



## RF MEASUREMENT REPORT

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**FCC ID:** DD4ADX1K54S  
**Applicant:** Shure Incorporated  
**Product:** Bodypack Transmitter  
**Model No.:** ADX1 K54, ADX1LEMO3 K54  
**Brand Name:** , **SHURE**<sup>®</sup>  
**FCC Classification:** Licensed LPAS Device (TLD)  
**FCC Rule Part(s):** Part 74 Subpart H (Section 74.861)  
**Result:** Complies  
**Received Date:** 2024-07-18  
**Test Date:** 2024-08-02 ~ 2024-08-15

**Reviewed By:**

\_\_\_\_\_  
Jame Yuan

**Approved By:**

\_\_\_\_\_  
Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

### Revision History

| Report No.    | Version | Description    | Issue Date | Note  |
|---------------|---------|----------------|------------|-------|
| 2407RSU039-U5 | V01     | Initial Report | 2024-08-28 | Valid |
|               |         |                |            |       |

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### 1.1. Applicant

5800 West Touhy Avenue, Niles, IL 60714-4608, USA

5800 West Touhy Avenue, Niles, IL 60714-4608, USA

|                                     |                                                                                                 |                                  |                                  |                                  |                                  |
|-------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <input checked="" type="checkbox"/> | <b>Test Site – MRT Suzhou Laboratory</b>                                                        |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Location (Suzhou - Wuzhong)</b>                                                   |                                  |                                  |                                  |                                  |
|                                     | D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China              |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Location (Suzhou - SIP)</b>                                                       |                                  |                                  |                                  |                                  |
|                                     | 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China    |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Location (Suzhou - Wujiang)</b>                                                   |                                  |                                  |                                  |                                  |
|                                     | Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China            |                                  |                                  |                                  |                                  |
| <input checked="" type="checkbox"/> | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |                                  |
|                                     | A2LA: 3628.01                                                                                   |                                  | CNAS: L10551                     |                                  |                                  |
|                                     | FCC: CN1166                                                                                     |                                  | ISED: CN0001                     |                                  |                                  |
|                                     | VCCI:                                                                                           | <input type="checkbox"/> R-20025 | <input type="checkbox"/> G-20034 | <input type="checkbox"/> C-20020 | <input type="checkbox"/> T-20020 |
|                                     |                                                                                                 | <input type="checkbox"/> R-20141 | <input type="checkbox"/> G-20134 | <input type="checkbox"/> C-20103 | <input type="checkbox"/> T-20104 |
| <input type="checkbox"/>            | <b>Test Site – MRT Shenzhen Laboratory</b>                                                      |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Location (Shenzhen)</b>                                                           |                                  |                                  |                                  |                                  |
|                                     | 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |                                  |
|                                     | A2LA: 3628.02                                                                                   |                                  | CNAS: L10551                     |                                  |                                  |
| <input type="checkbox"/>            | FCC: CN1284                                                                                     |                                  | ISED: CN0105                     |                                  |                                  |
|                                     |                                                                                                 |                                  |                                  |                                  |                                  |
| <input type="checkbox"/>            | <b>Test Site – MRT Taiwan Laboratory</b>                                                        |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Location (Taiwan)</b>                                                             |                                  |                                  |                                  |                                  |
|                                     | No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)                        |                                  |                                  |                                  |                                  |
|                                     | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |                                  |
| <input type="checkbox"/>            | TAF: 3261                                                                                       |                                  |                                  |                                  |                                  |
|                                     | FCC: 291082, TW3261                                                                             |                                  | ISED: TW3261                     |                                  |                                  |

#### 1.4. Product Information

|                                                                                                                                                 |                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Product Name                                                                                                                                    | Bodypack Transmitter                                  |
| Model No.                                                                                                                                       | ADX1 K54, ADX1LEMO3 K54                               |
| Serial No.                                                                                                                                      | 2DC28429630                                           |
| Microphone Specification                                                                                                                        | UHF Microphone Transmitter                            |
| ZigBee Specification                                                                                                                            | 802.15.4                                              |
| Antenna Information                                                                                                                             | Refer to section 1.5                                  |
| Power Type                                                                                                                                      | Rechargeable Li-battery                               |
| Accessory                                                                                                                                       |                                                       |
| Battery                                                                                                                                         | Model: SB910<br>Rating Voltage: 3.6V = 2200mAh 7.92Wh |
| Notes:                                                                                                                                          |                                                       |
| 1.The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. |                                                       |
| 2.ADX1 and ADX1LEMO3 are completely same except audio connector, ADX1 contains TQG connector, while ADX1LEMO3 contains LEMO3 connector.         |                                                       |

#### 1.5. Radio Specification under Test

|                                                                                            |                                      |
|--------------------------------------------------------------------------------------------|--------------------------------------|
| Frequency Range                                                                            | 606 ~ 608 MHz & 653 ~ 657 MHz        |
| Declared Power Level                                                                       | STD: 2mW & 10mW & 20/40mW<br>HD: 2mW |
| Type of Modulation                                                                         | 8PSK                                 |
| Channel Spacing                                                                            | 25kHz                                |
| Antenna Type                                                                               | Dipole                               |
| Antenna Gain                                                                               | 0.60 dBi                             |
| Note 1: Power level and transmit frequency can be selected using the front panel controls. |                                      |
| Note 2: For other features of this EUT, test report will be issued separately.             |                                      |

#### 1.6. Working Frequencies

| Bottom Channel<br>(MHz)                         | Middle Channel<br>(MHz) | Top Channel<br>(MHz) |
|-------------------------------------------------|-------------------------|----------------------|
| 606 ~ 608 MHz Frequency Band (Max Power = 40mW) |                         |                      |
| 606.000                                         | 607.000                 | 607.875              |
| 653 ~ 657 MHz Frequency Band (Max Power = 10mW) |                         |                      |
| 653.125                                         | N/A                     | 657.000              |

## 2. Test Configuration

### 2.1. Test Mode

|                                                    |
|----------------------------------------------------|
| Mode 1: Transmit at K54 Band by STD Mode (10/40mW) |
| Mode 2: Transmit at K54 Band by HD Mode (2mW)      |

### 2.2. Test Software

The test utility software used during testing was “teraterm”, and the version was V4.103, all test commands were provided by the manufacturer.

### 2.3. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 74.861
- KDB 206256 D01v02r01
- ANSI C63.26-2015
- ETSI EN 300 422 - 1 V 1.4.2

### 2.4. Test Environment Condition

|                     |            |
|---------------------|------------|
| Ambient Temperature | 15 ~ 35°C  |
| Relative Humidity   | 20 ~ 75%RH |

### 3. Measuring Instrument

| Instrument          | Manufacturer | Model No.  | Asset No.   | Cali. Interval | Cali. Due Date | Test Site      |
|---------------------|--------------|------------|-------------|----------------|----------------|----------------|
| USB Power Sensor    | Keysight     | U2021XA    | MRTSUE06447 | 1 year         | 2025-05-08     | WZ-SR5         |
| Thermohygrometer    | testo        | 608-H1     | MRTSUE06402 | 1 year         | 2025-05-12     | WZ-SR5         |
| Shielding Room      | HUAMING      | WZ-SR5     | MRTSUE06442 | N/A            | N/A            | WZ-SR5         |
| Signal Analyzer     | Keysight     | N9010B     | MRTSUE06457 | 1 year         | 2025-05-08     | WZ-SR5/ WZ-TR3 |
| Temperature Chamber | BAOYT        | BYH-150CL  | MRTSUE06051 | 1 year         | 2024-09-27     | WZ-TR3         |
| Thermohygrometer    | testo        | 608-H1     | MRTSUE11268 | 1 year         | 2024-12-14     | WZ-TR3         |
| Horn Antenna        | Schwarzbeck  | BBHA 9120D | MRTSUE06023 | 1 year         | 2025-07-26     | WZ-AC1         |
| Preamplifier        | Agilent      | 83017A     | MRTSUE06076 | 1 year         | 2024-11-09     | WZ-AC1         |
| TRILOG Antenna      | Schwarzbeck  | VULB 9168  | MRTSUE06172 | 1 year         | 2025-05-15     | WZ-AC1         |
| Anechoic Chamber    | TDK          | WZ-AC1     | MRTSUE06212 | 1 year         | 2025-04-19     | WZ-AC1         |
| Signal Analyzer     | Keysight     | N9010B     | MRTSUE06607 | 1 year         | 2024-10-23     | WZ-AC1         |
| Thermohygrometer    | testo        | 608-H1     | MRTSUE11039 | 1 year         | 2024-10-25     | WZ-AC1         |

| Software             | Version | Function               |
|----------------------|---------|------------------------|
| e3                   | 230711  | RE & CE                |
| Controller_MF 7802   | 2.03C   | RE Antenna & Turntable |
| BenchVue Power Meter | 2018.1  | Power                  |

