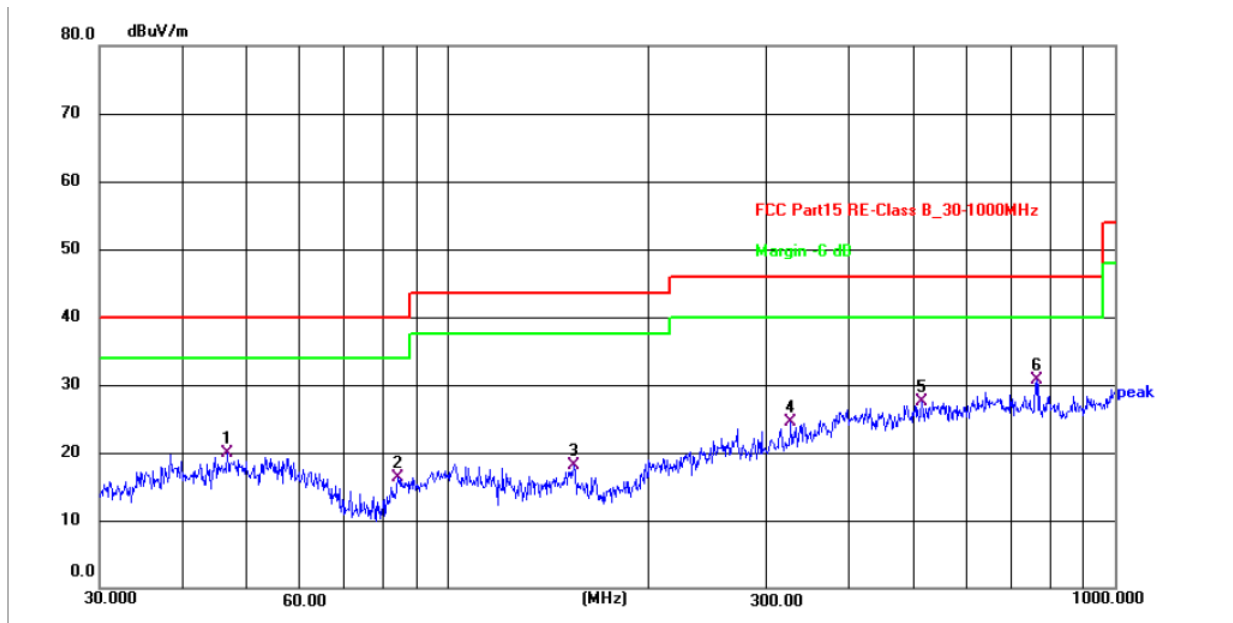
**Test Site:** 966 Chamber #1

**Polarization:** Vertical

**Distance:** 3m

**Test Mode:** TM1/ CH Middle

**Note:** Left Ear



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-----|--------|
| 1   | 46.6663         | 34.13          | -14.21        | 19.92          | 40.00          | -20.08      | QP       | P   |        |
| 2   | 84.1100         | 35.12          | -18.90        | 16.22          | 40.00          | -23.78      | QP       | P   |        |
| 3   | 154.2785        | 36.47          | -18.38        | 18.09          | 43.50          | -25.41      | QP       | P   |        |
| 4   | 326.7395        | 35.90          | -11.40        | 24.50          | 46.00          | -21.50      | QP       | P   |        |
| 5   | 513.6331        | 35.54          | -8.05         | 27.49          | 46.00          | -18.51      | QP       | P   |        |
| 6 * | 763.3757        | 35.03          | -4.40         | 30.63          | 46.00          | -15.37      | QP       | P   |        |