## 4. Decision Rules and Measurement Uncertainty

### 4.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2.  
(Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

### 4.2. Measurement Uncertainty

Where relevant, the following test 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  $k = 2$ .

|                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC Conducted Emission Measurement</b>                                                                                                                                                                                                                                                                                   |
| <p>The maximum measurement uncertainty is evaluated as:</p> <p>9kHz~150kHz: 3.58dB</p> <p>150kHz~30MHz: 3.20dB</p>                                                                                                                                                                                                         |
| <b>Radiated Emission Measurement</b>                                                                                                                                                                                                                                                                                       |
| <p>The maximum measurement uncertainty is evaluated as:</p> <p>Coaxial: 9kHz~30MHz: 2.61dB</p> <p>Coplanar: 9kHz~30MHz: 2.62dB</p> <p>Horizontal: 30MHz~200MHz: 3.79dB</p> <p>200MHz~1GHz: 3.91dB</p> <p>1GHz~40GHz: 4.99dB</p> <p>Vertical: 30MHz~200MHz: 4.06dB</p> <p>200MHz~1GHz: 5.21dB</p> <p>1GHz~40GHz: 4.90dB</p> |
| <b>Spurious Emissions, Conducted</b>                                                                                                                                                                                                                                                                                       |
| <p>Measuring Uncertainty for a Level of Confidence of 95% (<math>U=2U_c(y)</math>):</p> <p>2.3dB</p>                                                                                                                                                                                                                       |
| <b>Output Power</b>                                                                                                                                                                                                                                                                                                        |
| <p>Measuring Uncertainty for a Level of Confidence of 95% (<math>U=2U_c(y)</math>):</p> <p>1.4dB</p>                                                                                                                                                                                                                       |
| <b>Occupied Bandwidth</b>                                                                                                                                                                                                                                                                                                  |
| <p>Measuring Uncertainty for a Level of Confidence of 95% (<math>U=2U_c(y)</math>):</p> <p>2.7%</p>                                                                                                                                                                                                                        |

## 5. Test Result

### 5.1. Summary

| FCC Part Section(s) | Test Description           | Test Condition | Test Result |
|---------------------|----------------------------|----------------|-------------|
| 74.861(e)(1)(ii)    | RF Output Power            | Conducted      | Pass        |
| 74.861(e)(4)        | Frequency Stability        |                | Pass        |
| 74.861(e)(5)        | Occupied Bandwidth         |                | Pass        |
| 74.861(e)(6)        | Emission Mask              |                | Pass        |
| 74.861(e)(7)        | Necessary Bandwidth        |                | Pass        |
| 74.861(e)(7)        | Radiated Spurious Emission | Radiated       | N/A         |

#### Notes:

- 1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer.  
The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 2) "N/A" means that this item is not applicable, and the detail information refer to relevant section.

## 5.2. RF Output Power Measurement

### 5.2.1. Test Limit

The conducted power may not exceed 250mW in 470 ~ 608 MHz band.

### 5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.4.2

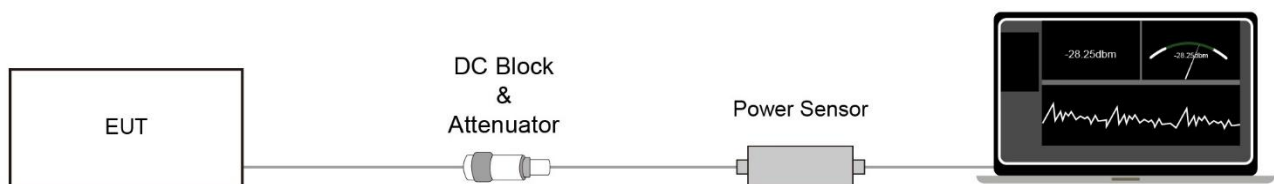
### 5.2.3. Test Setting

The output of the EUT was connected to an RF average power meter through fixed attenuation.

The EUT was set to transmit on the low, middle, and high frequencies in each power level.

Measure the average power of the transmitter.

### 5.2.4. Test Setup



### 5.2.5. Test Result

Refer to Appendix A.1.

### **5.3. Frequency Tolerance Measurement**

#### **5.3.1. Test Limit**

The frequency tolerance of the transmitter shall be 0.005 percent.

#### **5.3.2. Test Procedure**

ANSI C63.26 - Section 5.6.3

#### **5.3.3. Test Setting**

##### **Frequency Stability Under Temperature Variations:**

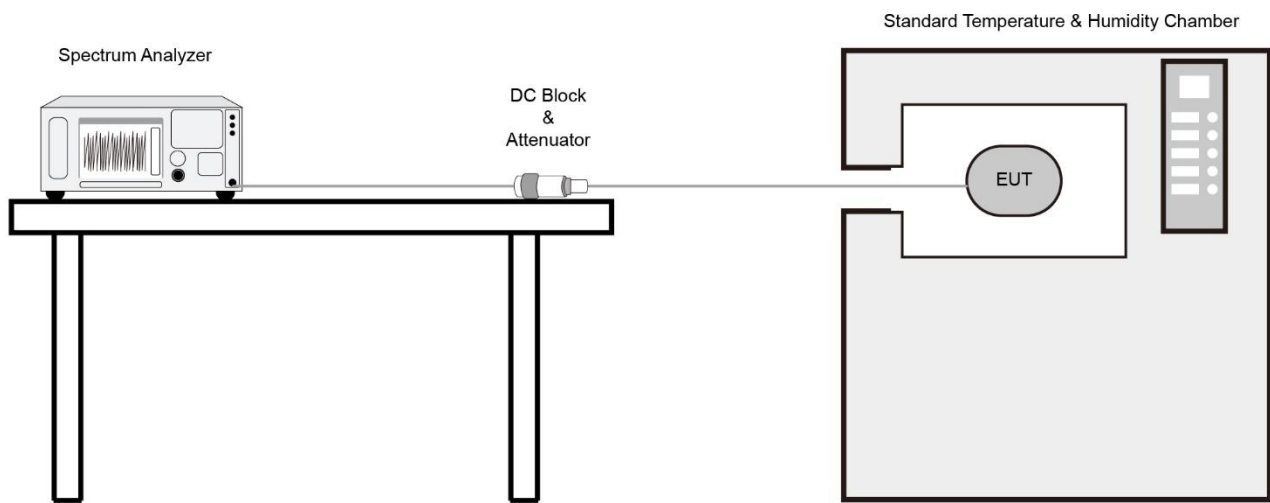
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

##### **Frequency Stability Under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint (If a product is specified to operate over a range of input voltage then the  $-15\%$  variation is applied to the lowermost voltage and the  $+15\%$  is applied to the uppermost voltage), record the maximum frequency change.

#### 5.3.4. Test Setup



#### 5.3.5. Test Result

Refer to Appendix A.2.

#### 5.4. 99% Occupied Bandwidth Measurement

##### 5.4.1. Test Limit

The operating bandwidth shall not exceed 200 kHz.

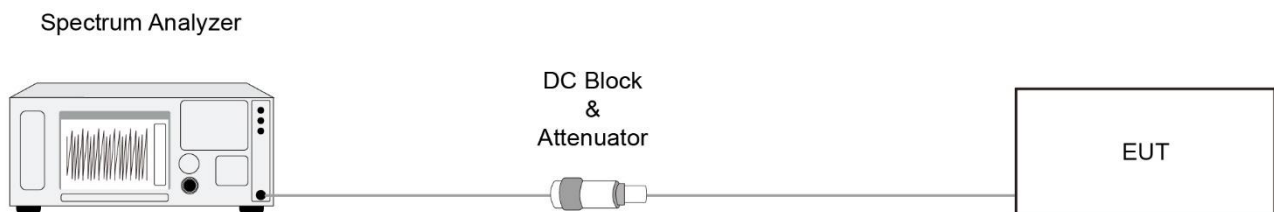
##### 5.4.2. Test Procedure

ANSI C63.26-2015 - Section 5.4.4

##### 5.4.3. Test Setting

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 - 5% of the expected OBW
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. Reported the measured 99% occupied bandwidth

##### 5.4.4. Test Setup



##### 5.4.5. Test Result

Refer to Appendix A.3.

## 5.5. Out-of-band Emission Mask Measurement

### 5.5.1. Test Limit

The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

- (i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;
- (ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;
- (iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least  $43 + 10 \log_{10}$  (mean output power in watts) dB.

### 5.5.2. Test Procedure

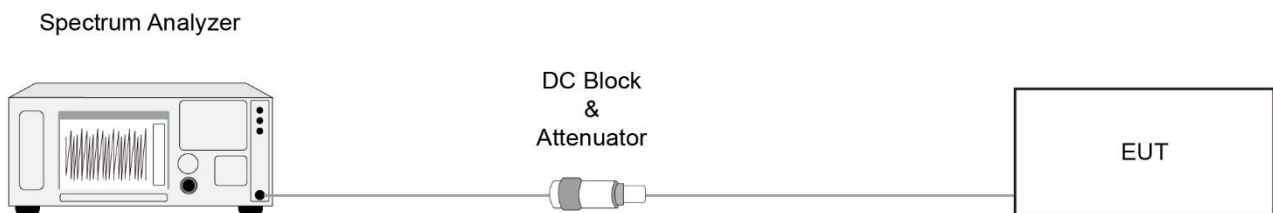
ANSI C63.26 - Section 5.7

### 5.5.3. Test Setting

Emission Mask

- a) The EUT was connected to a spectrum analyzer. The un-modulated carrier signal level was measured and recorded.
- b) The EUT was modulated with typical digital modulation.
- c) The spectrum analyzer center frequency was set to the EUT operating frequency; span was set to 2 MHz; resolution bandwidth was set to 1 MHz; video bandwidth set to 3 MHz; sweep time set to 3 s; after clear/write, max-hold was set; Marker 1 was set to RMS, then Marker 1 was set to reference value.
- d) The RMS output power was recorded and used to set the reference level on the spectrum analyzer.
- e) The spectrum analyzer span was then set to 1.5 MHz; resolution bandwidth set to 2 kHz, video bandwidth set to 5 kHz, sweep time to Auto.

### 5.5.4. Test Setup



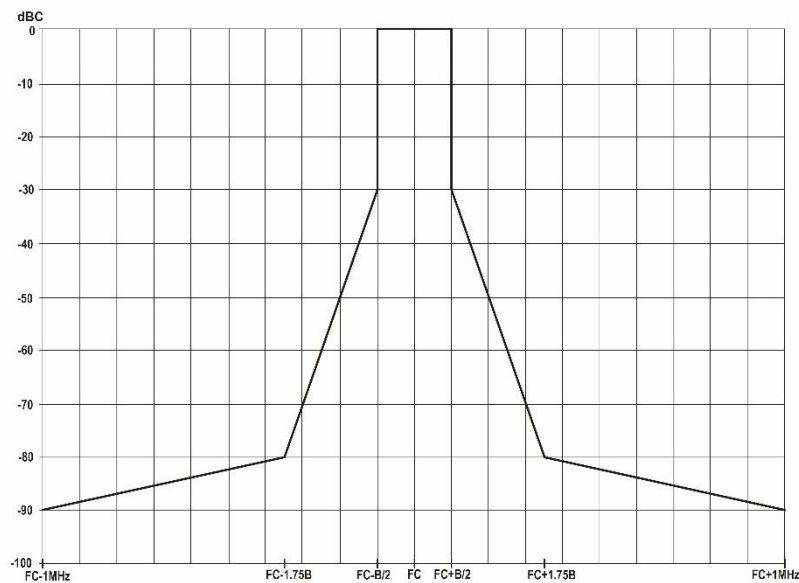
#### **5.5.5. Test Result**

Refer to Appendix A.4.

## 5.6. Necessary Bandwidth Measurement

### 5.6.1. Test Limit

Digital emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.2.2 of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2, the transmitter output spectrum shall be within the mask defined as below figure.



### 5.6.2. Test Procedure

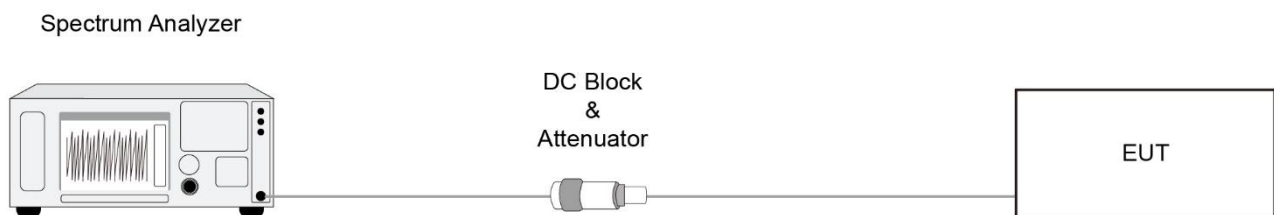
EN 300 422-1 V1.4.2 clause 8.3.2.1.

### 5.6.3. Test Setting

The EUT was powered up and the transmit frequency & power output of the EUT were selected.

The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.

### 5.6.4. Test Setup



### 5.6.5. Test Result

Refer to Appendix A.5.

## 5.7. Radiated Spurious Emissions Measurement

### 5.7.1. Test Limit

According to FCC Part 74.861(e)(7), beyond one megahertz below and above the carrier frequency, emissions shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 v1.4.2.

| State     | Frequency Range                                                         |                                    |                              |
|-----------|-------------------------------------------------------------------------|------------------------------------|------------------------------|
|           | 47MHz to 74MHz, 87.5MHz to 137MHz<br>174MHz to 230MHz, 470MHz to 862MHz | Other Frequencies<br>below 1000MHz | Frequencies above<br>1000MHz |
| Operation | 4nW                                                                     | 250nW                              | 1uW                          |
| Standby   | 2nW                                                                     | 2nW                                | 20nW                         |

### 5.7.2. Test Procedure

ETSI EN 300 422-1 V1.4.2 clause 8.4.2.

### 5.7.3. Test Setting

**Table 1 - RBW as a function of frequency**

| Frequency       | RBW     |
|-----------------|---------|
| 25 ~ 30 MHz     | 9 kHz   |
| 30 ~ 1000 MHz   | 100 kHz |
| 1000 ~ 6000 MHz | 1 MHz   |

Emissions shall be investigated up to the 10<sup>th</sup> harmonic of the fundamental.

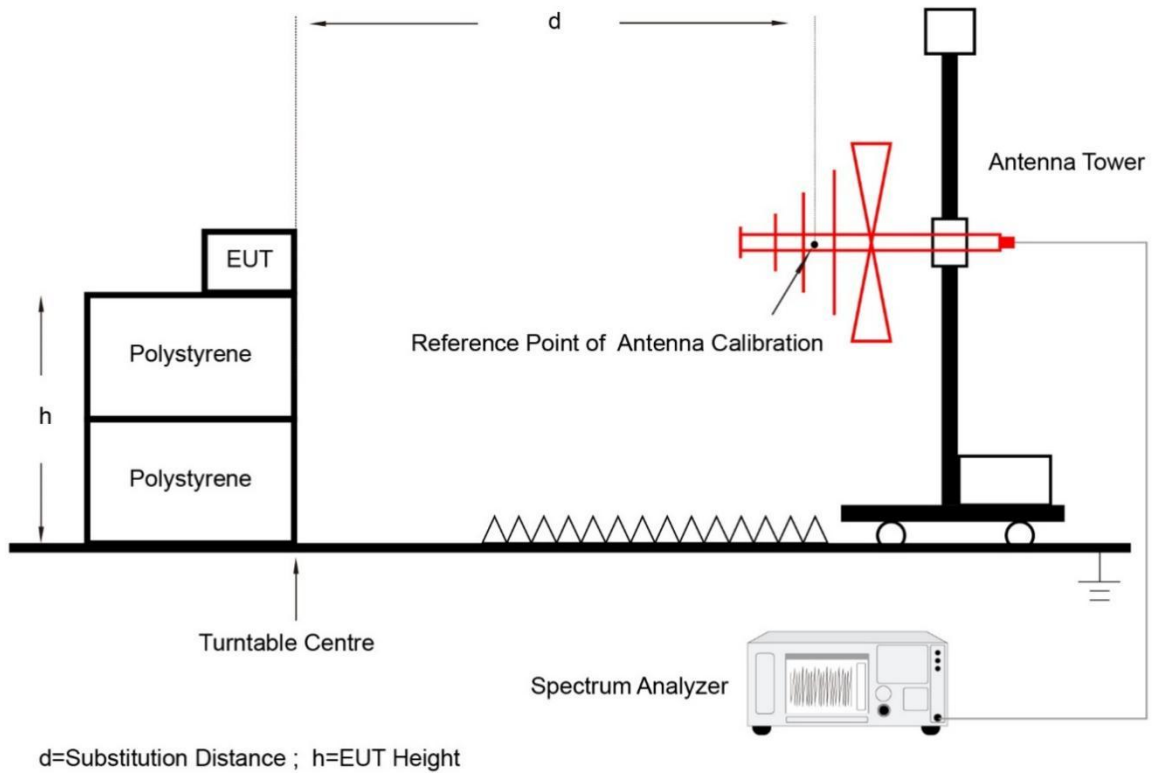
Compliance with the emission limits shall be demonstrated using an RMS Average detector.