**Note:** Level = Reading + Factor

**Margin = Level - Limit**

### Radiated Emission Test Data (30-1000MHz)

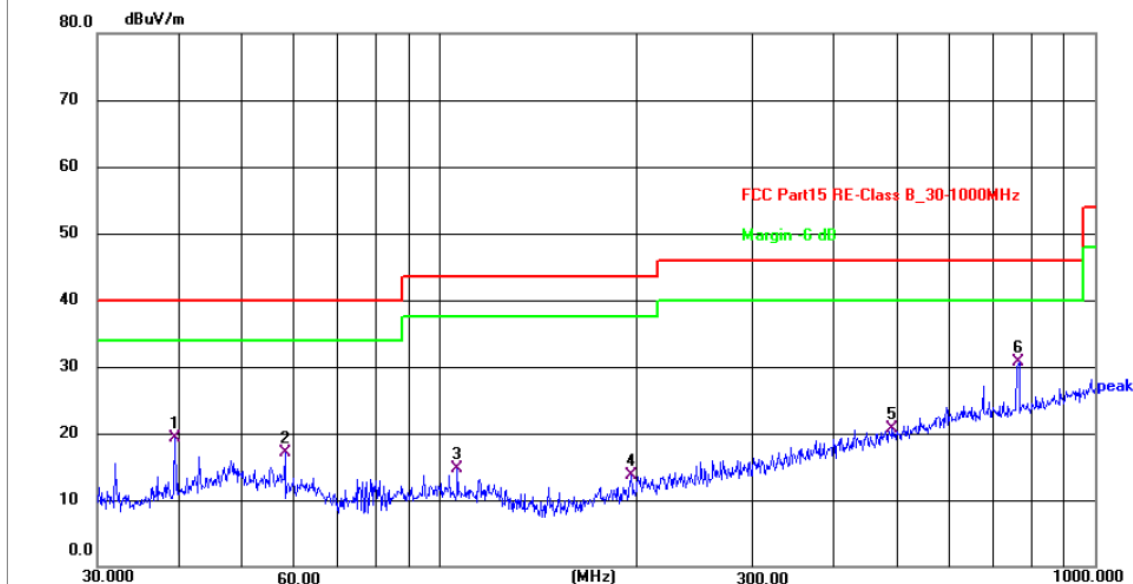
**Test Site:** 966 Chamber #1

**Polarization:** Horizontal

**Distance:** 3m

**Test Mode:** TM1/ CH Middle

**Note:** Right Ear



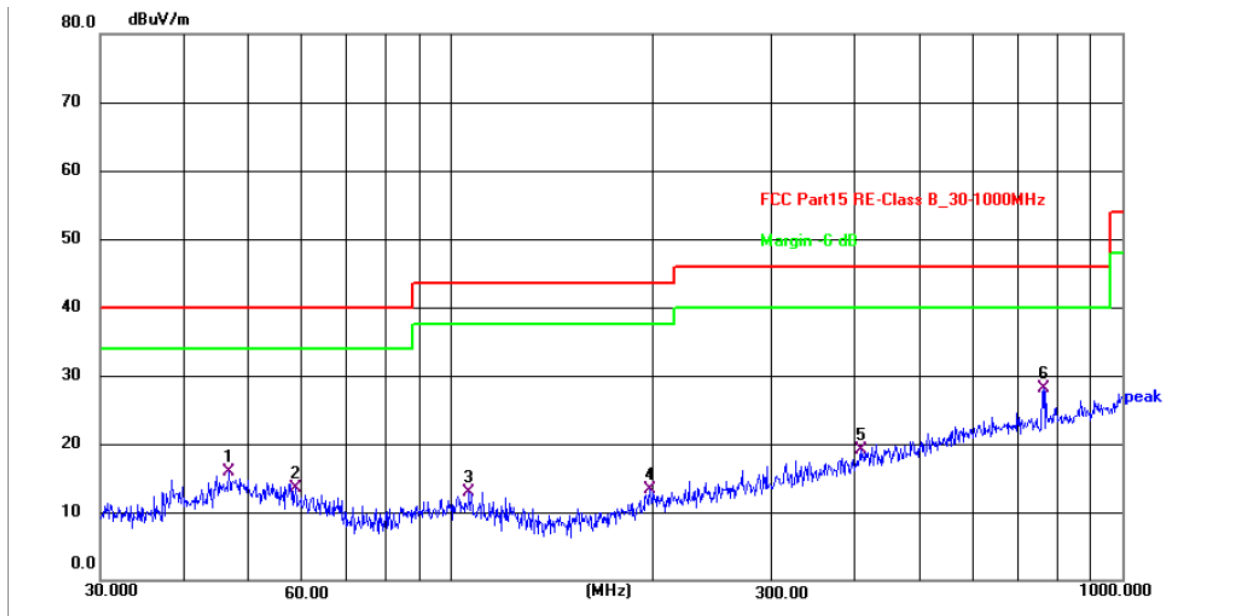
| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-----|--------|
| 1   | 39.4371         | 34.65          | -15.38        | 19.27          | 40.00          | -20.73      | QP       | P   |        |
| 2   | 57.9993         | 32.26          | -15.07        | 17.19          | 40.00          | -22.81      | QP       | P   |        |
| 3   | 106.3850        | 30.71          | -16.10        | 14.61          | 43.50          | -28.89      | QP       | P   |        |
| 4   | 195.8220        | 29.04          | -15.37        | 13.67          | 43.50          | -29.83      | QP       | P   |        |
| 5   | 490.7447        | 29.25          | -8.50         | 20.75          | 46.00          | -25.25      | QP       | P   |        |
| 6 * | 766.0571        | 34.98          | -4.37         | 30.61          | 46.00          | -15.39      | QP       | P   |        |