All significant broadband and narrowband signals found in the preliminary sweeps were measured using a peak detector at a test distance of 3 meters.

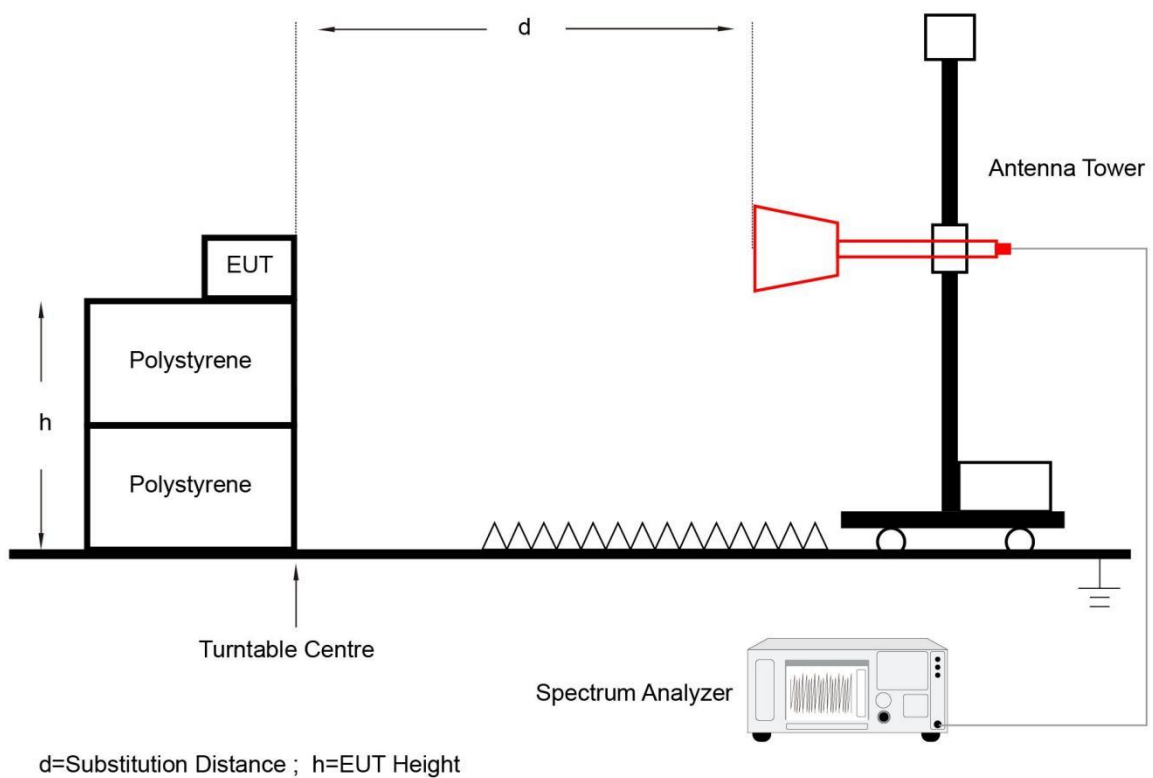
At each frequency at which a component is detected, the sample shall be rotated to obtain maximum response and the effective radiated power of that component determined by a substitution measurement.

#### 5.7.4. Test Setup

##### Below 1GHz Test Setup:



##### Above 1GHz Test Setup:



#### **5.7.5. Test Result**

Refer to Appendix A.6.

## Appendix A – Test Result

### A.1 RF Output Power Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5     | Test Engineer | Lynn Yang |
| Test Date | 2024-08-02 |               |           |

| Frequency<br>(MHz)  | Conducted Output Power<br>(dBm) | Limit<br>(dBm) | Test Result |
|---------------------|---------------------------------|----------------|-------------|
| 40/20mW Power Level |                                 |                |             |
| 606.000             | 14.59                           | $\leq 23.98$   | Pass        |
| 607.875             | 14.55                           | $\leq 23.98$   | Pass        |
| 653.125             | 10.34                           | $\leq 23.98$   | Pass        |
| 657.000             | 10.52                           | $\leq 23.98$   | Pass        |
| 2mW Power Level     |                                 |                |             |
| 606.000             | 2.19                            | $\leq 23.98$   | Pass        |
| 607.875             | 2.18                            | $\leq 23.98$   | Pass        |
| 653.125             | 3.44                            | $\leq 23.98$   | Pass        |
| 657.000             | 3.46                            | $\leq 23.98$   | Pass        |

Note: Limit =  $10 \cdot \log(250\text{mW}) = 23.98 \text{ dBm}$ .

## A.2 Frequency Tolerance Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-TR3     | Test Engineer | Lynn Yang |
| Test Date | 2024-08-07 | Test Mode     | 606MHz    |

| Voltage (%) | Power (DC) | Temp (°C) | Frequency Tolerance (ppm) |           |           |            |
|-------------|------------|-----------|---------------------------|-----------|-----------|------------|
|             |            |           | 0 minutes                 | 2 minutes | 5 minutes | 10 minutes |
| 100         | 3.6        | - 20      | 0.00000                   | 0.00000   | -0.00008  | -0.00011   |
|             |            | -10       | 0.00004                   | 0.00004   | 0.00004   | 0.00003    |
|             |            | 0         | 0.00006                   | 0.00006   | 0.00005   | 0.00005    |
|             |            | + 10      | 0.00007                   | 0.00007   | 0.00007   | 0.00007    |
|             |            | + 20      | 0.00008                   | 0.00008   | 0.00009   | 0.00009    |
|             |            | + 30      | 0.00008                   | 0.00008   | 0.00008   | 0.00008    |
|             |            | + 40      | 0.00006                   | 0.00007   | 0.00007   | 0.00007    |
|             |            | + 50      | 0.00007                   | 0.00007   | 0.00007   | 0.00007    |
| 115         | 4.14       | + 20      | 0.00008                   | 0.00008   | 0.00007   | 0.00007    |
| 85          | 3.06       | + 20      | 0.00007                   | 0.00007   | 0.00007   | 0.00007    |