**Note:** Level = Reading + Factor

**Margin = Level - Limit**

### Radiated Emission Test Data (30-1000MHz)

|                   |                       |                      |                       |
|-------------------|-----------------------|----------------------|-----------------------|
| <b>Test Site:</b> | <b>966 Chamber #1</b> | <b>Polarization:</b> | <b>Vertical</b>       |
| <b>Distance:</b>  | <b>3m</b>             | <b>Test Mode:</b>    | <b>TM1/ CH Middle</b> |
| <b>Note:</b>      | <b>Right Ear</b>      |                      |                       |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-----|--------|
| 1   | 46.6664         | 30.13          | -14.21        | 15.92          | 40.00          | -24.08      | QP       | P   |        |
| 2   | 58.6126         | 28.72          | -15.19        | 13.53          | 40.00          | -26.47      | QP       | P   |        |
| 3   | 106.3850        | 29.10          | -16.10        | 13.00          | 43.50          | -30.50      | QP       | P   |        |
| 4   | 197.8928        | 28.53          | -15.21        | 13.32          | 43.50          | -30.18      | QP       | P   |        |
| 5   | 407.5145        | 28.88          | -9.80         | 19.08          | 46.00          | -26.92      | QP       | P   |        |
| 6 * | 763.3757        | 32.53          | -4.40         | 28.13          | 46.00          | -17.87      | QP       | P   |        |