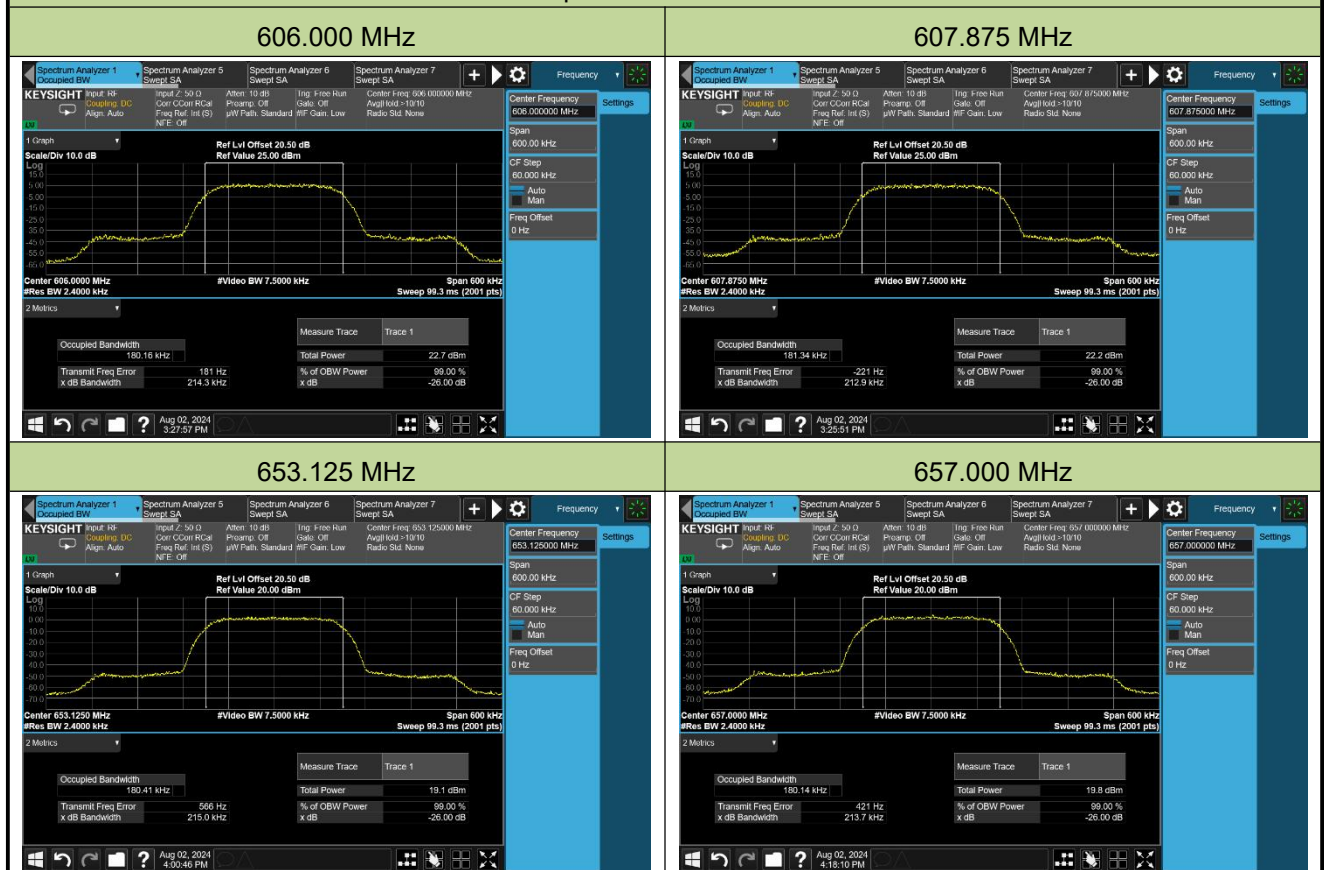
Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} \*10<sup>2</sup>.

### A.3 99% Occupied Bandwidth Test Result

|           |                         |               |           |
|-----------|-------------------------|---------------|-----------|
| Test Site | WZ-SR5                  | Test Engineer | Lynn Yang |
| Test Date | 2024-08-02 ~ 2024-08-06 |               |           |

| Mode             | Frequency (MHz) | 99% Bandwidth (kHz) | Limit (kHz) | Result |
|------------------|-----------------|---------------------|-------------|--------|
| STD<br>(40/20mW) | 606.000         | 180.160             | < 200       | Pass   |
|                  | 607.875         | 181.340             | < 200       | Pass   |
|                  | 653.125         | 180.410             | < 200       | Pass   |
|                  | 657.000         | 180.140             | < 200       | Pass   |
| HD<br>(2mW)      | 606.000         | 97.726              | < 200       | Pass   |
|                  | 607.875         | 98.070              | < 200       | Pass   |
|                  | 653.125         | 97.098              | < 200       | Pass   |
|                  | 657.000         | 97.503              | < 200       | Pass   |

#### 99% Occupied Bandwidth – 40/20mW

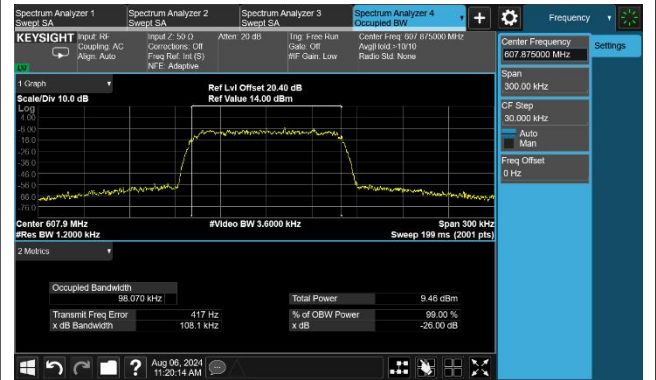


## 99% Occupied Bandwidth - 2mW

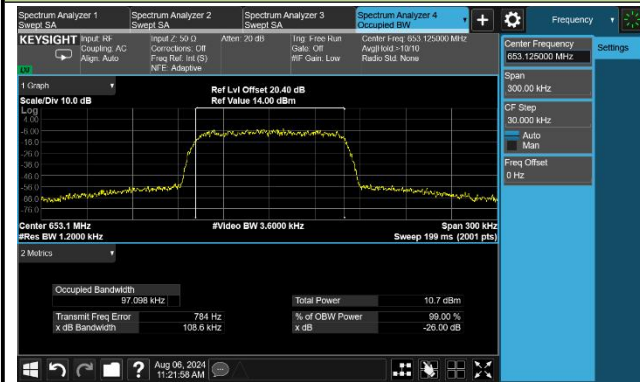
606.000 MHz



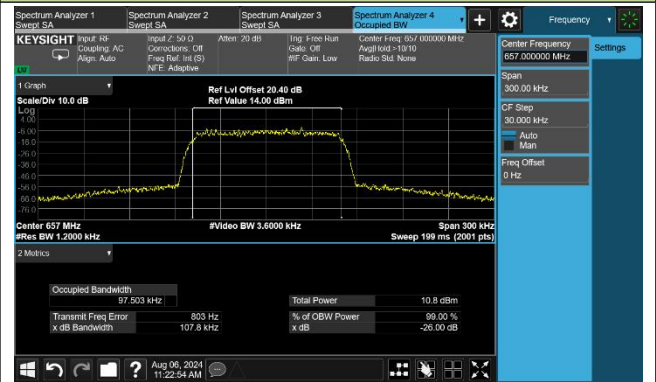
607.875 MHz



653.125 MHz



657.000 MHz



#### A.4 Out-of-band Emission Mask Test Result

|           |                          |               |           |
|-----------|--------------------------|---------------|-----------|
| Test Site | WZ-SR5                   | Test Engineer | Lynn Yang |
| Test Date | 2024-08-02<br>2024-08-15 | Test Mode     | Mode 1    |

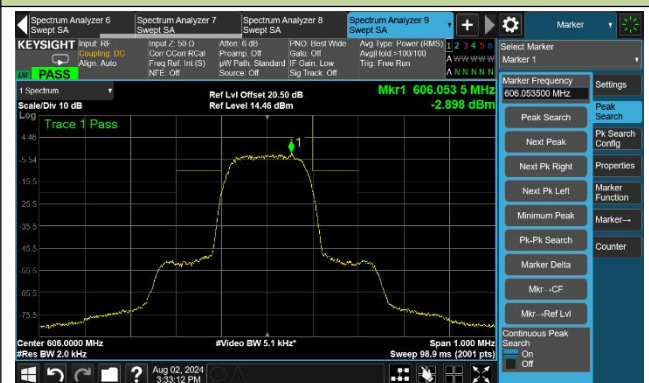
#### Emission Mask - 40mW

#### Channel 606.000MHz

##### Reference Level



##### Emission Mask



#### Channel 607.875 MHz

##### Reference Level



##### Emission Mask



#### Channel 653.125 MHz

##### Reference Level



##### Emission Mask



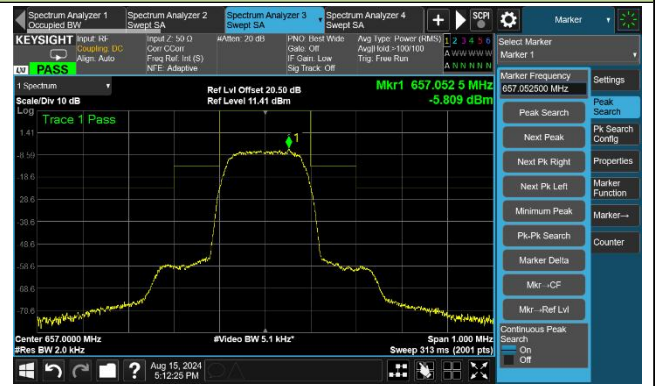
# Emission Mask - 40mW

## Channel 657.000 MHz

### Reference Level



### Emission Mask



|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5     | Test Engineer | Lynn Yang |
| Test Date | 2024-08-15 | Test Mode     | Mode 2    |

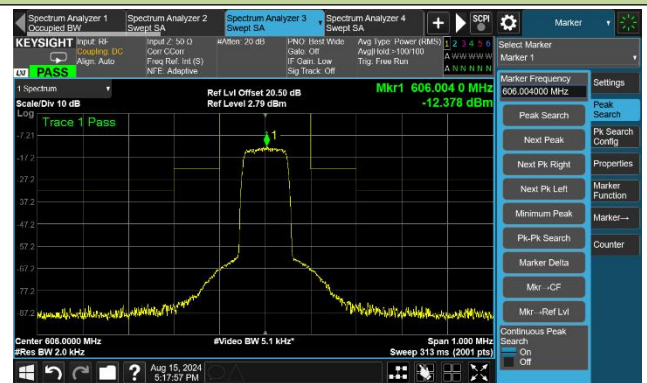
## Emission Mask - 2mW

### Channel 606.000MHz

#### Reference Level



#### Emission Mask

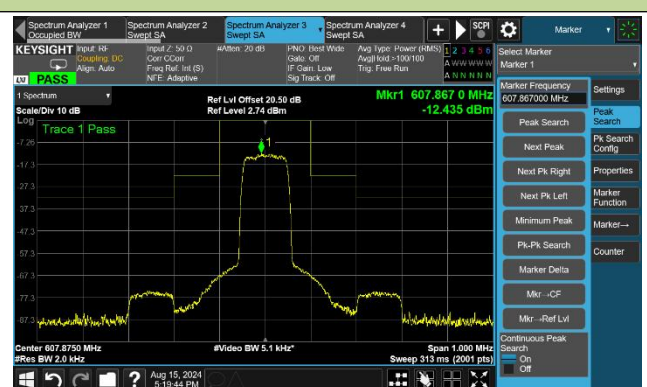


### Channel 607.875 MHz

#### Reference Level



#### Emission Mask

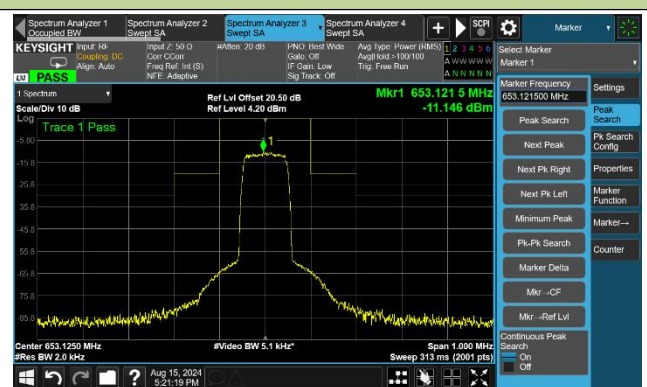


### Channel 653.125 MHz

#### Reference Level



#### Emission Mask



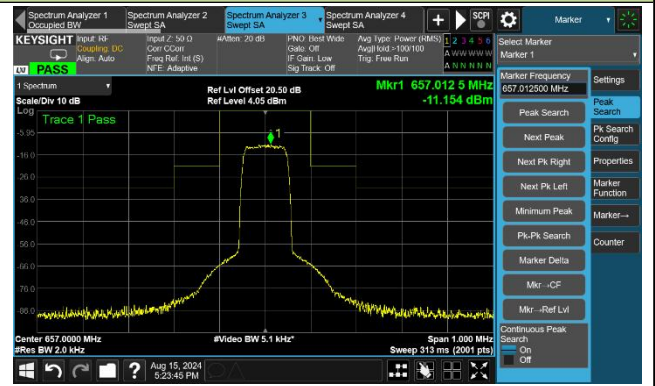
## Emission Mask - 2mW

Channel 657.000 MHz

## Reference Level



## Emission Mask



### A.5 Necessary Bandwidth Test Result

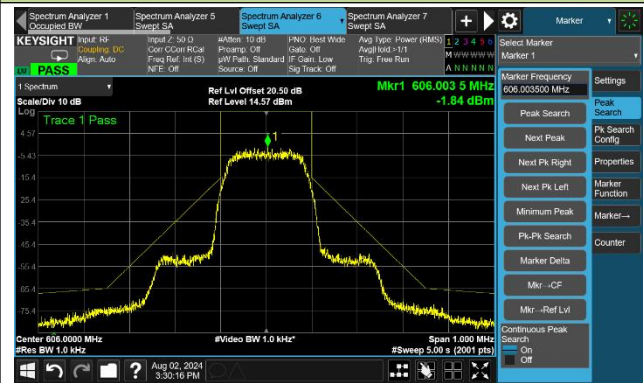
|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5     | Test Engineer | Lynn Yang |
| Test Date | 2024-08-02 | Test Mode     | Mode 1    |