**Note:** Level = Reading + Factor      Margin = Level - Limit

**Left Ear:**
**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| V               | 4804.90         | 41.38          | 4.68          | 46.06                   | 74.00            | -27.95      | PK            | PASS   |
| V               | 7206.96         | 34.16          | 9.84          | 44.00                   | 74.00            | -30.01      | PK            | PASS   |
| V               | 9608.96         | 28.09          | 13.17         | 41.26                   | 74.00            | -32.75      | PK            | PASS   |
| V               | 12010.30        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 14412.38        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 16814.54        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 4804.73         | 42.14          | 4.68          | 46.82                   | 74.00            | -27.19      | PK            | PASS   |
| H               | 7206.29         | 34.89          | 9.84          | 44.73                   | 74.00            | -29.28      | PK            | PASS   |
| H               | 9608.03         | 30.92          | 13.17         | 44.09                   | 74.00            | -29.92      | PK            | PASS   |
| H               | 12010.35        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 14412.39        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 16814.03        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 4804.99         | 32.29          | 4.68          | 36.97                   | 54.00            | -17.04      | AV            | PASS   |
| V               | 7206.39         | 22.06          | 9.84          | 31.90                   | 54.00            | -22.10      | AV            | PASS   |
| V               | 9608.72         | 19.01          | 13.17         | 32.18                   | 54.00            | -21.83      | AV            | PASS   |
| V               | 12010.80        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| V               | 14412.46        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| V               | 16814.02        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 4804.95         | 30.75          | 4.68          | 35.43                   | 54.00            | -18.58      | AV            | PASS   |
| H               | 7206.29         | 23.66          | 9.84          | 33.50                   | 54.00            | -20.51      | AV            | PASS   |
| H               | 9608.03         | 17.52          | 13.17         | 30.69                   | 54.00            | -23.31      | AV            | PASS   |
| H               | 12010.35        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 14412.39        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 16814.03        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH Middle: 2441 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|---------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)      | Margin (dB) | Detector Type | Result |
| V               | 4882.53         | 41.97          | 4.92          | 46.89                   | 74.00               | -27.12      | PK            | PASS   |
| V               | 7323.98         | 35.93          | 9.83          | 45.76                   | 74.00               | -28.24      | PK            | PASS   |
| V               | 9764.17         | 30.99          | 13.22         | 44.21                   | 74.00               | -29.79      | PK            | PASS   |
| V               | 12205.84        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 14646.71        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 17087.17        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 4882.23         | 42.02          | 4.92          | 46.94                   | 74.00               | -27.07      | PK            | PASS   |
| H               | 7323.21         | 33.36          | 9.83          | 43.19                   | 74.00               | -30.81      | PK            | PASS   |
| H               | 9764.10         | 29.18          | 13.22         | 42.40                   | 74.00               | -31.60      | PK            | PASS   |
| H               | 12205.65        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 14646.10        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 17087.75        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 4882.16         | 30.78          | 4.92          | 35.70                   | 54.00               | -18.31      | AV            | PASS   |
| V               | 7323.08         | 22.49          | 9.83          | 32.32                   | 54.00               | -21.68      | AV            | PASS   |
| V               | 9764.63         | 19.52          | 13.22         | 32.74                   | 54.00               | -21.27      | AV            | PASS   |
| V               | 12205.60        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| V               | 14646.65        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| V               | 17087.78        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 4882.23         | 30.38          | 4.92          | 35.30                   | 54.00               | -18.71      | AV            | PASS   |
| H               | 7323.21         | 22.19          | 9.83          | 32.02                   | 54.00               | -21.99      | AV            | PASS   |
| H               | 9764.10         | 18.56          | 13.22         | 31.78                   | 54.00               | -22.22      | AV            | PASS   |
| H               | 12205.65        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 14646.10        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 17087.75        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| V               | 4960.81         | 41.47          | 5.17          | 46.64                   | 74.00             | -27.37      | PK            | PASS   |
| V               | 7440.15         | 33.96          | 9.83          | 43.79                   | 74.00             | -30.22      | PK            | PASS   |
| V               | 9920.24         | 30.18          | 13.27         | 43.45                   | 74.00             | -30.56      | PK            | PASS   |
| V               | 12400.85        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 14880.81        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 17360.43        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 4960.86         | 41.69          | 5.17          | 46.86                   | 74.00             | -27.14      | PK            | PASS   |
| H               | 7440.28         | 33.02          | 9.83          | 42.85                   | 74.00             | -31.16      | PK            | PASS   |
| H               | 9920.90         | 30.74          | 13.27         | 44.01                   | 74.00             | -29.99      | PK            | PASS   |
| H               | 12400.62        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 14880.31        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 17360.18        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 4960.98         | 32.91          | 5.17          | 38.08                   | 54.00             | -15.93      | AV            | PASS   |
| V               | 7440.63         | 24.47          | 9.83          | 34.30                   | 54.00             | -19.70      | AV            | PASS   |
| V               | 9920.45         | 19.28          | 13.27         | 32.55                   | 54.00             | -21.46      | AV            | PASS   |
| V               | 12400.34        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| V               | 14880.92        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| V               | 17360.64        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 4960.86         | 30.44          | 5.17          | 35.61                   | 54.00             | -18.39      | AV            | PASS   |
| H               | 7440.28         | 23.17          | 9.83          | 33.00                   | 54.00             | -21.01      | AV            | PASS   |
| H               | 9920.90         | 17.20          | 13.27         | 30.47                   | 54.00             | -23.53      | AV            | PASS   |
| H               | 12400.62        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 14880.31        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 17360.18        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