#### Necessary Bandwidth - 40mW, 606.000MHz

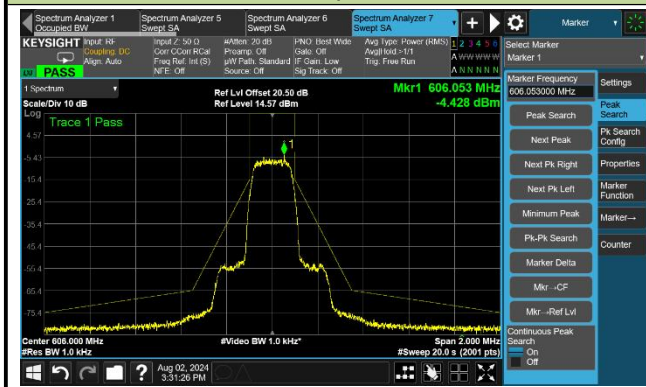
##### Step 1



##### Step 2



##### Step 3



## Necessary Bandwidth - 40mW, 607.875MHz

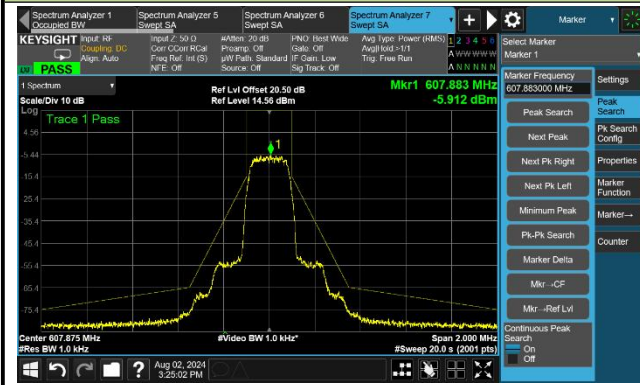
### Step 1



### Step 2



### Step 3

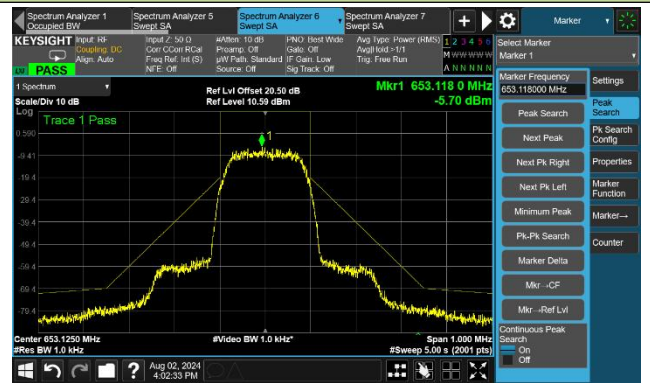


## Necessary Bandwidth - 40mW, 653.125MHz

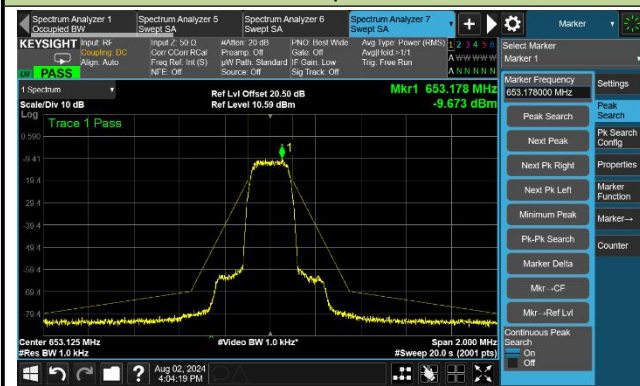
### Step 1



### Step 2



### Step 3

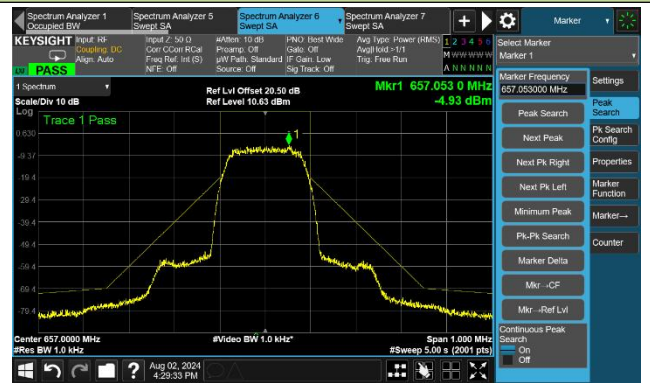


Necessary Bandwidth - 40mW, 657.000MHz

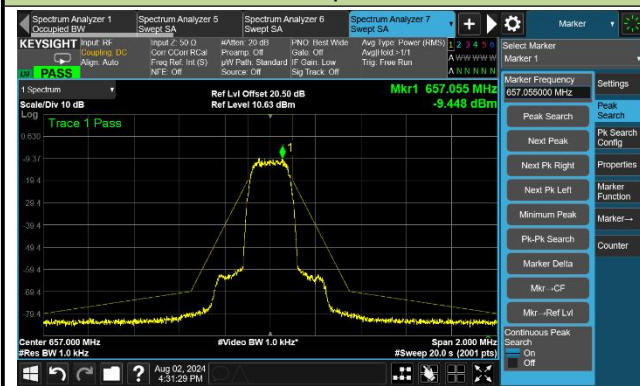
## Step 1



## Step 2



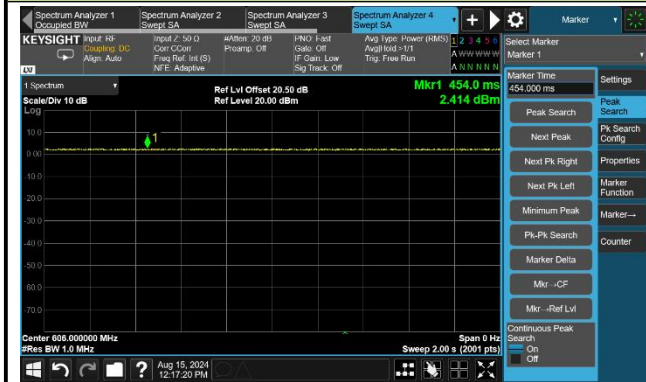
### Step 3



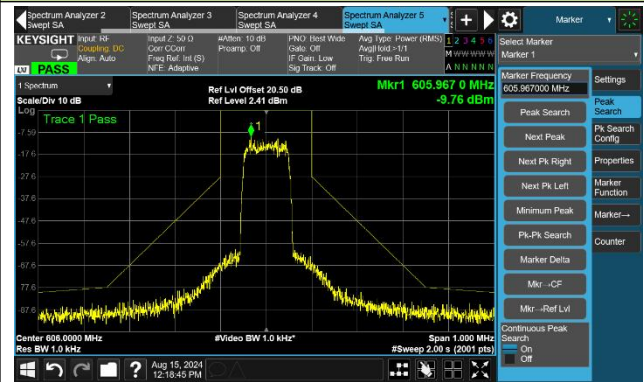
|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5     | Test Engineer | Lynn Yang |
| Test Date | 2024-08-15 | Test Mode     | Mode 2    |

### Necessary Bandwidth - 2mW, 606.000MHz

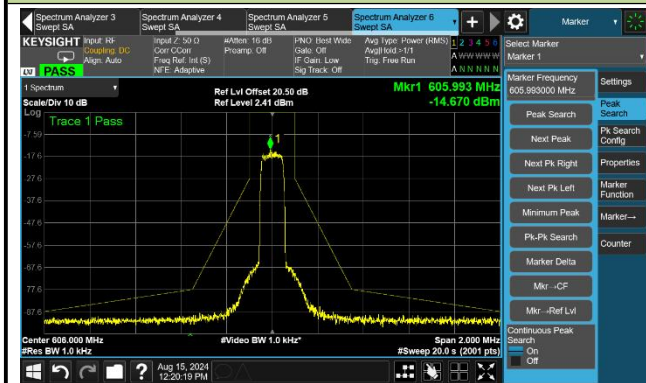
#### Step 1



#### Step 2

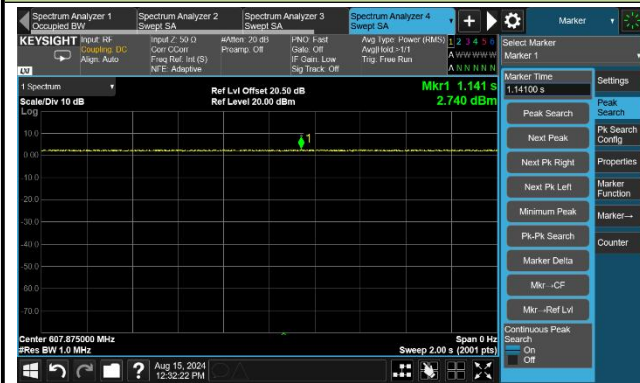


#### Step 3

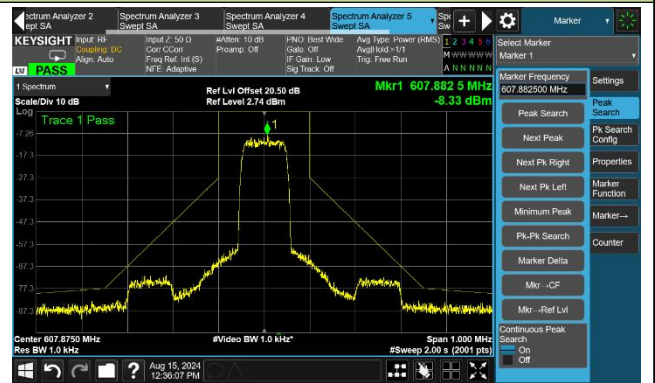


## Necessary Bandwidth - 2mW, 607.875MHz

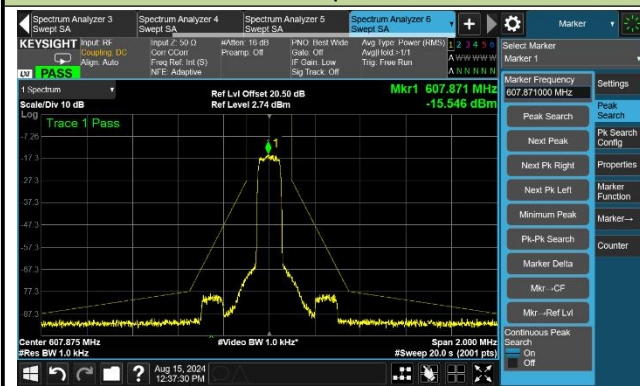
### Step 1



### Step 2



### Step 3

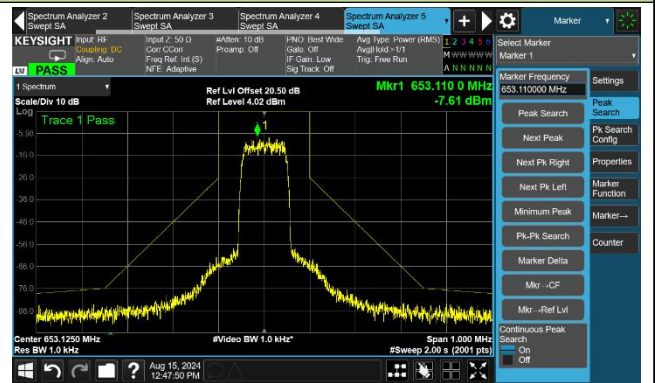


## Necessary Bandwidth - 2mW, 653.125MHz

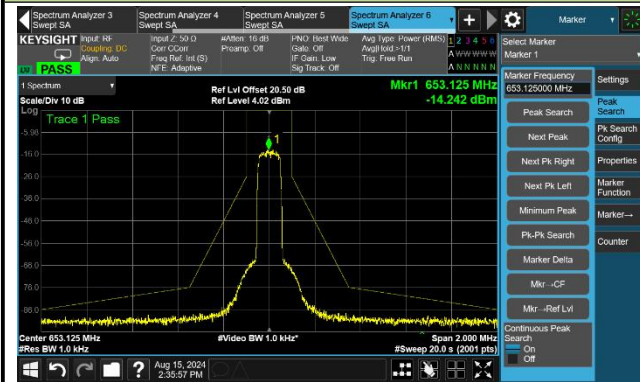
### Step 1



### Step 2

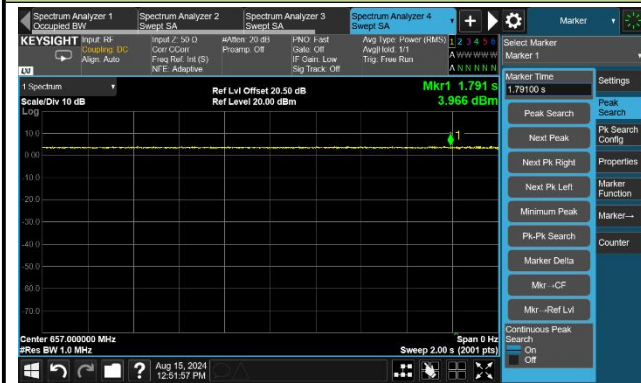


### Step 3

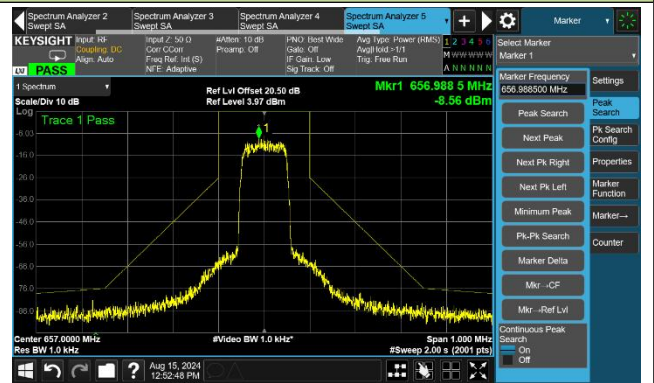


## Necessary Bandwidth - 2mW, 657.000MHz

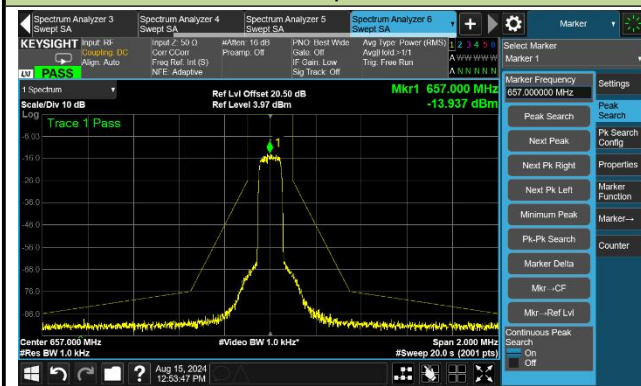
### Step 1



### Step 2



### Step 3



### A.6 Radiated Spurious Emissions Test Result

|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-AC1     | Test Engineer | Lucas Wang |
| Test Date | 2024-08-07 |               |            |

| Test Channel<br>(MHz) | Frequency<br>(MHz) | Reading<br>Level<br>(dBm) | Substitution<br>Factor<br>(dB) | Measure<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Detector | Polarization |
|-----------------------|--------------------|---------------------------|--------------------------------|---------------------------|----------------|----------------|----------|--------------|
| 606.000               | 629.945            | -93.1                     | 33.8                           | -59.3                     | -54.0          | -5.3           | Peak     | Horizontal   |
|                       | 715.693            | -102.8                    | 37.5                           | -65.3                     | -54.0          | -11.3          | Peak     | Horizontal   |
|                       | 614.522            | -101.2                    | 34.4                           | -66.8                     | -54.0          | -12.8          | Peak     | Vertical     |
|                       | 837.719            | -102.8                    | 37.8                           | -65.0                     | -54.0          | -11.0          | Peak     | Vertical     |
|                       | 1211.800           | -53.2                     | 3.8                            | -49.4                     | -30.0          | -19.4          | Peak     | Horizontal   |
|                       | 3029.800           | -59.5                     | 10.3                           | -49.2                     | -30.0          | -19.2          | Peak     | Horizontal   |
|                       | 1817.800           | -58.2                     | 5.2                            | -53.0                     | -30.0          | -23.0          | Peak     | Vertical     |
|                       | 3029.800           | -57.3                     | 10.6                           | -46.7                     | -30.0          | -16.7          | Peak     | Vertical     |
| 607.875               | 620.633            | -93.9                     | 33.7                           | -60.2                     | -54.0          | -6.2           | Peak     | Horizontal   |
|                       | 811.432            | -102.6                    | 36.7                           | -65.9                     | -54.0          | -11.9          | Peak     | Horizontal   |
|                       | 619.469            | -100.6                    | 34.7                           | -65.9                     | -54.0          | -11.9          | Peak     | Vertical     |
|                       | 835.488            | -103.4                    | 37.9                           | -65.5                     | -54.0          | -11.5          | Peak     | Vertical     |
|                       | 1216.000           | -52.5                     | 3.4                            | -49.1                     | -30.0          | -19.1          | Peak     | Horizontal   |
|                       | 3039.400           | -61.1                     | 10.1                           | -51.0                     | -30.0          | -21.0          | Peak     | Horizontal   |
|                       | 1893.400           | -58.0                     | 5.4                            | -52.6                     | -30.0          | -22.6          | Peak     | Vertical     |
|                       | 3038.800           | -62.9                     | 10.5                           | -52.4                     | -30.0          | -22.4          | Peak     | Vertical     |

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

Note 3: RMS measurement was not performed when peak measure level was lower than the RMS limit.

| Test Channel<br>(MHz) | Frequency<br>(MHz) | Reading<br>Level<br>(dBm) | Substitution<br>Factor<br>(dB) | Measure<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Detector | Polarization |
|-----------------------|--------------------|---------------------------|--------------------------------|---------------------------|----------------|----------------|----------|--------------|
| 653.125               | 659.918            | -96.3                     | 35.1                           | -61.2                     | -54.0          | -7.2           | Peak     | Horizontal   |
|                       | 828.407            | -102.9                    | 37.2                           | -65.7                     | -54.0          | -11.7          | Peak     | Horizontal   |
|                       | 562.918            | -103.4                    | 32.5                           | -70.9                     | -54.0          | -16.9          | Peak     | Vertical     |
|                       | 829.280            | -103.9                    | 37.9                           | -66.0                     | -54.0          | -12.0          | Peak     | Vertical     |
|                       | 1306.000           | -57.5                     | 4.4                            | -53.1                     | -30.0          | -23.1          | Peak     | Horizontal   |
|                       | 3265.600           | -61.4                     | 11.9                           | -49.5                     | -30.0          | -19.5          | Peak     | Horizontal   |
|                       | 2224.600           | -65.8                     | 9.3                            | -56.5                     | -30.0          | -26.5          | Peak     | Vertical     |
|                       | 4822.000           | -67.3                     | 16.6                           | -50.7                     | -30.0          | -20.7          | Peak     | Vertical     |
| 657.000               | 672.528            | -97.1                     | 35.5                           | -61.6                     | -54.0          | -7.6           | Peak     | Horizontal   |
|                       | 836.749            | -102.8                    | 37.8                           | -65.0                     | -54.0          | -11.0          | Peak     | Horizontal   |
|                       | 568.835            | -103.9                    | 32.9                           | -71.0                     | -54.0          | -17.0          | Peak     | Vertical     |
|                       | 832.966            | -104.3                    | 38.1                           | -66.2                     | -54.0          | -12.2          | Peak     | Vertical     |
|                       | 1970.800           | -56.8                     | 6.1                            | -50.7                     | -30.0          | -20.7          | Peak     | Horizontal   |
|                       | 3284.800           | -60.7                     | 12.0                           | -48.7                     | -30.0          | -18.7          | Peak     | Horizontal   |
|                       | 1970.800           | -60.7                     | 5.8                            | -54.9                     | -30.0          | -24.9          | Peak     | Vertical     |
|                       | 3285.400           | -62.2                     | 12.0                           | -50.2                     | -30.0          | -20.2          | Peak     | Vertical     |

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

Note 3: RMS measurement was not performed when peak measure level was lower than the RMS limit.

## **Appendix B – Test Setup Photograph**

Refer to “2407RSU039-UT” file.

## **Appendix C – EUT Photograph**

Refer to “2407RSU039-UE” file.

\_\_\_\_\_ The End \_\_\_\_\_