**Right Ear:**
**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH Low: 2402 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)   | Margin (dB) | Detector Type | Result |
| V               | 4804.57         | 40.45          | 4.68          | 45.13                   | 74.00            | -28.87      | PK            | PASS   |
| V               | 7206.38         | 34.74          | 9.84          | 44.58                   | 74.00            | -29.42      | PK            | PASS   |
| V               | 9608.03         | 29.12          | 13.17         | 42.29                   | 74.00            | -31.72      | PK            | PASS   |
| V               | 12010.06        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 14412.19        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 16814.06        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 4804.96         | 40.58          | 4.68          | 45.26                   | 74.00            | -28.74      | PK            | PASS   |
| H               | 7206.31         | 35.72          | 9.84          | 45.56                   | 74.00            | -28.44      | PK            | PASS   |
| H               | 9608.70         | 28.51          | 13.17         | 41.68                   | 74.00            | -32.33      | PK            | PASS   |
| H               | 12010.38        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 14412.91        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| H               | 16814.97        | *              | *             | *                       | 74.00            | *           | PK            | PASS   |
| V               | 4804.76         | 30.00          | 4.68          | 34.68                   | 54.00            | -19.32      | AV            | PASS   |
| V               | 7206.57         | 24.98          | 9.84          | 34.82                   | 54.00            | -19.18      | AV            | PASS   |
| V               | 9608.46         | 17.66          | 13.17         | 30.83                   | 54.00            | -23.17      | AV            | PASS   |
| V               | 12010.85        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| V               | 14412.71        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| V               | 16814.18        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 4804.38         | 32.55          | 4.68          | 37.23                   | 54.00            | -16.77      | AV            | PASS   |
| H               | 7206.31         | 22.48          | 9.84          | 32.32                   | 54.00            | -21.69      | AV            | PASS   |
| H               | 9608.70         | 18.83          | 13.17         | 32.00                   | 54.00            | -22.00      | AV            | PASS   |
| H               | 12010.38        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 14412.91        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |
| H               | 16814.97        | *              | *             | *                       | 54.00            | *           | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH Middle: 2441 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|---------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)      | Margin (dB) | Detector Type | Result |
| V               | 4882.18         | 40.01          | 4.92          | 44.93                   | 74.00               | -29.08      | PK            | PASS   |
| V               | 7323.70         | 33.26          | 9.83          | 43.09                   | 74.00               | -30.92      | PK            | PASS   |
| V               | 9765.00         | 29.51          | 13.22         | 42.73                   | 74.00               | -31.28      | PK            | PASS   |
| V               | 12205.40        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 14646.04        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 17087.30        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 4882.40         | 40.02          | 4.92          | 44.94                   | 74.00               | -29.07      | PK            | PASS   |
| H               | 7323.78         | 35.52          | 9.83          | 45.35                   | 74.00               | -28.66      | PK            | PASS   |
| H               | 9764.99         | 28.74          | 13.22         | 41.96                   | 74.00               | -32.05      | PK            | PASS   |
| H               | 12205.52        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 14646.98        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| H               | 17087.86        | *              | *             | *                       | 74.00               | *           | PK            | PASS   |
| V               | 4882.23         | 31.72          | 4.92          | 36.64                   | 54.00               | -17.36      | AV            | PASS   |
| V               | 7323.95         | 22.68          | 9.83          | 32.51                   | 54.00               | -21.49      | AV            | PASS   |
| V               | 9764.96         | 19.48          | 13.22         | 32.70                   | 54.00               | -21.31      | AV            | PASS   |
| V               | 12205.65        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| V               | 14646.46        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| V               | 17087.87        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 4882.40         | 30.96          | 4.92          | 35.88                   | 54.00               | -18.13      | AV            | PASS   |
| H               | 7323.78         | 24.96          | 9.83          | 34.79                   | 54.00               | -19.21      | AV            | PASS   |
| H               | 9764.99         | 19.34          | 13.22         | 32.56                   | 54.00               | -21.45      | AV            | PASS   |
| H               | 12205.52        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 14646.98        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |
| H               | 17087.86        | *              | *             | *                       | 54.00               | *           | AV            | PASS   |

Remark:

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

**Radiated Spurious Emission (1GHz-25GHz)**

| Test Mode: GFSK |                 |                |               |                         | CH High: 2480 MHz |             |               |        |
|-----------------|-----------------|----------------|---------------|-------------------------|-------------------|-------------|---------------|--------|
| Pol.            | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m)    | Margin (dB) | Detector Type | Result |
| V               | 4960.07         | 42.68          | 5.17          | 47.85                   | 74.00             | -26.15      | PK            | PASS   |
| V               | 7440.18         | 34.15          | 9.83          | 43.98                   | 74.00             | -30.02      | PK            | PASS   |
| V               | 9920.94         | 29.76          | 13.27         | 43.03                   | 74.00             | -30.98      | PK            | PASS   |
| V               | 12400.47        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 14880.24        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 17360.13        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 4960.10         | 41.98          | 5.17          | 47.15                   | 74.00             | -26.86      | PK            | PASS   |
| H               | 7440.67         | 33.51          | 9.83          | 43.34                   | 74.00             | -30.66      | PK            | PASS   |
| H               | 9920.72         | 28.07          | 13.27         | 41.34                   | 74.00             | -32.67      | PK            | PASS   |
| H               | 12400.23        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 14880.68        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| H               | 17360.87        | *              | *             | *                       | 74.00             | *           | PK            | PASS   |
| V               | 4960.15         | 32.48          | 5.17          | 37.65                   | 54.00             | -16.35      | AV            | PASS   |
| V               | 7440.78         | 24.35          | 9.83          | 34.18                   | 54.00             | -19.82      | AV            | PASS   |
| V               | 9920.79         | 17.19          | 13.27         | 30.46                   | 54.00             | -23.54      | AV            | PASS   |
| V               | 12400.63        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| V               | 14880.99        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| V               | 17360.82        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 4960.10         | 30.71          | 5.17          | 35.88                   | 54.00             | -18.13      | AV            | PASS   |
| H               | 7440.67         | 23.65          | 9.83          | 33.48                   | 54.00             | -20.53      | AV            | PASS   |
| H               | 9920.72         | 19.48          | 13.27         | 32.75                   | 54.00             | -21.25      | AV            | PASS   |
| H               | 12400.23        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 14880.68        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |
| H               | 17360.87        | *              | *             | *                       | 54.00             | *           | AV            | PASS   |

**Remark:**

1. Emission Level = Reading + Factor, Margin= Emission Level – Limit.
2. “\*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

## **ANNEX A TEST SETUP PHOTOS**

Please refer to the document “8333EU012813W-AA.PDF”

## **ANNEX B EXTERNAL PHOTOS**

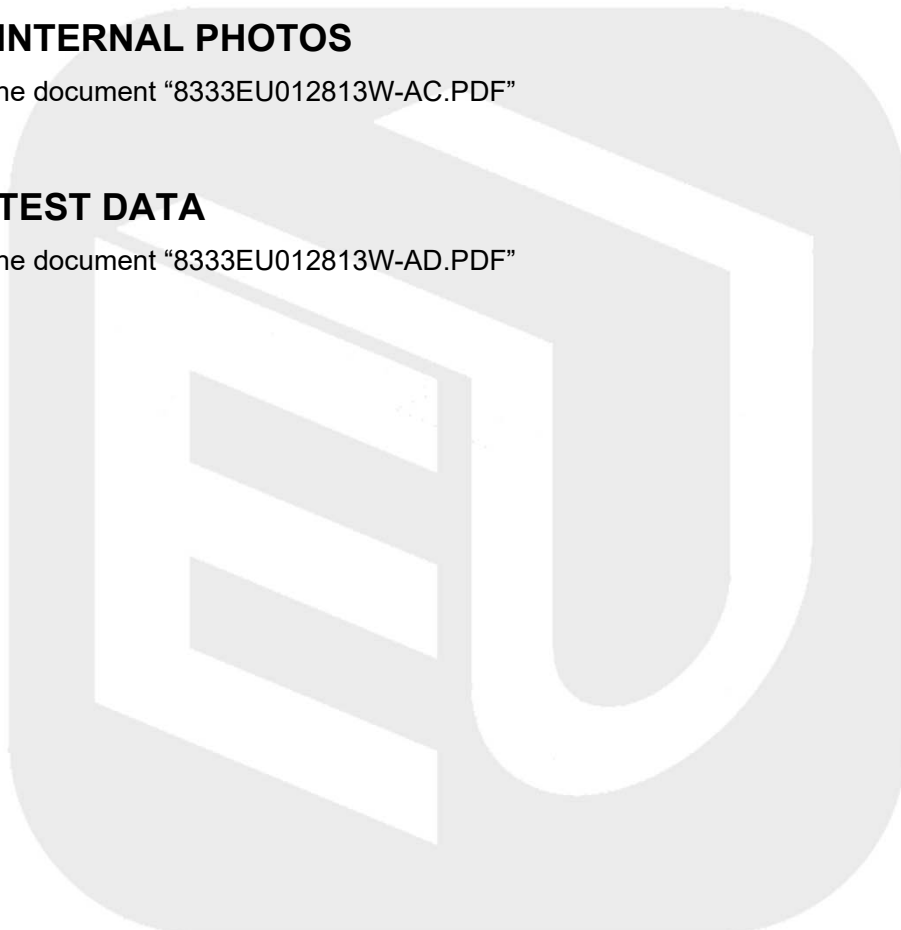
Please refer to the document “8333EU012813W-AB.PDF”

## **ANNEX C INTERNAL PHOTOS**

Please refer to the document “8333EU012813W-AC.PDF”

## **ANNEX D TEST DATA**

Please refer to the document “8333EU012813W-AD.PDF”



## STATEMENT

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--- End of Report ---